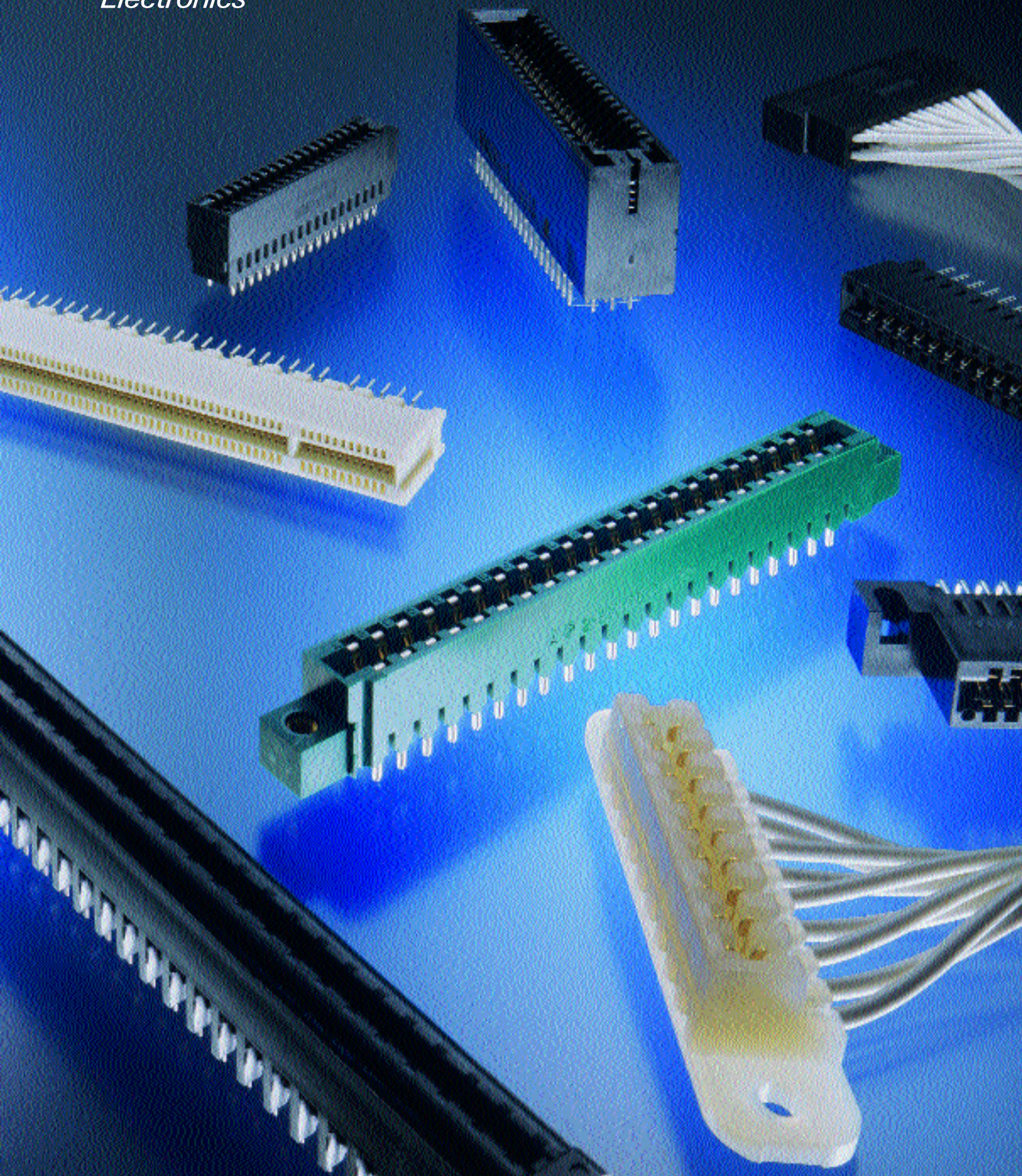
tyco Electronics

Card Edge Connectors

Catalog 1654080 Issued 7-03

AMP



Introduction

This catalog contains product descriptions of AMP Card Edge Connectors. These connectors are presented in three groups: Solder Type Board-to-Board, Press-fit Board-to-Board, and Wire-to-Board connectors.

To assist you in the selection of the appropriate connector for your application, a selection guide is provided at the beginning of each section. See the Table of Contents on the following page for the exact location.

A comprehensive description and features of a particular printed circuit board connector family are provided at the beginning of that section. Various technical documents are referenced in the connector family sections and are listed and described at the rear of this catalog.

The Tyco Electronics products presented in this catalog are designed and manufactured according to the highest possible standards of quality and craftsmanship. They offer optimum reliability at the lowest possible cost.

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Dimensioning:
Dimensions are in inches and millimeters unless specified otherwise. Values in brackets are metric equivalents.
Metric symbols used are:
m (meter)
mm (millimeter)
mm^2 (square millimeter)
kg (kilogram)
C (Celsius)
N (newton)

Note: Dimensions in this catalog are for reference purposes only. Customer drawings are available upon request.

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Produced under a Quality Management System certified to ISO 9001

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Catalog 1654080
Issued 7-03

www.tycoelectronics.com

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Selection Guide, Board-to-Board Connectors

Introduction

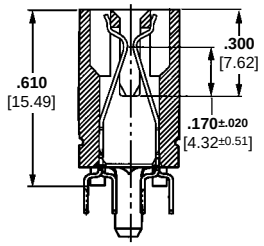
Board-to-board (mother/daughter board) connectors are ideally suited to back-plane wiring or any other application requiring the circuit connection of one printed circuit board to another. Designed to shorten manufacturing time and reduce applied costs, these one-step, pre-assembled connectors are ready for mounting and mass insertion.

Many of the connectors are available with the proven and reliable ACTION PIN contact. This unique contact has superior electrical and physical characteristics that are top of the line in the industry.

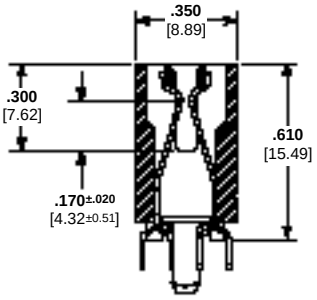
Board-to-board connectors come in a range of contact centerline spacings of .050 [1.27] to .156 [3.96]. A wide range of dual position sizes and post styles are available. One family of connectors features zero insertion force of the daughter board, along with a choice of actuating devices. A variety of housing and contact materials further expands the choice of connectors available to meet many application requirements.

To help in choosing a connector for your application, a Selection Guide is provided on pages 4 through 6.

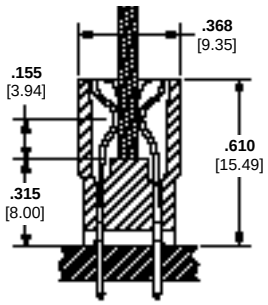
Standard Edge .050 Series PCI Connectors (Pages 7-10)



Standard Edge .050 Series Connectors (Pages 11-14)



Standard Edge II Connectors (.100 and .125 Centerline) (Pages 15-27)



Centerlines

.050 [1.27]	X	X	
.100 [2.54]			X
.125 [3.18]			X
.150 [3.81]			
.156 [3.96]			

Tail Styles

Solder	X	X	X
Right-Angle Solder			X
Wrap-Type			X
Card Extender			X
Solder Eyelet			
Press-Fit			
Surface-Mount			

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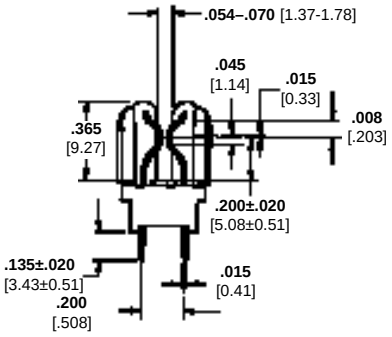
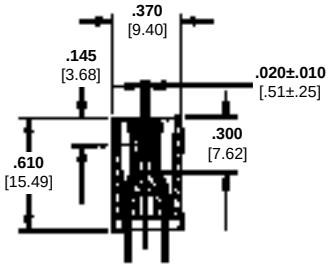
Selection Guide, Board-to-Board Connectors (Continued)

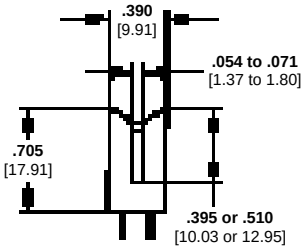
Standard Edge II Connectors (.150 Centerline) (Pages 15-27)



Cantilever Beam Connectors Standard Housing (Pages 28-40)



Cantilever Beam Connectors Scoop Housing (Pages 28-40)



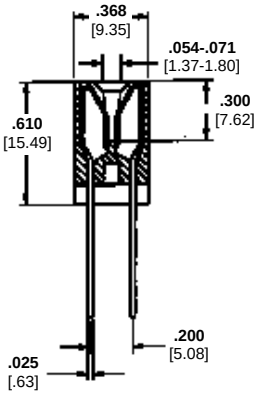
Centerlines

			.050 [1.27]
			.0625 [1.588]
	X	X	.100 [2.54]
	X	X	.125 [3.18]
X			.150 [3.81]
	X	X	.156 [3.96]

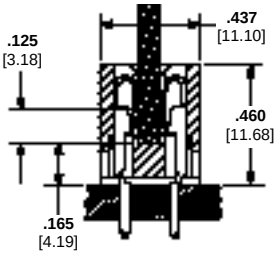
Tail Styles

X	X	X	Solder
			Right-Angle Solder
			Wrap-Type
			Card Extender
			Solder Eyelet
	X	X	Press-Fit
			Surface-Mount

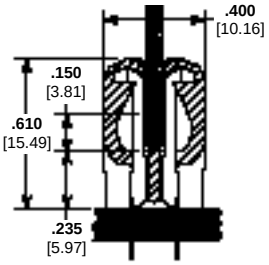
Modified Bellows Connector (Pages 41-56)



Low Profile Connectors (Pages 58-63)



Twin Leaf Mother Board Connectors (Pages 64-72)



Centerlines

			.050 [1.27]
X		X	.100 [2.54]
X	X	X	.125 [3.18]
		X	.150 [3.81]
X	X	X	.156 [3.96]

Tail Styles

X	X	X	Solder
X			Right-Angle Solder
X			Wrap-Type
			Card Extender
	X		Solder Eyelet
			Press-Fit
			Surface-Mount

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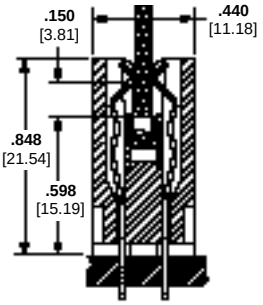
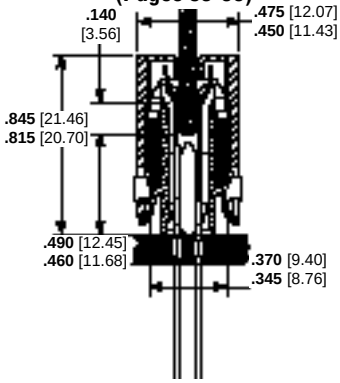
Selection Guide, Board-to-Board Connectors (Continued)

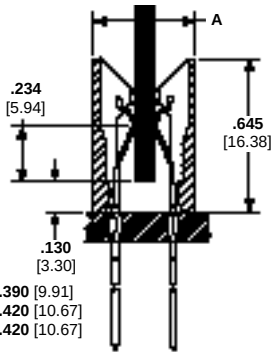
Rotary Cam ZIF Connectors (Pages 73-82)



Linear ZIF Connectors (Pages 83-96)



AMP PACE Connectors, Card Scoop Housing (Pages 98-115)



A .100 x .200 = **.390** [9.91]
.125 x .125 = **.420** [10.67]
.125 x .200 = **.420** [10.67]

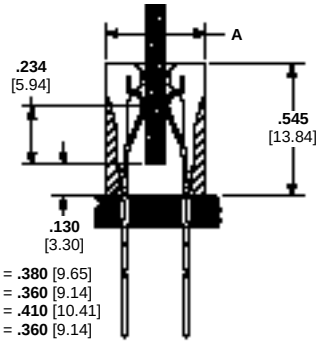
Centerlines

.050 [1.27]			
.0625 [1.588]			
.100 [2.54]	X	X	X
.125 [3.18]	X	X	X
.150 [3.81]			
.156 [3.96]	X		

Tail Styles

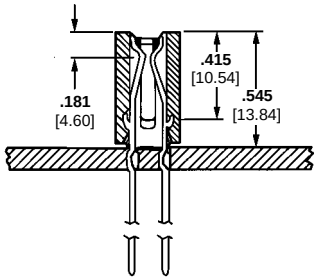
Solder	X	X	
Right-Angle Solder	X		
Wrap-Type	X	X	X
Card Extender			
Solder Eyelet			
Press-Fit		X	X
Surface-Mount			

AMP PACE Connectors, Standard Housing (Pages 98-115)

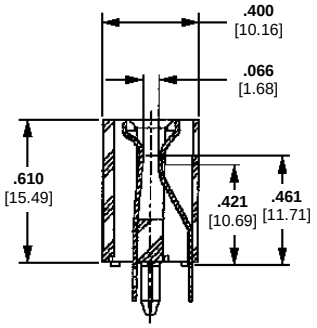


A .100 x .100 = **.380** [9.65]
.100 x .200 = **.360** [9.14]
.125 x .250 = **.410** [10.41]
.156 x .200 = **.360** [9.14]

ECONOMATE Connectors (Pages 119-126)



High Density Press Fit Connector For .093 Cards (Pages 128-129)



Centerlines

.050 [1.27]			X
.0625 [1.588]			
.100 [2.54]	X	X	
.125 [3.18]	X		
.150 [3.81]			
.156 [3.96]	X	X	

Tail Styles

Solder			
Right-Angle Solder			
Wrap-Type	X		
Card Extender			
Solder Eyelet			
Press-Fit	X	X	X
Surface-Mount			

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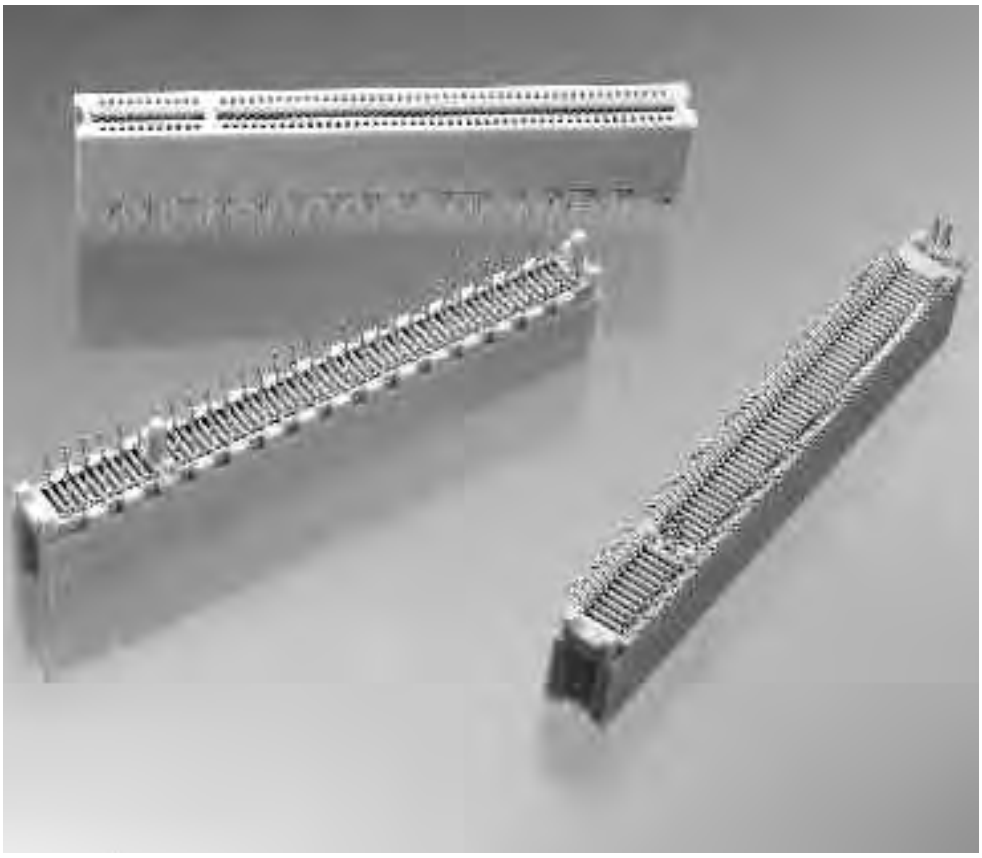
Standard Edge .050 Series PCI Card Edge Connectors

Product Facts

- **High density .050 [1.27] centerline contact spacing**
- **Easy mating of high circuit count daughter boards**
- **Polarizing web for positive board-to-connector registration**
- **Choice of plastic pylons or metal holddowns**



Connectors that support PCI expansion cards are derived from those on the MicroChannel Architecture (MCA) bus. The MCA connectors are well defined and have proven value and reliability.

There are four connectors that can be used depending upon the PCI implementation. The differences between these connectors are 32 bit and 64 bit, and the 5 volt and 3.3 volt signaling environments. PCI-X is a version of PCI at 133 MHz which is under development and employs standard PCI connectors. PCI-X is limited to 1 slot versus 4 slots of PCI.

A key differentiates the signaling environment voltages. The same physical connector is used for the 32 bit signaling environments. In one orientation, the key accepts 5 volt boards. When rotated 180°, the connector accepts 3.3 volt signaling boards. The pin numbering of the connector changes for the different signaling environments to maintain the same relative position of signals on the connector.

Performance Specifications:

Durability—Tested to 100 mating cycles

Mating Force—8 oz [2.22 N] max. per contact pair

Unmating Force—.5 oz [0.14 N] min. per contact pair

Contact Resistance—20 milliohms max. (initial) 30 milliohms max. (final)

Insulation Resistance—1000 megohms min.

Dielectric Withstanding Voltage—500 VAC (at sea level)

Capacitance—2 picofarads max.

Current Rating—1 ampere max.

Voltage Rating—203 VAC

Thermal Shock—–55°C to +85°C for 5 cycles

Mixed Flowing Gas—Class II with mated board for 20 days

Technical Documents:

Product Specification
108-14034

Application Specification
114-26012

Qualification Test Report
501-203

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Standard Edge .050 Series PCI Card Edge Connectors

64 Bit, 5 Volt Signaling

92 Dual Positions with 3 Plastic Pylons or 3 Metal Holddowns

Material and Finish:

Housing—High temperature thermoplastic 94V-0 rated, white

Contacts—Phosphor bronze, plated as follows:

Plating B—Duplex plated .000015 [0.00038] min. gold in contact area, .000100 [0.00254] min. tin-lead on solder tails, with entire contact underplated .000050 [0.00127] min. nickel

Plating C—Duplex plated .000030 [0.00076] min. gold in contact area, .000100 [0.00254] min. tin-lead on solder tails, with entire contact underplated .000050 [0.00127] min. nickel

Related Product Data:

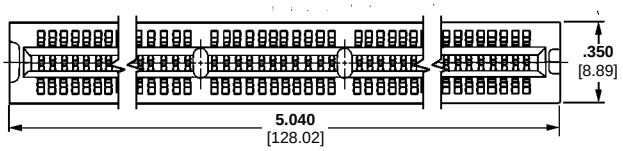
Performance Specifications—page 7

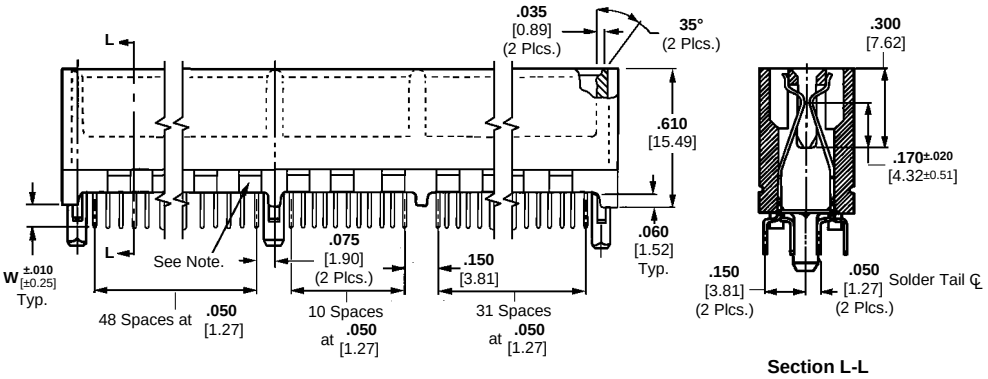
Technical Documents:

Product Specification
108-14034

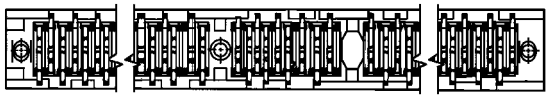
Application Specification
114-26012

Plastic Pylons

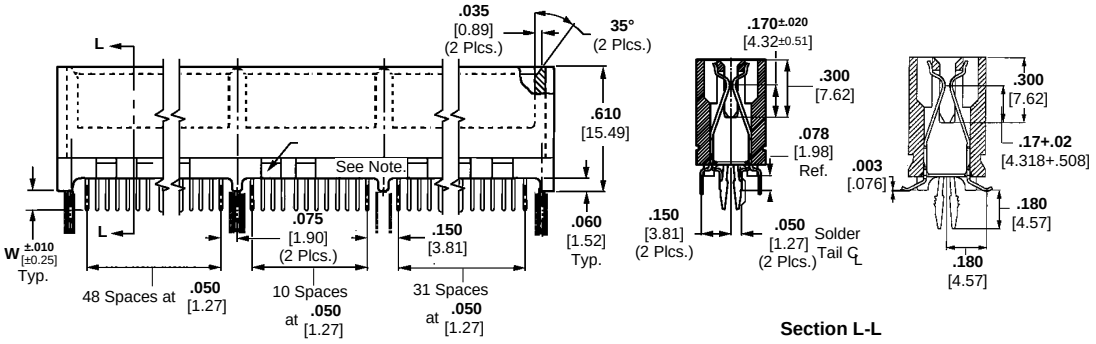




Section L-L



Metal Holddowns



Section L-L

W (Post Length)	Contact Finish	Part Numbers 5 Volt	
		3 Plastic Pylons	3 Metal Holddowns
.100 2.54	Plating B	145166-2	—
	Plating C	145166-4	145169-4
.125 3.18	Plating C	145166-8	145169-8
Surface Mount	Plating C	—	145113-1

Notes: 1. Connectors are supplied with either cored (shown above) or solid side walls.
2. Other connector sizes can be made available, consult Tyco Electronics.

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Standard Edge .050 Series PCI Card Edge Connectors

32 Bit, 3.3 and 5 Volt Signaling

60 Dual Positions with 2 Plastic Pylons or 2 Metal Holddowns

Material and Finish:

Housing Y—High temperature thermoplastic 94V-0 rated, white

Housing Z—Nylon 6/6, white

Contacts—Phosphor bronze, plated as follows:

Plating A—Duplex plated gold flash in contact area, .000100 [0.00254] min. tin-lead on solder tails, with entire contact underplated .000050 [0.00127] min. nickel

Plating B—Duplex plated .000015 [0.00038] min. gold in contact area, .000100 [0.00254] min. tin-lead on solder tails, with entire contact underplated .000050 [0.00127] min. nickel

Plating C—Duplex plated .000030 [0.00076] min. gold in contact area, .000100 [0.00254] min. tin-lead on solder tails, with entire contact underplated .000050 [0.00127] min. nickel

Related Product Data:

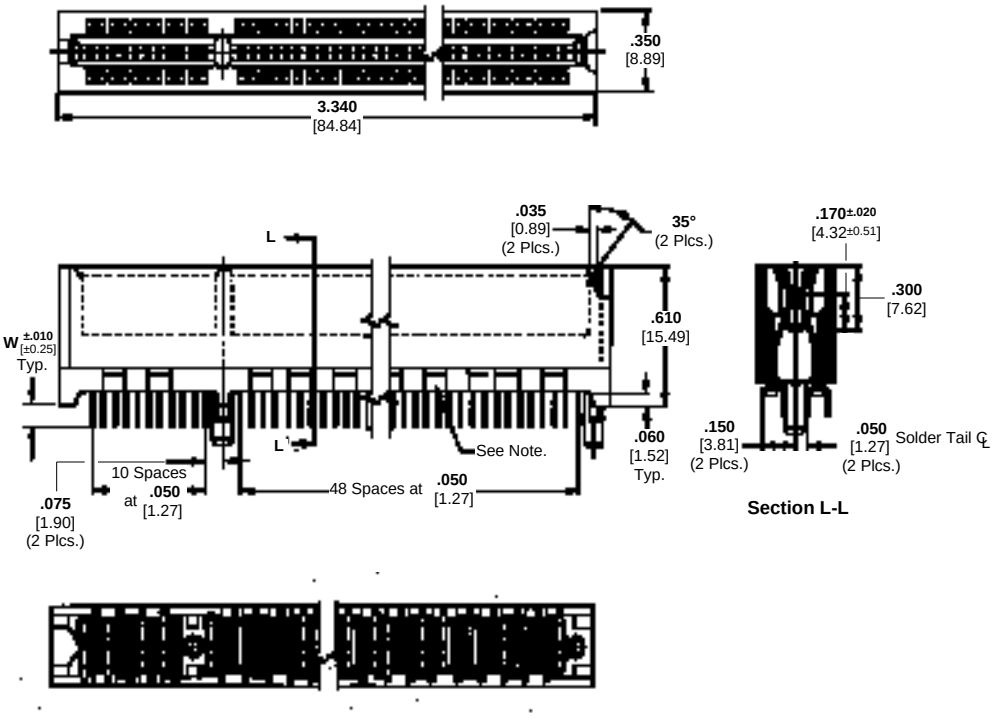
Performance Specifications—page 7

Technical Documents:

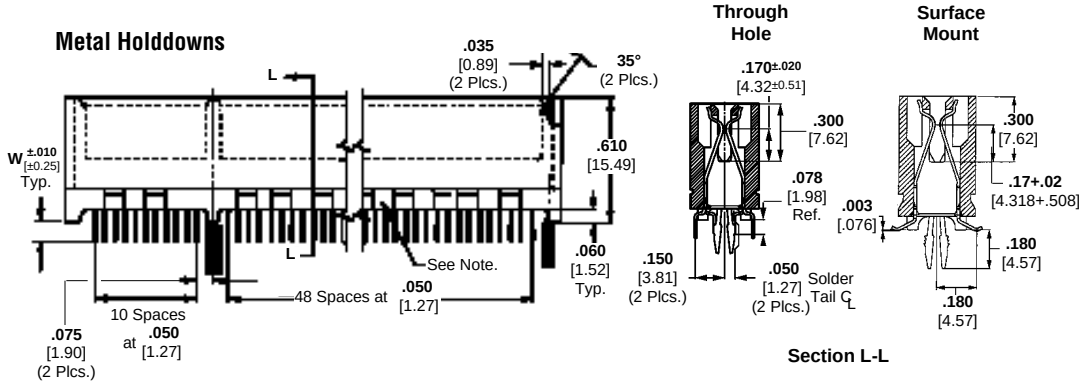
Product Specification
108-14034

Application Specification
114-26012

Plastic Pylons



Metal Holddowns



W (Post Length)	Housing Material	Contact Finish	Part Numbers	
			2 Plastic Pylons	2 Metal Holddowns
.100 2.54	Y	Plating A	145154-1	145167-1
		Plating B	145154-2	—
		Plating C	145154-4	145167-4
.118 3.00	Z	Plating A	11299-1	—
		Plating B	11299-6	—
.125 3.18	Y	Plating C	145154-8	—
Surface Mount	Y	Plating C	—	145098-1

Notes: 1. Connectors are supplied with either cored (shown above) or solid side walls.
2. Other connector sizes can be made available, consult Tyco Electronics.

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USA: 1-800-522-6752
Canada: 1-905-470-4425
Mexico: 01-800-733-8926
C. America: 52-55-5-729-0425

South America: 55-11-3611-1514
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Standard Edge .050 Series PCI Card Edge Connectors

64 Bit, 3.3 Volt Signaling

92 Dual Positions with 3 Plastic Pylons or 3 Metal Holddowns

Material and Finish:

Housing—High temperature thermoplastic 94V-0 rated, white

Contacts—Phosphor bronze, plated as follows:

Plating B—Duplex plated .000015 [0.00038] min. gold in contact area, .000100 [0.00254] min. tin-lead on solder tails, with entire contact underplated .000050 [0.00127] min. nickel

Plating C—Duplex plated .000030 [0.00076] min. gold in contact area, .000100 [0.00254] min. tin-lead on solder tails, with entire contact underplated .000050 [0.00127] min. nickel

Related Product Data:

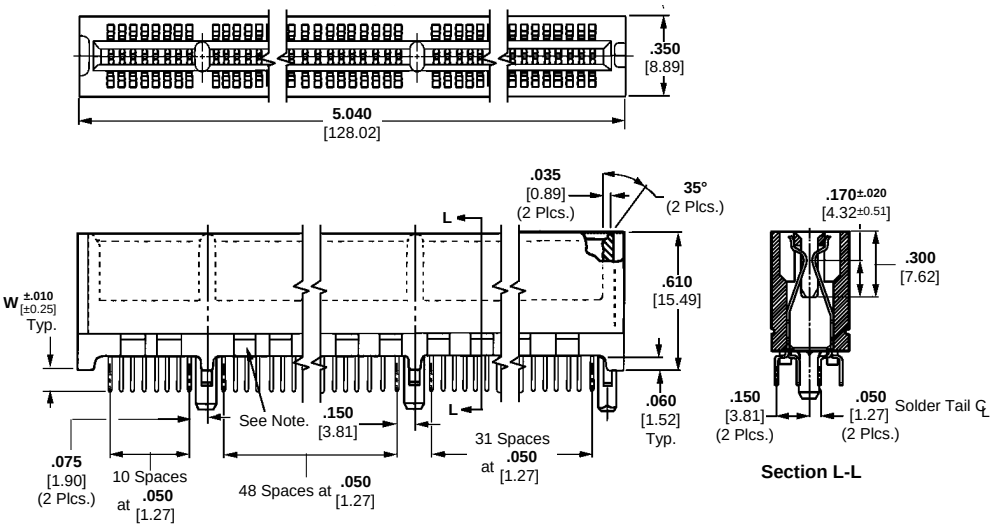
Performance Specifications—page 7

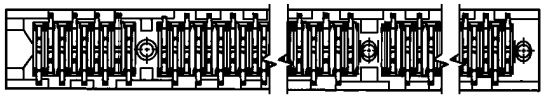
Technical Documents:

Product Specification
108-14034

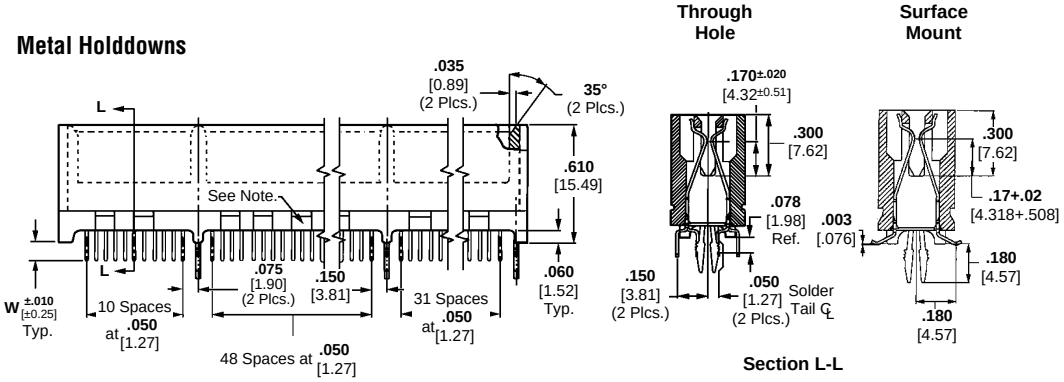
Application Specification
114-26012

Plastic Pylons





Metal Holddowns



W (Post Length)	Contact Finish	Part Numbers 3.3 Volt: 3 Plastic Pylons	Part Numbers 3.3 Volt: 3 Metal Holddowns
.100 2.54	Plating B	—	145168-2
	Plating C	145165-4	145168-4
.125 3.18	Plating C	145165-8	—
Surface Mount	Plating C	—	145246-1

Notes: 1. Connectors are supplied with either cored (shown above) or solid side walls.
2. Other connector sizes can be made available, consult Tyco Electronics.

Catalog 1654080
Issued 7-03

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Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Standard Edge .050 Series Connectors

Product Facts

- **High density .050 [1.27] centerline spacing of contacts**
- **Easy mating of high-circuit count daughter boards**
- **Compatible with infrared reflow (IR) soldering techniques**
- **Polarizing web for positive board-to-connector registration**
- **Choice of plastic pylons or metal holddowns**
- **Recognized under the Component Program of Underwriter Laboratories Inc. File No. E28476**
- **Certified by Canadian Standards Association, File No. LR 7189**

Performance Specifications:

Contact Current Rating* —1 ampere

Termination Resistance — 20 milliohms max. (initial) 30 milliohms max. (final)

Dielectric Withstanding Voltage — 500 VAC min.

Insulation Resistance — 1000 megohms min.

Mating Force — .5 oz. [0.14 N] per contact pair

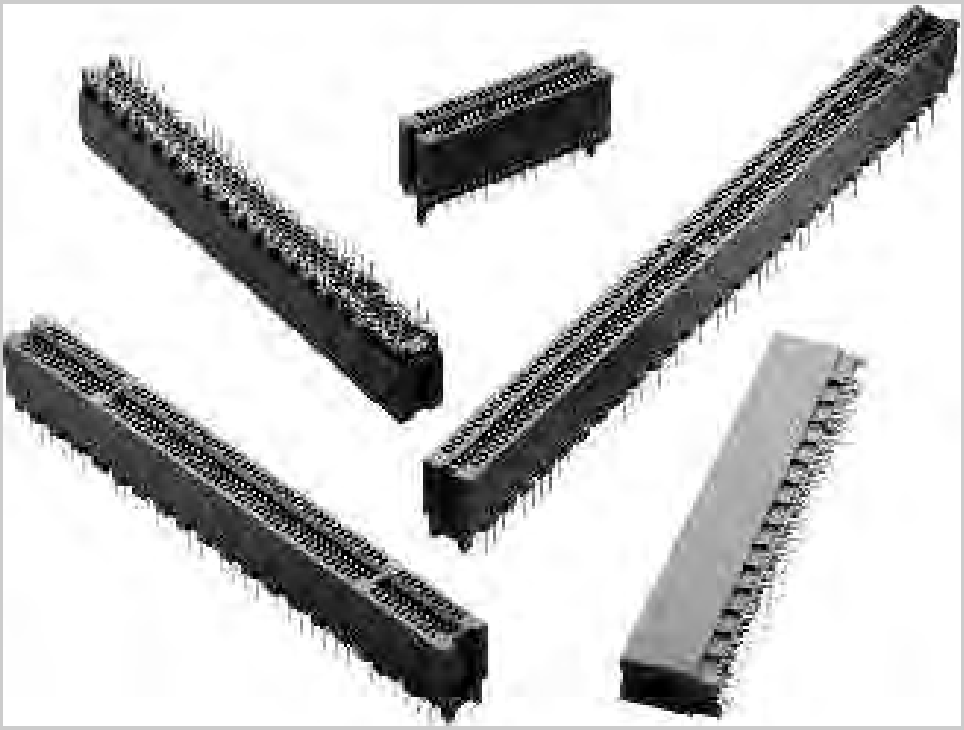
Unmating Force — 1 oz. [0.3 N] per contact pair

Durability (Tested to) — 100 mating cycles

Application Temperature — +215°C for 120 seconds max.

Temperature Range — –55°C to +85°C

***Consult Tyco Electronicsengineering when paralleling contacts for power applications.**

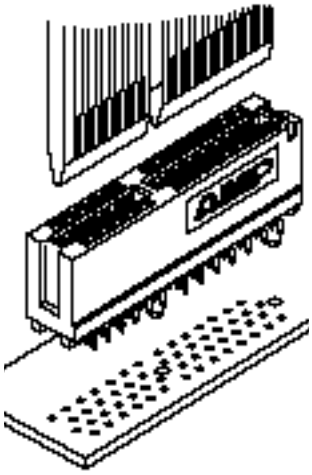


The need to conserve space and pack more function into a given area has demanded that .050 [1.27] centerline spacing become a reality. AMP Standard Edge .050 Series connectors are the ideal vehicle for mother/daughter board applications requiring this real estate.

These rugged connectors have two rows of contacts on .050 [1.27] centerlines. Polarizing webs provide positive board-to-connector registration, while insertion force allows even high circuit-count daughter boards to mate easily. The connectors accept .054 to .070 [1.37 to 1.78] thick daughter boards and feature an overstress protected contact design.

AMP Standard Edge .050 Series connectors are ideal for fast automated robotic assembly with registration features and dimensional tolerancing for more accurate pickup and placement, and are packaged in robotics-compatible trays.

Plastic guide posts or metal holddowns align the connector with the mother board and retain it for soldering. To make circuit routing easy, connector solder posts are arranged in a four-row .100 [2.54] staggered grid. High-temperature tolerant materials promote that these connectors withstand infrared reflow (IR) soldering, while standoffs ease flux cleaning.



High Density for DataBus Applications

Catalog 1654080
Issued 7-03

www.tycoelectronics.com

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Japan: 81-44-844-8013
UK: 44-141-810-8967

Standard Edge .050 Series Connectors

Configuration;
1 Key—2 Plastic Pylons

Material and Finish:

Housing—High temperature thermoplastic, brown

Contacts—Phosphor bronze, duplex plated .000030 [0.00076] min. gold in contact area, .000100 [0.00254] min. tin-lead on solder tails, with entire contact underplated .000050 [0.00127] min. nickel

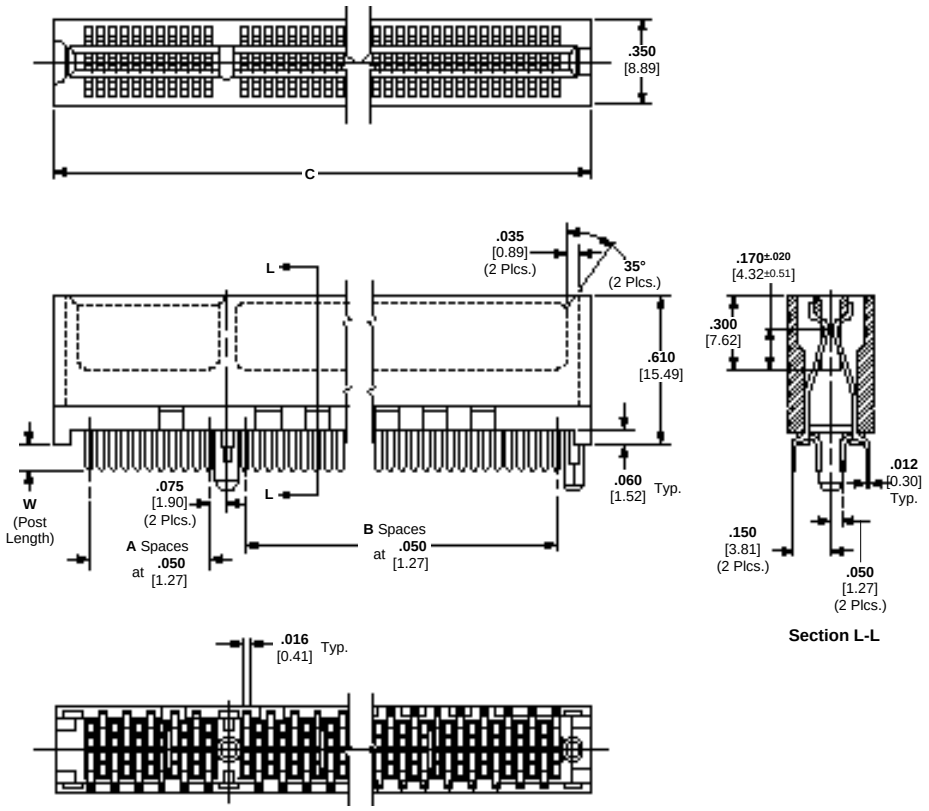
Related Product Data:

Performance Specifications—page 11

Technical Documents:

Product Specification
108-14034

Application Specification
114-26012



No. of Dual Positions	Dimensions			W (Post Length)	PC Board Hole Layout	Connector Part Numbers
	A	B	C			
23	10	11	**1.490** 37.85	**.100** 2.54	A	650090-7
30	10	18	**1.840** 46.74	**.100** 2.54	B	650090-6
40	10	28	**2.340** 59.44	**.100** 2.54	B	650090-3
				.140 3.56	B	650181-2
45	10	33	**2.590** 65.79	**.100** 2.54	A	650090-2
56	10	44	**3.140** 79.76	**.100** 2.54	B	650090-1[1]
				.140 3.56	B	650181-1
80	37	41	**4.340** 110.24	**.100** 2.54	C	650090-9
91	41	48	**4.890** 124.21	**.100** 2.54	A	650092-1[2]
				.140 3.56	A	650092-2

[1] Connector used for VLLocal Bus and MCA Bus applications.
[2] Connector used for MCA Bus applications.

Notes: 1. Other connector sizes can be made available, consult Tyco Electronics.
2. .125 [3.18] post length is available, consult Tyco Electronics.

Catalog 1654080
Issued 7-03

www.tycoelectronics.com

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UK: 44-141-810-8967

Standard Edge .050 Series Connectors

Configuration; 1 Key—2 Plastic Pylons

Material and Finish:

Housing—High temperature thermoplastic, brown

Contacts—Phosphor bronze, duplex plated .000030 [0.00076] min. gold in contact area, .000100 [0.00254] min. tin-lead on solder tails, with entire contact underplated .000050 [0.00127] min. nickel

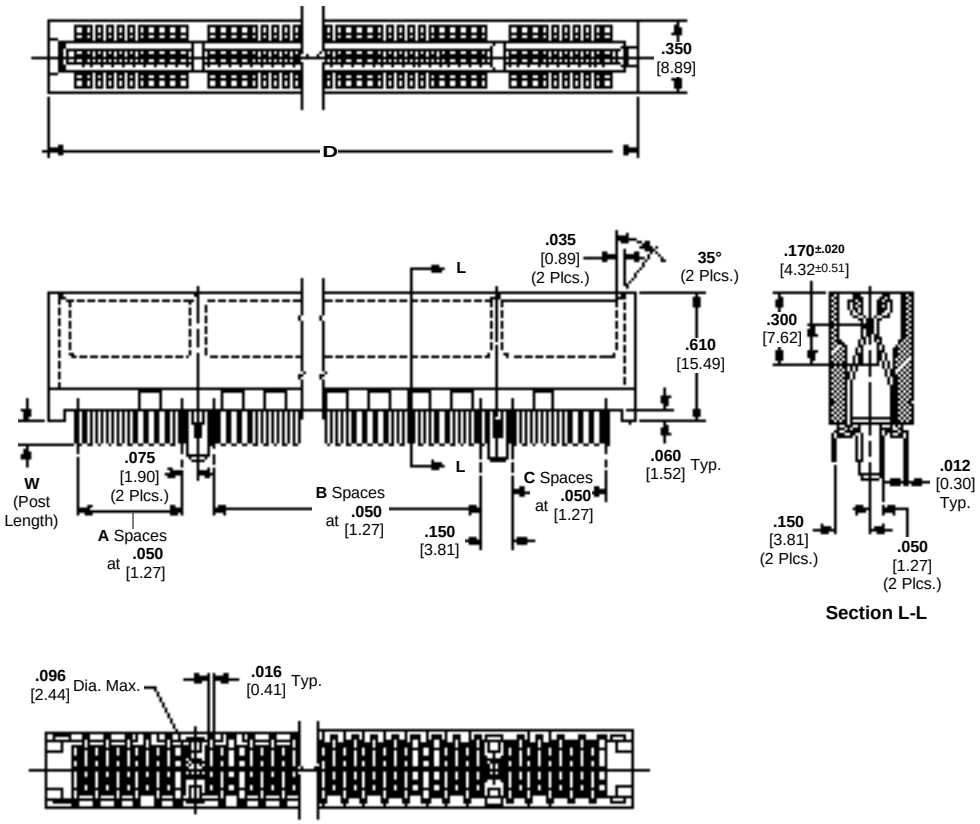
Related Product Data:

Performance Specifications—page 11

Technical Documents:

Product Specification
108-14034

Application Specification
114-26012



No. of Dual Positions	Dimensions				W (Post Length)	PC Board Hole Layout	Connector Part Numbers
	A	B	C	D			
66	10	44	9	**3.740** 95.00	**.100** 2.54	A	650091-1*
					.140 3.56	A	650091-2

*Connectors used for MCA Bus applications.

Notes: 1. Other connector sizes can be made available, consult Tyco Electronics.
2. .125 [3.18] post length is available, consult Tyco Electronics.

Catalog 1654080
Issued 7-03

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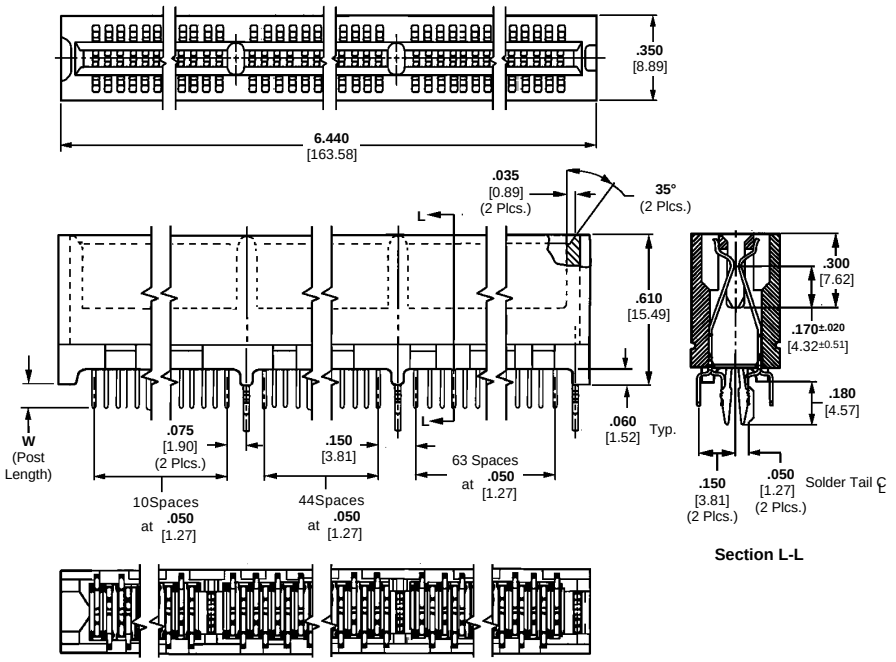
Standard Edge .050 Series Connectors

Configuration; 1 Key/1 Web —3 Metal Holddowns

120 Dual Positions



Material and Finish:

Housing—High temperature thermoplastic, brown

Holddowns—Brass, plated .000150 [0.00381] min. tin-lead over .000050 [0.00127] min. nickel

Contacts—Phosphor bronze, duplex plated .000030 [0.00076] min. gold in contact area, .000100 [0.00254] min. tin-lead on solder tails, with entire contact underplated .000050 [0.00127] min. nickel

Related Product Data:

Performance Specifications—page 11

Technical Documents:

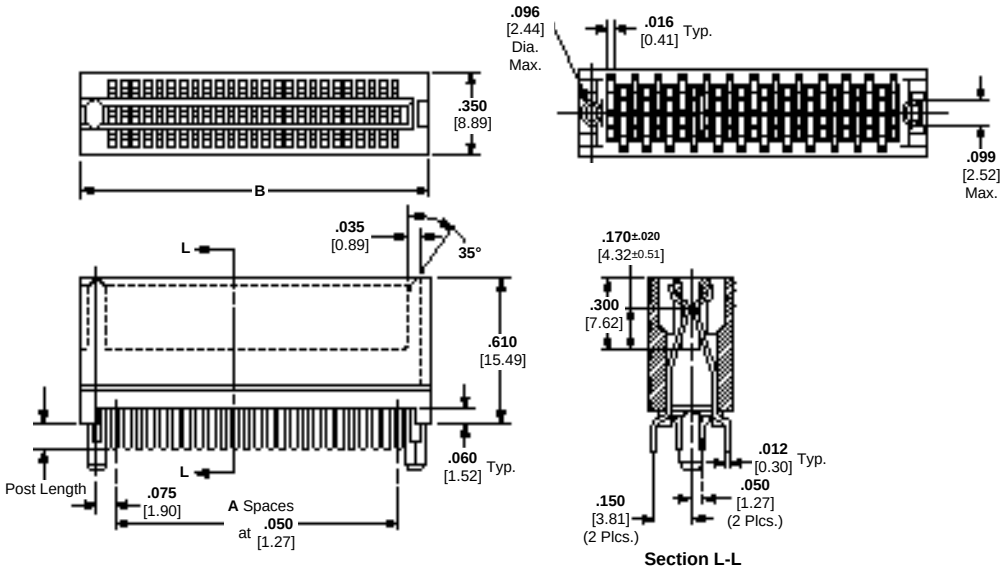
Product Specification
104-14034

Application Specification
114-26012

No. of Dual Positions	W (Post Length)	Connector Part Numbers
120	**.140** 3.56	145031-3

Note: Other connector sizes can be made available, consult Tyco Electronics.

Configuration; End Key



Material and Finish:

Housing—High temperature thermoplastic, brown

Contacts—Phosphor bronze, duplex plated .000030 [0.00076] min. gold in contact area, .000100 [0.00254] min. tin-lead on solder tails, with entire contact underplated .000050 [0.00127] min. nickel

Related Product Data:

Performance Specifications—page 11

Technical Documents:

Product Specification
108-14034

Application Specification
114-26012

No. of Dual Positions	Dimensions				Post Length	Connector Part Numbers
	A	B	C	D		
25	24	**1.480** 37.59	**1.350** 34.29	**1.310** 33.27	**.100** 2.54	650719-1

Note: Other connector sizes can be made available, consult Tyco Electronics.

Catalog 1654080
Issued 7-03

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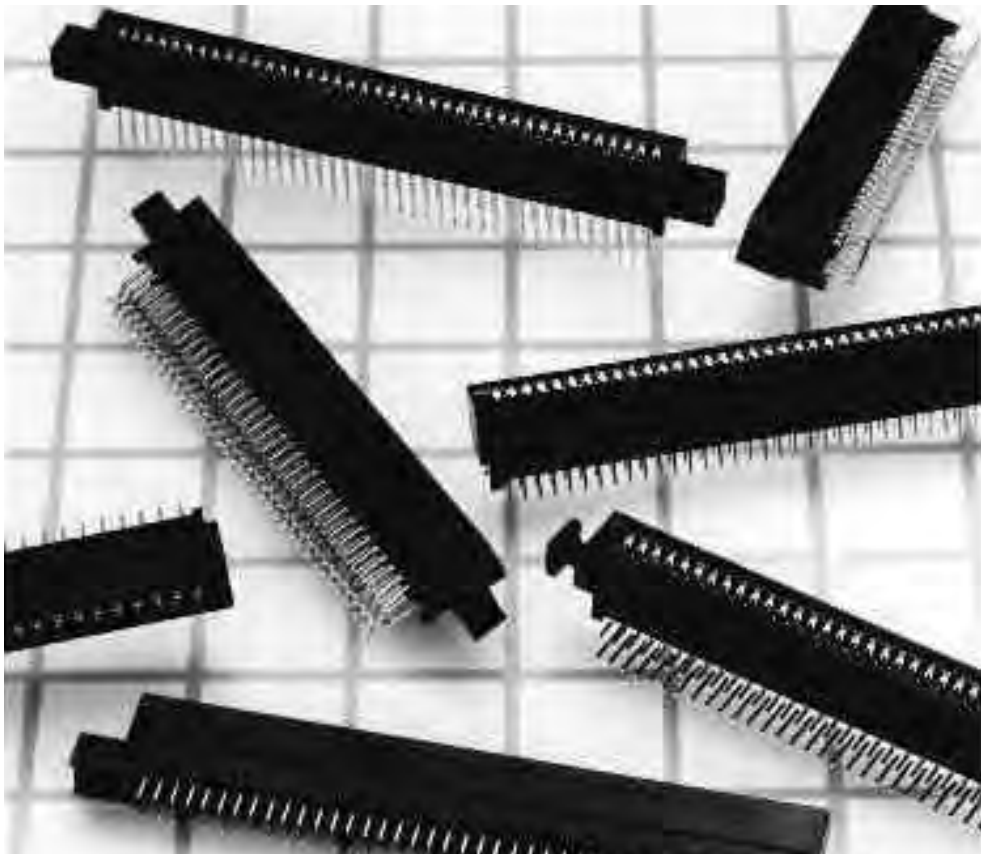
Standard Edge II Connectors



Product Facts

- **Maximum number of dual positions .100 [2.54] Centerlines-70, .125 [3.18] Centerlines-50, .150 [3.81] Centerlines-31**
- **Selective gold plating of contacts for high performance at low cost**
- **.025 [0.64] square solid posts meet standard wrap-type specifications**
- **For flow solder applications**
- **Glass-filled polyester housing is 94V-0 rated**
- **Accepts double sided PC boards, .054-.070 [1.27-1.78] thick**
- **Recognized under the Component Program of Underwriters Laboratories Inc., File No. E28476**
- **Certified by Canadian Standards Association, File No. LR 7189**

Performance Specifications

Contact Rating*: 3 amperes continuous (UL and CSA)

Contact Resistance: 10 milliohms max.

Operating Temperature: –55°C to +85°C

Voltage Rating (Sea Level):
.100 [2.54] centerline—1000 VAC (test)
.125 [3.18] centerline—1500 VAC (test)
.150 [3.81] centerline—1500 VAC (test)

Insulation Resistance: 5000 megohms min., after exposure to humidity

Vibration Tolerance: 10 to 500 hertz

Contact Engagement Force: 12 oz [3.3 N] average per pair with .062 [1.57] PC board

Contact Separation Force: 2 oz [0.6 N] average per pair with .062 [1.57] PC board

Humidity Tolerance: 90%-95% for 96 hours

AMP Standard Edge II Connectors provide high reliability and economy in packages compatible with industry standards for double sided printed circuit boards.

Tyco Electronics offers Standard Edge II Connectors with or without mounting ears, for rack mounting and soldering. Contacts are arranged on .100 [2.54] centers, .125 [3.18] centers, .150 [3.81] centers, .200 [5.08] row-to-row; and .250 [6.35] row-to-row.

Right-angle connectors are also available with contacts arranged on .100 [2.54] centers, .150 [3.81] row-to-row or .200 [5.08] row-to-row.

Card extenders with contacts on .100 [2.54] and .125 [3.18] centers also are available.

Precision formed phosphor bronze contacts are selectively gold plated. Phosphor bronze has excellent strength characteristics which help the connector absorb load deflection movement of a PC board while maintaining sufficient contact force for good electrical connection. Bifurcated cantilever beam contacts provide redundant contact.

***Consult Tyco Electronics engineering when paralleling contacts for power applications.**

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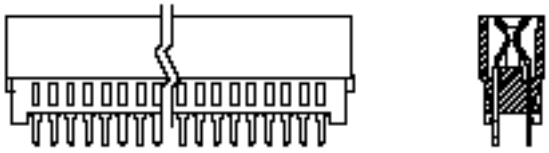
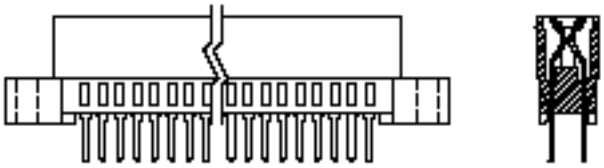
Standard Edge II Connectors Styles

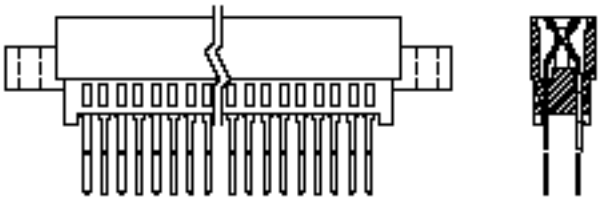
.100 [2.54] and .125 [3.18] Centerline Solder Posts without Mounting Ears
Pages 17 and 18



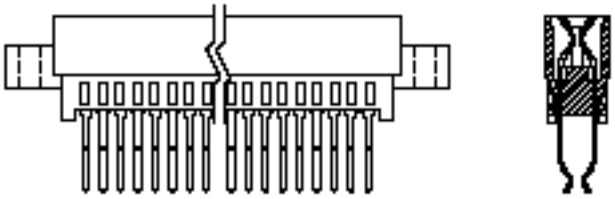
.100 [2.54] and .125 [3.18] Centerline Solder Posts with Low and Mid-High Mounting Ears
Page 20



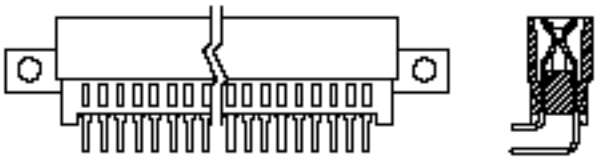
.100 [2.54] and .125 [3.18] Centerline Wrap-Type Posts with Mid-High Mounting Ears
Page 21

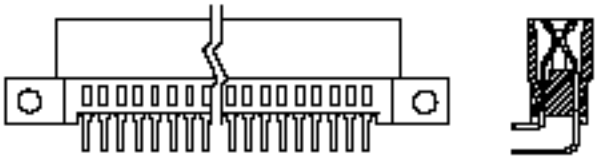


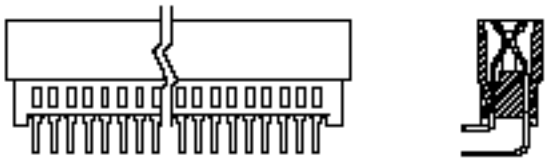
.100 [2.54] and .125 [3.18] Centerline Card Extenders
Page 22



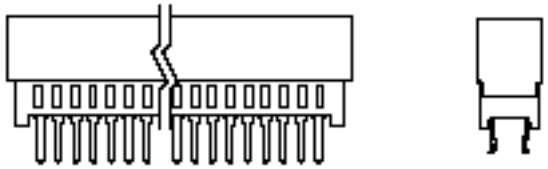
.100 [2.54] Centerline Right-Angle Posts with Low and No Mounting Ears
Page 23



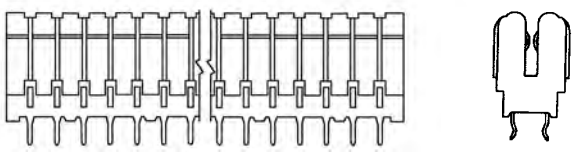




.100 [2.54] Centerline Solder Posts with Board Retention Feature, without Mounting Ears
Page 24



.150 [3.81] Centerline Solder Posts (with Board Retention Feature), without Mounting Ears
Page 19



Catalog 1654080
Issued 7-03

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UK: 44-141-810-8967

Standard Edge II Card Edge Connectors

.100 [2.54] Centerline, Vertical Solder Posts, Without Mounting Ears

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, duplex plated as follows:

Plating A—.000030 [0.00076] gold in contact area, tin on posts, with entire contact nickel underplated

Plating B—.000015 [0.00038] gold in contact area, tin on posts, with entire contact nickel underplated

Plating C—Gold flash in contact area, tin on posts, with entire contact nickel underplated

Technical Documents:

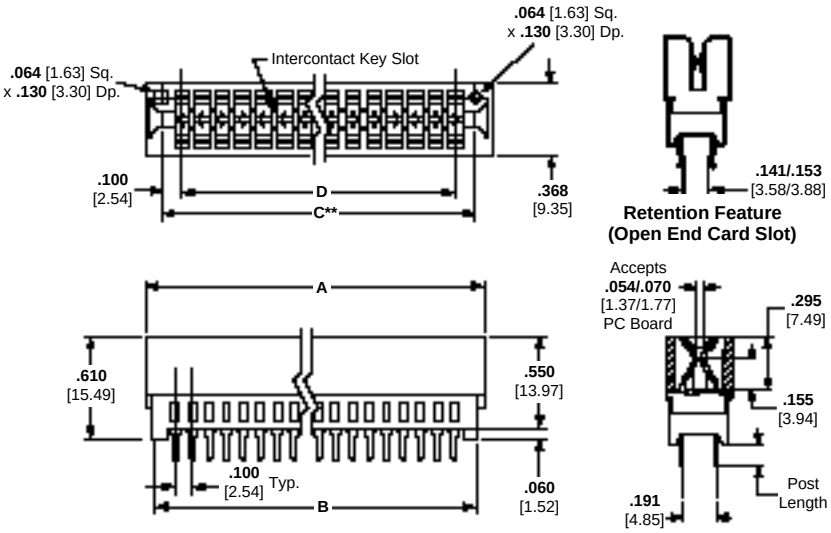
Product Specification
108-9039

Intercontact Keying Plug

Material:

Natural color polyester

Part Number 650025-2
(**.100** [2.54] Centerline)



No. of Dual Positions	Dimensions				Post Length*	Part Numbers		
	A	B	C**	D		Plating A	Plating B	Plating C
3	**.560** 14.22	**.450** 11.43	Open End	**.200** 5.08	**.125**	650263-1[1]	—	—
6	**.860** 21.84	**.750** 19.05	**.700** 17.78	**.500** 12.70	**.125** **.187**	7-530843-5 7-530843-6	—	—
10	**1.260** 32.00	**1.150** 29.21	**1.100** 27.94	**.900** 22.86	**.125** **.187**	5-530843-0 4-530843-9	—	—
12	**1.460** 37.08	**1.350** 34.29	**1.300** 33.02	**1.100** 27.94	**.125**	530843-1	—	—
15	**1.760** 44.70	**1.650** 41.91	**1.600** 40.64	**1.400** 35.56	**.125**	530843-2	—	—
17	**1.960** 49.78	**1.850** 46.99	**1.800** 45.72	**1.600** 40.64	**.125**	5-530843-3	—	—
18	**2.060** 52.32	**1.950** 49.53	**1.900** 48.26	**1.700** 43.18	**.125**	530843-3	2-530843-7	176137-1[1]
20	**2.260** 57.40	**2.150** 54.61	**2.100** 53.34	**1.900** 48.26	**.125**	5-530843-4	—	—
22	**2.460** 62.48	**2.350** 59.69	**2.300** 58.42	**2.100** 53.34	**.125**	530843-4	—	—
25	**2.760** 70.10	**2.650** 67.31	**2.600** 66.04	**2.400** 60.96	**.125**	530843-5	—	—
28	**3.060** 77.72	**2.950** 74.93	**2.900** 73.66	**2.700** 68.58	**.125**	530843-6	—	—
30	**3.260** 82.80	**3.150** 80.01	**3.100** 78.74	**2.900** 73.66	**.125** **.187**	530843-7 1-530843-8	—	—
31	**3.360** 85.34	**3.250** 82.55	**3.200** 81.28	**3.000** 76.20	**.125**	6-530843-5	7-530843-0	—
36	**3.860** 98.04	**3.750** 95.25	**3.700** 93.98	**3.500** 88.90	**.125**	530843-8	—	—
40	**4.260** 108.20	**4.150** 105.41	**4.100** 104.14	**3.900** 99.06	**.187**	2-530843-0	—	—
50	**5.260** 133.60	**5.150** 130.81	**5.100** 129.54	**4.900** 124.46	**.125**	1-530843-1	—	—

*Metric equivalent for post lengths are **.125** = 3.18; **.187** = 4.75.
**C dimension is card slot length.
[1] Connectors with Retention Feature.

Notes: 1. Other connector sizes can be made available, consult Tyco Electronics.
2. High temperature IR reflow compatible connectors can be made available, consult Tyco Electronics.

Catalog 1654080
Issued 7-03

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Japan: 81-44-844-8013
UK: 44-141-810-8967

Standard Edge II Connectors (Continued)

.125 [3.18] Centerline, Vertical Solder Posts, Without Mounting Ears

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated with .000030 [0.00076] gold in contact area, tin on posts, with entire contact nickel underplated

Related Product Data:

Performance Specifications—page 15

PC Board Hole Layout—page 26

PC Board Edge Pattern—page 27

Special Application—page 96

Technical Documents:

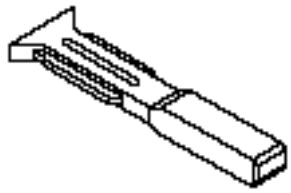
(pages 186, 187):

Product Specification
108-9039

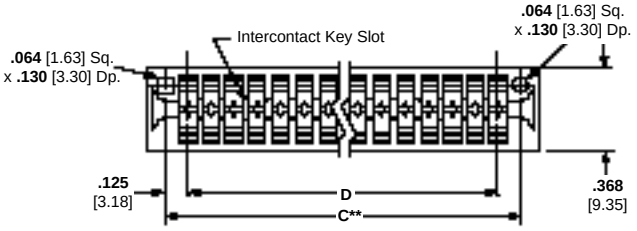
Intercontact Keying Plug

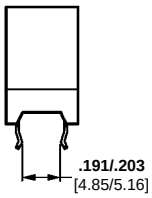
Material:

Natural color polyester

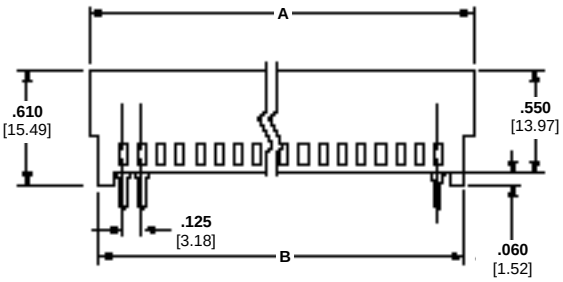


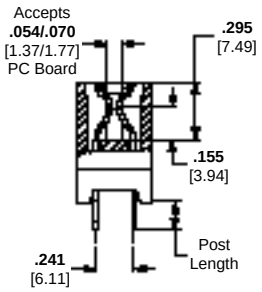
Part No. 650025-1
(**.125** [3.18] Centerline)





Retention Feature





No. of Dual Positions	Dimensions				Post Length*	Part Numbers
	A	B	C**	D		
6	**1.035** 26.29	**.875** 22.22	**.875** 22.22	**.625** 15.88	**.125**	650207-1[1]
14	**2.035** 51.69	**1.875** 47.62	**1.875** 47.62	**1.625** 41.28	**.187**	5-530844-8
18	**2.535** 64.39	**2.375** 60.33	**2.375** 60.33	**2.125** 53.98	**.187**	1-530844-5
22	**3.035** 77.09	**2.875** 73.03	**2.875** 73.03	**2.625** 66.68	**.187**	1-530844-6
28	**3.785** 96.14	**3.625** 92.08	**3.625** 92.08	**3.375** 85.73	**.187**	1-530844-7
30	**4.035** 102.49	**3.875** 98.42	**3.875** 98.42	**3.625** 92.08	**.187**	1-530844-8
36	**4.785** 121.54	**4.625** 117.48	**4.625** 117.48	**4.375** 111.13	**.187**	1-530844-9
40	**5.285** 134.24	**5.125** 130.18	**5.125** 130.18	**4.875** 123.82	**.187**	2-530844-0
43	**5.660** 143.76	**5.500** 139.70	**5.500** 139.70	**5.250** 133.35	**.125**	1-530844-0
50	**6.535** 165.99	**6.375** 161.93	**6.375** 161.93	**6.125** 155.58	**.125** **.187**	1-530844-1 2-530844-2

*Metric equivalent for post lengths are **.125** = [3.18]; **.187** = [4.75]
****C** dimension is card slot length.

[1]Connector with Retention Feature.

Note: Other connector sizes can be made available, consult Tyco Electronics.

Catalog 1654080
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UK: 44-141-810-8967

Standard Edge II Connectors (Continued)

.150 [3.81] Centerline, Vertical Solder Posts, Retention Feature, Without Mounting Ears

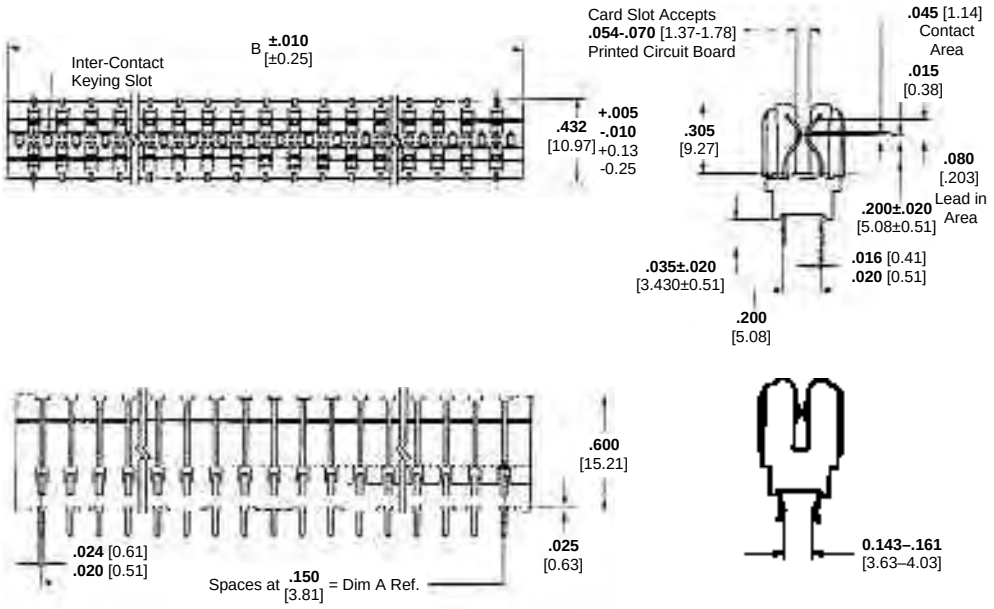
Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated with .000030 [0.00076] gold in contact area, tin on posts, with entire contact nickel underplated

Related Product Data:

Performance Specifications—page 15
PC Board Hole Layout—page 26
PC Board Edge Pattern—page 27
Special Application—page 96



No. of Dual Positions	Dimensions A	Dimensions B	Retention Location	Post Length*	Part Numbers
12	**1.650** 41.91	**1.920** 48.77	7-10, 15-18	**.135**	1-650728-2
19	**2.700** 68.58	**2.970** 75.44	7-10, 29-32	**.135**	1-650728-9
28	**4.050** 102.87	**4.320** 109.73	7-10, 25-32,47-50	**.135**	2-650728-9
31	**4.500** 114.30	**4.770** 121.16	7-10, 27-34,53-56	**.135**	3-650728-1

*Metric equivalent for post length is **.135** = [3.43]
***C** dimension is card slot length.

Note: Other connector sizes can be made available, consult Tyco Electronics.

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Standard Edge II Connectors (Continued)

.100 [2.54] and .125 [3.18] Centerline, Vertical Solder Posts, Low and Mid-High Mounting Ears

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated with .000030 [0.00076] gold in contact area, tin on posts, with entire contact nickel underplated

Related Product Data:

Performance Specifications—page 15

PC Board Hole Layout—page 26

PC Board Edge Pattern—page 27

Special Application—page 96

Technical Documents:

(pages 186, 187):

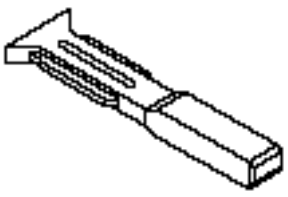
Product Specification
108-9039

Intercontact Keying Plugs

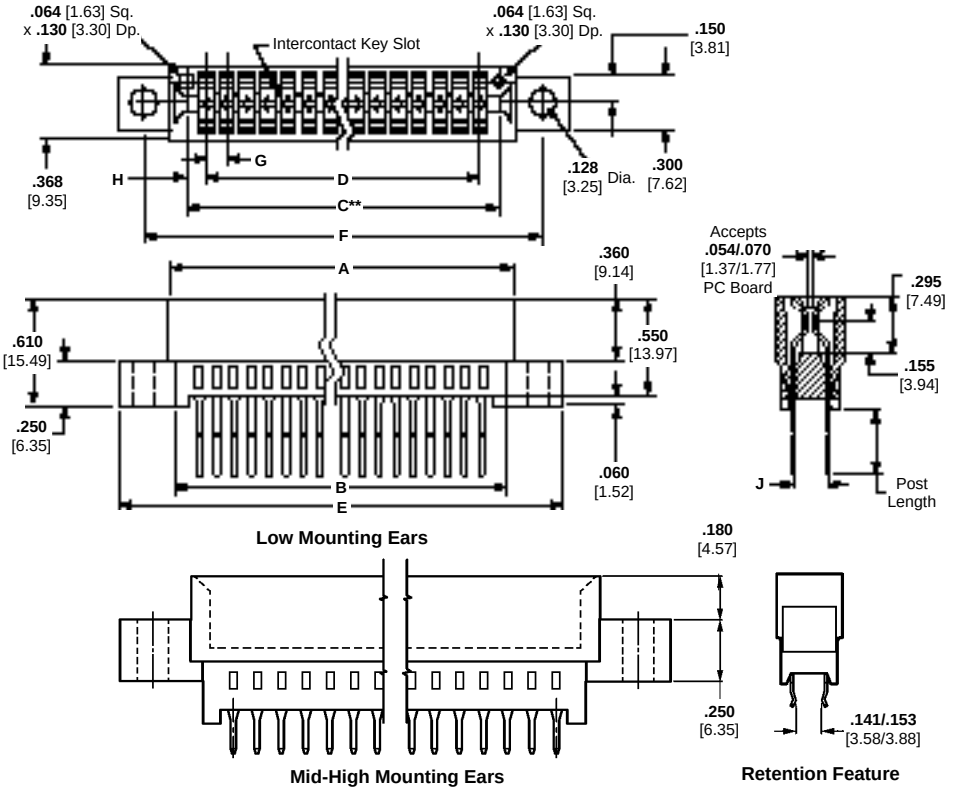
Material:

Natural color polyester

Part No. 650025-2
(**.100** [2.54] Centerline)



Part No. 650025-1
(**.125** [3.18] Centerline)



.100 [2.54] Centerline

No. of Dual Positions	Dimensions									Post Length*	Part Numbers
	A	B	C**	D	E	F	G	H	J		
15	**1.760** 44.70	**1.650** 41.91	**1.600** 40.64	**1.400** 35.56	**2.385** 67.18	**2.075** 52.71	**.100** 2.54	**.100** 2.54	**.191** 4.85	**.125**	530841-2
18	**2.060** 52.32	**1.950** 49.53	**1.900** 48.26	**1.700** 43.18	**2.645** 67.18	**2.375** 60.32	**.100** 2.54	**.100** 2.54	**.191** 4.85	**.125**	530841-3
25	**2.760** 70.10	**2.650** 67.31	**2.600** 66.04	**2.400** 60.96	**3.345** 84.96	**3.075** 78.11	**.100** 2.54	**.100** 2.54	**.191** 4.85	**.125** **.187**	530841-5 1-530841-6
30	**3.260** 82.80	**3.160** 80.01	**3.100** 78.74	**2.900** 73.66	**3.845** 97.66	**3.575** 90.81	**.100** 2.54	**.100** 2.54	**.191** 4.85	**.187**	1-530841-8
36	**3.860** 98.04	**3.750** 95.25	**3.700** 93.98	**3.500** 88.90	**4.445** 112.90	**4.175** 106.21	**.100** 2.54	**.100** 2.54	**.191** 4.85	**.125**	530841-8
50	**5.260** 133.60	**5.150** 130.81	**5.100** 129.54	**4.900** 124.46	**5.845** 148.46	**5.575** 141.60	**.100** 2.54	**.100** 2.54	**.191** 4.85	**.125** **.187**	1-530841-1 2-530841-2
									.141-.153 3.58-3.88	**.125**	650718-1[1,2]

*Metric equivalent for post lengths are **.125** = [3.18]; **.187** = [4.75]
****C** dimension is card slot length.
[1]Connector with Retention Feature.
[2]Connector with Mid-High Mounting Ears.
Note: Other connector sizes can be made available, consult Tyco Electronics.

.125 [3.18] Centerline

No. of Dual Positions	Dimensions									Post Length*	Part Numbers
	A	B	C**	D	E	F	G	H	J		
6	**1.035** 26.29	**.875** 22.22	**.875** 22.22	**.625** 15.88	**1.555** 39.50	**1.295** 32.89	**.125** 3.18	**.125** 3.18	**.241** 6.11	**.125**	1-531341-3
28	**3.785** 96.14	**3.505** 89.03	**3.625** 92.08	**3.375** 85.73	**4.305** 109.35	**4.045** 102.74	**.125** 3.18	**.125** 3.18	**.241** 6.11	**.187**	1-530842-7
									.241 6.11	**.187**	3-531341-0[2]
50	**6.535** 165.99	**6.255** 158.88	**6.375** 161.93	**6.125** 155.58	**7.055** 179.20	**6.795** 172.59	**.125** 3.18	**.125** 3.18	**.241** 6.11	**.125**	1-530842-1

*Metric equivalent for post lengths are **.125** = [3.18]; **.187** = [4.75]
****C** dimension is card slot length.
[1]Connector with Retention Feature.
[2]Connector with Mid-High Mounting Ears.
Note: Other connector sizes can be made available, consult Tyco Electronics.

Catalog 1654080
Issued 7-03

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UK: 44-141-810-8967

Standard Edge II Connectors (Continued)

.100 [2.54] and .125 [3.18] Centerline, Vertical Wrap-Type Posts, Mid-High Mounting Ears

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated with .000030 [0.00076] gold in contact area, tin on posts, with entire contact nickel underplated

Related Product Data:

Performance Specifications—page 15

PC Board Hole Layout—page 26

PC Board Edge Pattern—page 27

Special Application—page 96

Technical Documents:

(pages 186, 187):

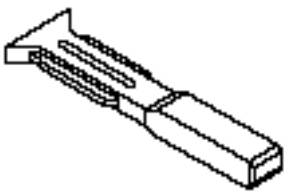
Product Specification
108-9039

Intercontact Keying Plugs

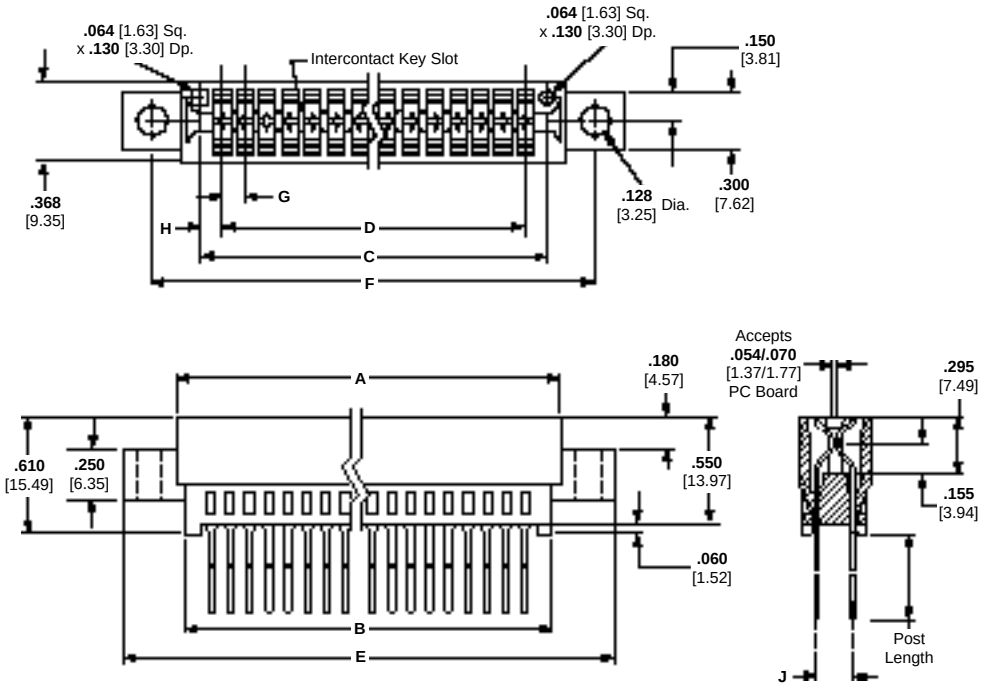
Material:

Natural color polyester

Part No. 650025-2
(**.100** [2.54] Centerline)



Part No. 650025-1
(**.125** [3.18] Centerline)



.100 [2.54] Centerline

No. of Dual Positions	Dimensions									Post Length*	Part Numbers
	A	B	C**	D	E	F	G	H	J		
30	**3.260** 82.80	**3.150** 80.01	**3.100** 78.74	**2.900** 73.66	**3.845** 97.41	**3.575** 90.80	**.100** 2.54	**.100** 2.54	**.200** 5.08	**.570**	3-530396-3
36	**3.860** 98.04	**3.750** 95.25	**3.700** 93.98	**3.500** 88.90	**4.435** 112.65	**4.175** 106.04	**.100** 2.54	**.100** 2.54	**.200** 5.08	**.570**	3-530396-4
40	**4.260** 108.20	**4.150** 105.41	**4.100** 104.14	**3.900** 99.06	**4.845** 123.06	**4.575** 116.21	**.100** 2.54	**.100** 2.54	**.200** 5.08	**.570**	3-530396-4

*Metric equivalent for post length is **.570** = [14.48].
****C** dimension is card slot length.

Note: Other connector sizes can be made available, consult Tyco Electronics.

.125 [3.18] Centerline

No. of Dual Positions	Dimensions									Post Length*	Part Numbers
	A	B	C**	D	E	F	G	H	J		
22	**3.035** 77.09	**2.755** 69.98	**2.875** 73.02	**2.625** 66.67	**3.555** 90.30	**3.295** 83.69	**.125** 3.18	**.125** 3.18	**.250** 6.35	**.570**	4-530825-5

*Metric equivalent for post length is **.570** = [14.48].
****C** dimension is card slot length.

Note: Other connector sizes can be made available, consult Tyco Electronics.

Catalog 1654080
Issued 7-03

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UK: 44-141-810-8967

Standard Edge II Connectors (Continued)

.100 [2.54] and .125 [3.18] Centerlines, Card Extender Contacts

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated with .000030 [0.00076] gold in contact area, tin on posts, with entire contact nickel underplated

Related Product Data:

Performance Specifications—page 15

PC Board Hole Layout—page 26

PC Board Edge Pattern—page 27

Technical Documents:

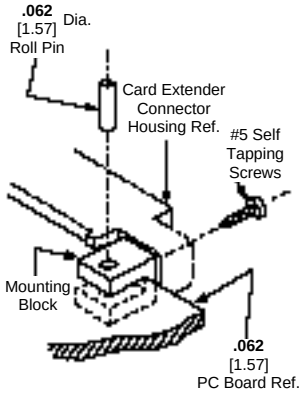
(pages 186, 187):

Product Specification
108-9039

Mounting Block

Material:

Natural color nylon

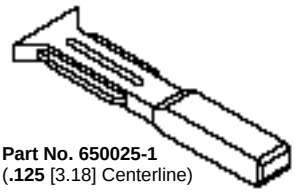


Kit Part No.531250-4
Each kit includes 2 mounting blocks, 2 self tapping screws, #5 x .437 [11.10] and 2 roll pins, .075 x .250 [1.57 x 6.35]

Intercontact Keying Plugs

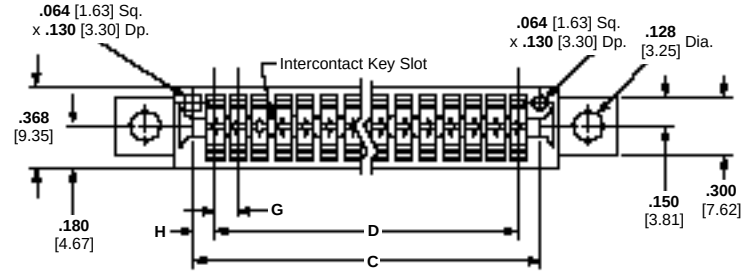
Material:

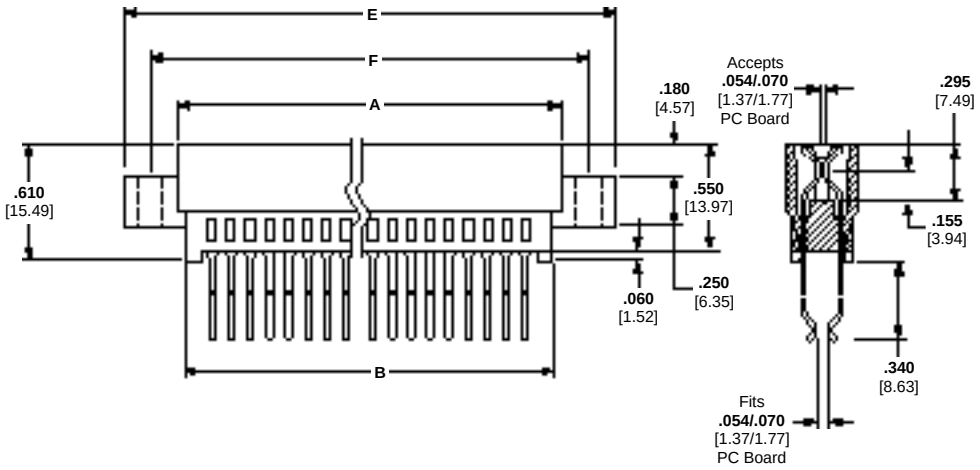
Natural color polyester



Part No. 650025-1
(**.125** [3.18] Centerline)

Part Number 650025-2
(**.100** [2.54] Centerline)





.100 [2.54] Centerline

No. of Dual Positions	Dimensions								Part Numbers
	A	B	C**	D	E	F	G	H	
50	**5.260** 133.60	**5.160** 130.81	**5.100** 129.54	**4.900** 124.46	**5.845** 148.46	**5.575** 141.60	**.100** 2.54	**.100** 2.54	530826-3

*__C__ dimension is card slot length.

[1]No mounting ears.

Note: Other connector sizes can be made available, consult Tyco Electronics.

.125 [3.18] Centerline

No. of Dual Positions	Dimensions								Part Numbers
	A	B	C**	D	E	F	G	H	
36	**4.785** 121.54	**4.505** 114.43	**4.625** 117.48	**4.375** 111.13	**5.035** 134.75	**5.045** 128.14	**.125** 3.18	**.125** 3.18	530384-2

*__C__ dimension is card slot length.

Note: Other connector sizes can be made available, consult Tyco Electronics.

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Issued 7-03

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UK: 44-141-810-8967

Standard Edge II Card Edge Connectors

.100 [2.54] Right-Angle Solder Posts, with Low and No Mounting Ears

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated

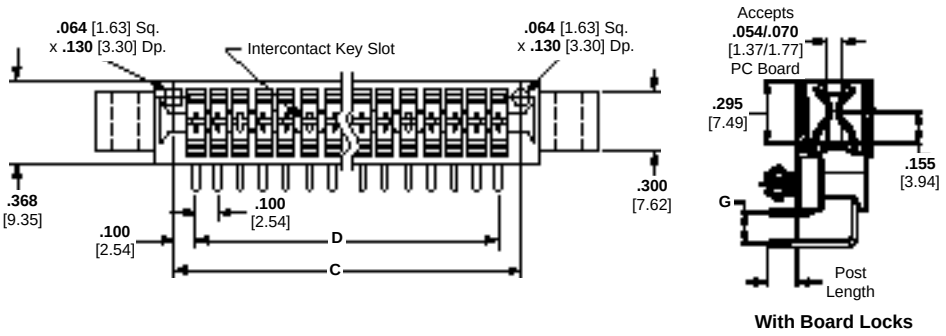
Contacts—Phosphor bronze, duplex plated as follows:
Plating A—.000030 [0.00076] gold in contact area, tin on posts, with entire contact nickel underplated
Plating B—.000015 [0.00038] gold in contact area, tin on posts, with entire contact nickel underplated

Related Product Data:

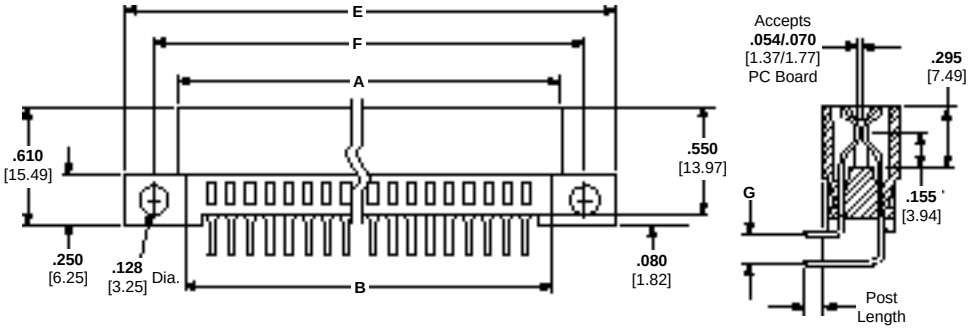
Performance Specifications—
page 15

Technical Documents:

Product Specification
108-9039



With Board Locks



Low Mounting Ears

Intercontact Keying Plug

Material:

Natural color polyester

Part Number 650025-2
(**.100** [2.54] Centerline)

Low Mounting Ears

No. of Dual Positions	Dimensions							Post Length[2]	Part Numbers (Plating A)
	A	B	C*	D	E	F	G[1]		
12	**1.460** 37.08	**1.350** 34.29	**1.300** 33.02	**1.100** 27.94	**2.045** 51.94	**1.775** 45.08	**.100x** **.150**	**.090**	145089-1[3]
18	**2.060** 52.32	**1.950** 49.53	**1.900** 48.26	**1.700** 43.18	**2.645** 67.18	**2.375** 60.32	**.100x** **.150**	**.090**	645384-1
20	**2.260** 57.40	**2.150** 54.61	**2.100** 53.34	**1.900** 48.26	**2.845** 72.30	**2.575** 65.40	**.100x** **.150**	**.090**	645384-3

*__C__ dimension is card slot length.

[1] Metric equivalent for **.100 x .150** and **.100 x .200** are [2.54 x 3.81] and [2.54 x 5.08].
[2] Metric equivalent for post length is **.090** = [2.27].
[3] Connector with Board Locks.

Note: Other connector sizes can be made available, consult Tyco Electronics.

No Mounting Ears

No. of Dual Positions	Dimensions					Post Length[2]	Part Numbers	
	A	B	C*	D	G[1]		Plating A	Plating B
15	**1.760** 44.70	**1.650** 41.91	**1.600** 40.64	**1.400** 35.56	**.100x** **.150**	**.090**	650118-1	—
17	**1.960** 49.78	**1.850** 46.99	**1.800** 45.72	**1.600** 40.64	**.100x** **.200**	**.090**	650187-1	—
25	**2.760** 70.10	**2.350** 67.61	**2.600** 66.04	**2.400** 60.96	**.100x** **.150**	**.090**	—	532600-2
31	**3.360** 85.34	**3.250** 82.55	**3.200** 81.28	**3.000** 76.20	**.100x** **.150**	**.090**	—	532600-4
32	**3.460** 87.88	**3.350** 85.09	**3.300** 83.82	**3.100** 78.74	**.100x** **.150**	**.090**	—	532600-5
19	**2.160** 54.86	**2.750** 69.85	**2.700** 68.58	**1.800** 45.72	**.100x** **.150**	**.090**	—	532600-6

*__C__ dimension is card slot length.

[1] Metric equivalent for **.100 x .150** and **.100 x .200** are [2.54 x 3.81] and [2.54 x 5.08].
[2] Metric equivalent for post length is **.090** = [2.27].

Notes: 1. Other connector sizes can be made available, consult Tyco Electronics.
2. High temperature IR reflow compatible connectors can be made available, consult Tyco Electronics.

Catalog 1654080
Issued 7-03

www.tycoelectronics.com

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South America: 55-11-3611-1514
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Standard Edge II Card Edge Connectors

.100 [2.54] Centerline Vertical Solder Posts, Retention Feature, Without Mounting Ears

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, duplex plated as follows:

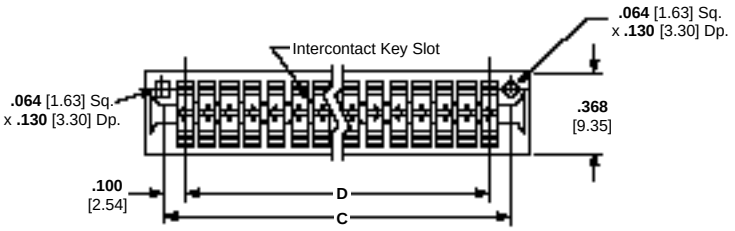
Plating A—.000030 [0.00076] gold in contact area, tin on posts, with entire contact nickel underplated

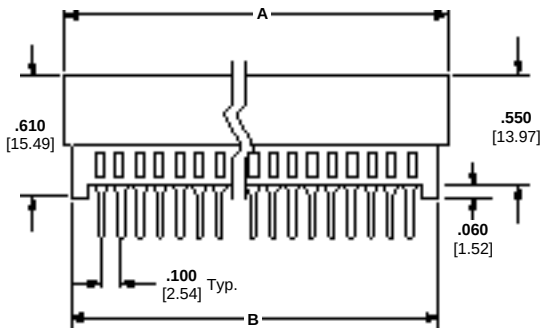
Plating B—.000015 [0.00038] gold in contact area, tin on posts, with entire contact nickel underplated

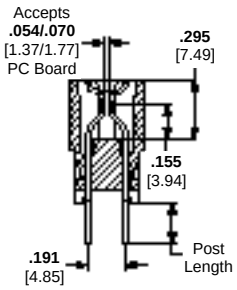
Plating C—Gold flash in contact area, tin on posts, with entire contact nickel underplated

Technical Documents:

Product Specification
108-9039





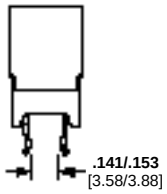


Intercontact Keying Plug

Material:

Natural color polyester

Part Number 650025-2
(**.100** [2.54] Centerline)



Retention Feature

No. of Dual Positions	Dimensions				Post Length*	Retention Feature	PartNumbers
	A	B	C**	D			Plating A
18	**2.060** 52.32	**1.950** 49.53	**1.900** 48.26	**1.700** 43.18	**.125**	3-6, 31-34	645235-4
31	**3.360** 85.34	**3.250** 82.55	**3.200** 81.28	**3.000** 76.20	**.125**	3-6, 29-32 or 31-34, 57-60	645235-1
50	**5.260** 133.60	**5.150** 130.81	**5.100** 129.54	**4.900** 124.46	**.125**	3-6, 49-52, 95-98	645235-3
60	**6.260** 159.00	**6.150** 156.21	**6.100** 154.94	**5.900** 149.86	**.125**	3-6, 55-58, 63-66, 115-118	645235-8

*Metric equivalent for post length is **.125** = [3.18].

****C** dimension is card slot length.

Notes: 1. Other connector sizes can be made available, consult Tyco Electronics.
2. High temperature IR reflow compatible connectors can be made available, consult Tyco Electronics.

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Japan: 81-44-844-8013
UK: 44-141-810-8967

Standard Edge II Card Edge Connectors

.100 [2.54] Centerline, Special 18/31 Dual Combination Connector, Vertical Solder Posts, Without Mounting Ears

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated, except where noted

Contacts—Phosphor bronze, plated with .000030 [0.00076] gold in contact area (except where noted), tin on posts, with entire contact nickel underplated

Technical Documents:

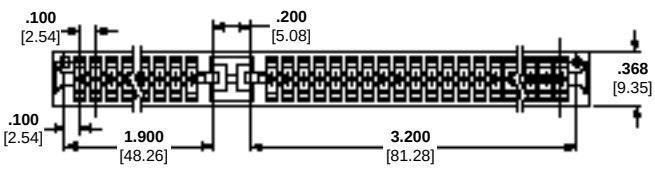
Product Specification
108-9039

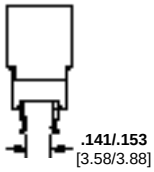
Intercontact Keying Plug

Material:

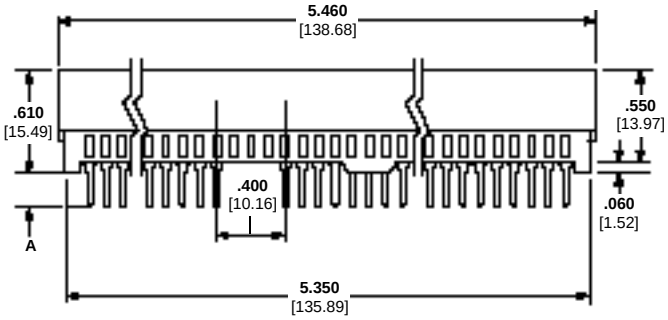
Natural color polyester

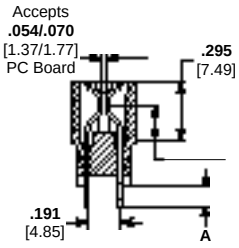
Part Number 650025-2
(**.100** [2.54] Centerline)





Retention Feature





Solder Posts

No. of Dual Positions	Post Type	Dimension A	Retention Feature	Part Numbers
52	Solder Posts	**.125** 3.18	3-6, 41, 42, 51, 52, 93-96	645169-2 536128-1[1]
52	Solder Posts	**.125** 3.18	None	645169-3
52	Solder Posts	**.125** 3.18	3-14, 41, 42, 51, 52, 85-96	645169-4
52	Solder Posts	**.125** 3.18	5, 6, 31, 32, 41, 42, 93, 94	176139-1[2]
52	Solder Posts	**.187** 4.75	None	650616-1

[1] Housing material is high temperature glass-filled polyester, gray.
[2] Contact area is gold flash.

Notes: 1. Card slot length is **5.300** [134.62].
2. Other connector sizes can be made available, consult Tyco Electronics.
3. High temperature IR reflow compatible connectors can be made available, consult Tyco Electronics.

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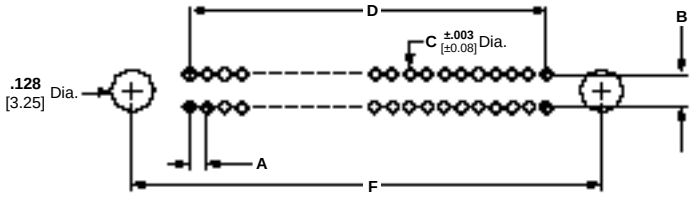
Standard Edge II Connectors (Continued)

Recommended PC Board Hole Layouts

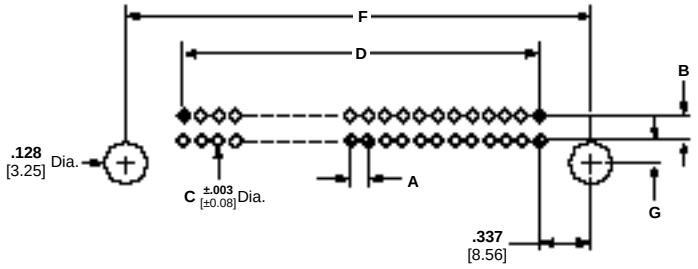
Vertical Post Connectors



Connector Type	Dimensions				
	A	B	C	D	F
Solder Post/Retention	**.100** 2.54	**.200** 5.08	**.040** 1.02	See Note 1	See Note 2
Solder Post/Retention	**.150** 3.81	**.200** 5.08	**.040** 1.02	See Note 4	See Note 2
Solder Post, Mounting Ears	**.125** 3.18	**.250** 6.35	**.040** 1.02	See Note 3	See Note 3
Solder Post, W/O Mounting Ears	**.100/.125** 2.54/3.18	**.200/.250** 5.08/6.35	**.040** 1.02	See Note 4	See Note 2
Wrap-Type Post	**.100** 2.54	**.200** 5.08	**.042** 1.07	See Note 5	See Note 5
Wrap-Type Post	**.125** 3.18	**.250** 6.35	**.042** 1.07	See Note 5	See Note 5

Notes: 1. Refer to page 24 for **D** Dimensions and Dual Positions.
2. No mounting ears. Dimensions do not apply.
3. Refer to page 20 for **D** and **F** Dimensions and Dual Positions.
4. Refer to pages 18 and 19 for **D** Dimensions and Dual Positions.
5. Refer to page 21 for **D** and **F** Dimensions and Dual Positions.

Right-Angle Post Connectors



Connector Type	Dimensions					
	A	B	C	D	F	G
Right-Angle Posts, Mounting Ears	**.100** 2.54	**.150** 3.81	**.042** 1.07	See Note 1	See Note 1	**.137** 3.48
Right-Angle Posts, No Mounting Ears	**.100** 2.54	**.150 or .200** 3.81 or 5.08	**.042** 1.07	See Note 2	See Note 3	See Note 3

Notes: 1. Refer to page 23 for **D** and **F** Dimensions and Dual Positions.
2. Refer to page 23 for **D** Dimensions and Dual Positions.
3. No Mounting Ears, Dimensions do not apply.

Catalog 1654080
Issued 7-03

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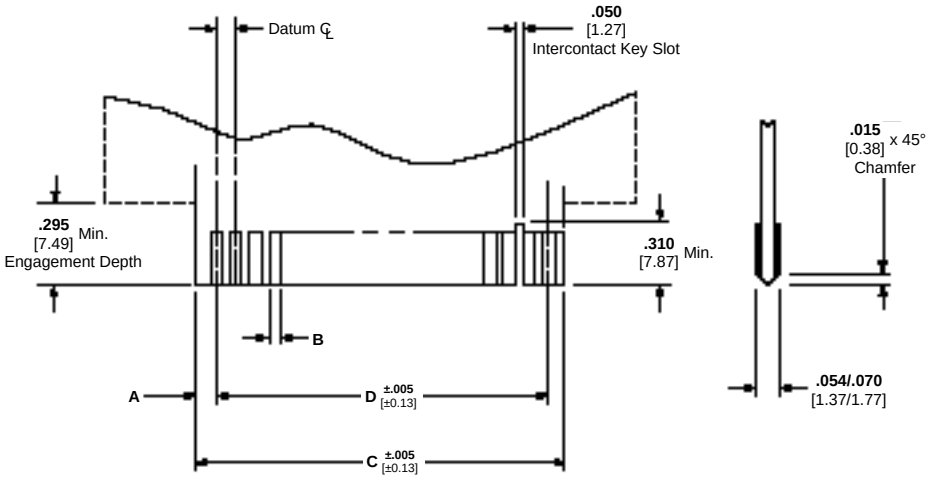
Standard Edge II Connectors (Continued)

Recommended PC Board Edge Pattern

PC Board Edge Pattern for .100 [2.54] and .125 [3.18] Centerline



No. of Dual Positions	.100 [2.54] Centerline A = .093 [2.36] B = .050 [1.27]		.125 [3.18] Centerline A = .118 [3.00] B = .075 [1.90]	
	C	D	C	D
3	**.386** 9.80	**.200** 5.08	—	—
6	**.686** 17.42	**.500** 12.70	**.861** 21.87	**.625** 15.88
10	**1.086** 27.58	**.900** 22.86	**1.361** 34.57	**1.125** 28.58
12	**1.286** 32.66	**1.100** 27.94	—	—
13	**1.386** 35.20	**1.200** 30.48	—	—
14	—	—	**1.861** 47.27	**1.625** 41.28
15	**1.586** 40.28	**1.400** 35.56	—	—
17	**1.786** 45.36	**1.600** 40.64	—	—
18	**1.886** 47.90	**1.700** 43.18	**2.361** 59.97	**2.125** 53.98
22	**2.286** 58.06	**2.100** 53.34	**2.861** 72.67	**2.625** 66.68
25	**2.586** 65.68	**2.400** 60.96	—	—
28	**2.886** 73.30	**2.700** 68.58	**3.611** 91.72	**3.375** 85.73
30	**3.086** 78.38	**2.900** 73.66	**3.861** 98.07	**3.625** 92.08
31	**3.186** 80.92	**3.000** 76.20	**3.986** 101.24	**3.750** 95.25
35	**3.586** 91.08	**3.400** 86.36	—	—
36	**3.686** 93.62	**3.500** 88.90	**4.611** 117.12	**4.375** 111.13
40	**4.086** 103.78	**3.900** 99.06	**5.111** 129.82	**4.875** 123.82
43	**4.386** 111.40	**4.200** 106.68	**5.486** 139.34	**5.250** 133.35
50	**5.086** 129.18	**4.900** 124.46	**6.361** 161.57	**6.125** 155.58
60	**6.086** 154.58	**5.900** 149.86	—	—
70	**7.086** 179.98	**6.900** 175.26	—	—

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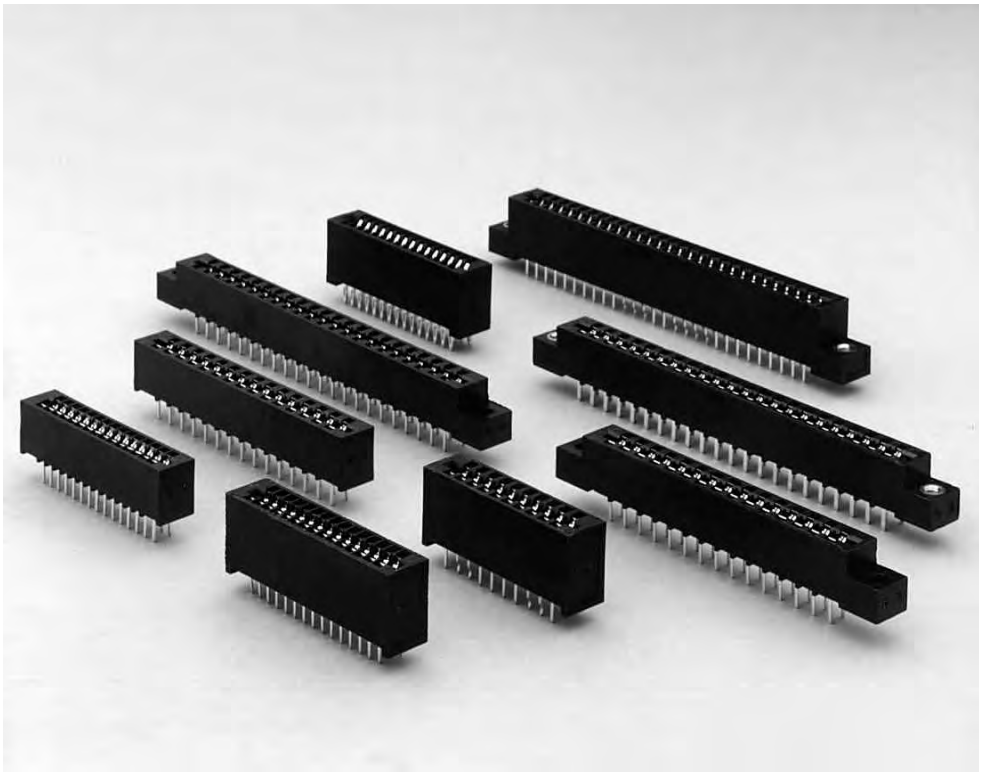
Cantilever Series Card Edge Connectors

Product Facts

- **Double readout Card Edge connectors use dip solder contacts**
- **Large lead-in chamfers allow easy PC board installation**
- **Insulator standoffs prevent solder from wicking**
- **Various lengths for custom applications**
- **Contact option, single or dual row**



Description

The Cantilever Beam Series products from Tyco Electronics are double readout cardedge connectors, using dip solder contacts. Tooled for flexible manufacturing, these Card Edge connectors are readily available in a broad assortment of sizes and mounting styles. Our connectors meet industry standards.

Design Advantages

- Circuit Integrity: Robust cantilever contacts are designed to promote optimal normal forces at the lowest possible cost. Our uniquely contoured contact mating surface gives you constant engagement, even when subjected to continuous vibration.
- Ease of Assembly: Generous lead-in chamfers let your P.C. board slide easily into the connector. Insulator standoffs are provided to facilitate cleaning and prevent solder from wicking.

Availability, flexibility, performance and very low cost make the Cantilever Series from Tyco Electronics the clear choice in Card Edge connectors.

Cantilever Beam

The Cantilever Beam Card Edge connector comes with standard high temperature plastic insulators. Contacts are available in a variety of lengths to accommodate various custom applications. Standoffs allow for cleaning and draining and are available as an option on most insulator bodies.

Cantilever Beam Card Edge offers a variety of card slot depths. A full scoop option is available for ease of installation in applications where visibility is limited.

Contact options vary in this series from dual row standard contacts, single row options and press-fit.

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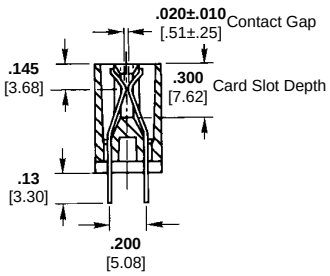
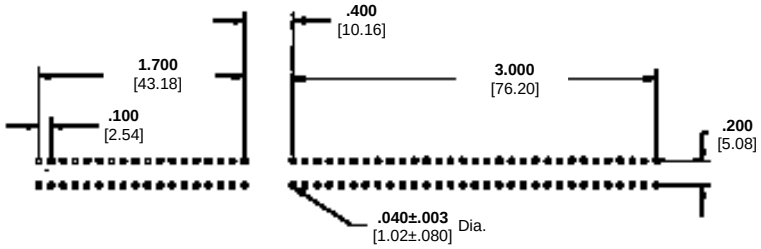
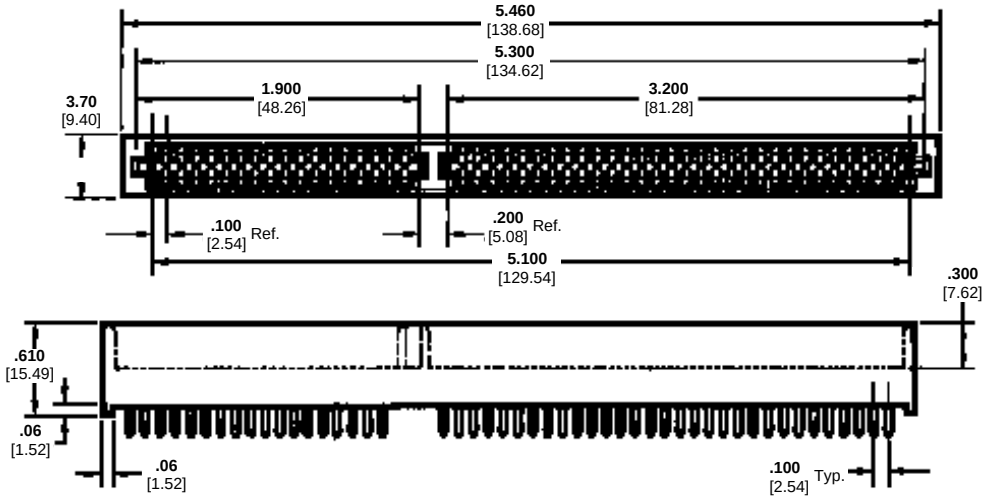
Cantilever Series Connectors .100 x .200 [2.54 x 5.08] Centerline

Product Facts

- **Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980**
- **Certified by Canadian Standards Association, File No. LR49571**







Physical Properties:

Insulation Resistance—5000 megohms minimum.

Insertion/Withdrawal Force (Daughter Card)—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.

Insulator Body—Glass filled thermoplastic, UL rating 94V-O. High temp. plastic option is available; add suffix M399 to part number.

Color—Black

Contacts—High strength copper alloy.

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operation Voltage—600 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

Operating Temperature—-55˚C to +125˚C

Temperature Cycling—MIL-STD-202 method 107

Ordering Information

Acquired Part Number
C8D52DS29C1M191 – Insulator with molded-in polarizing key with card guide chamber. The card slot lengths are 1.900 [48.26] and 3.200 [81.28]. Includes retention tails for .062 [1.57] PCB to hold connectors securely during handling.
C8D52DS29C1M195 – Same as above. No retention tails.

Catalog 1654080
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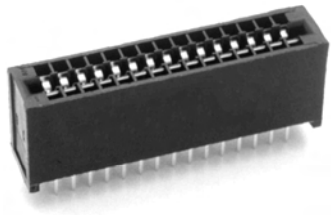
UK: 44-141-810-8967

Cantilever Series Connectors .100 x .200 [2.54 x 5.08] Centerline Dip Solder Tails, .300 [7.62] Card Slot Depth



Product Facts

- **Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980**
- **Certified by Canadian Standards Association, File No. LR49571**

Physical Properties:

Insulation Resistance—5000 megohms minimum.

Insertion/Withdrawal Force (Daughter Card)—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.

Insulator Body—Glass filled thermoplastic, UL rating 94V-O. High temp. plastic option is available; add suffix M399 to part number.

Color—Black

Contacts—High strength copper alloy.

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operation Voltage—600 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

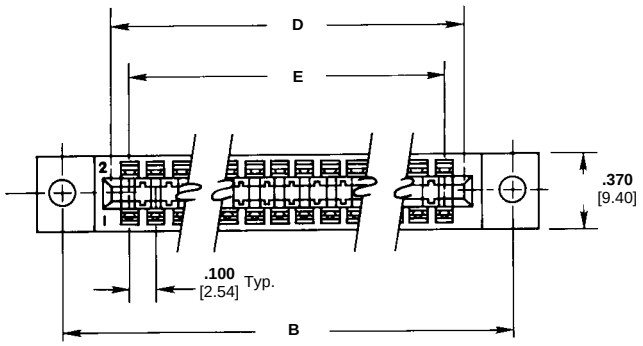
Operating Temperature—-55˚C to +125˚C

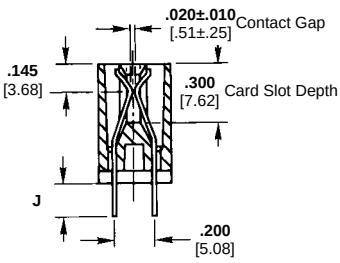
Temperature Cycling—MIL-STD-202 method 107

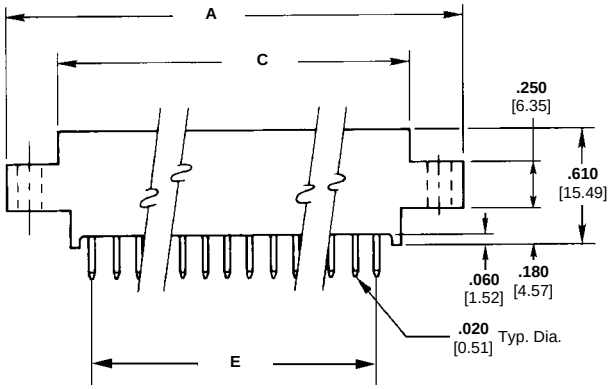
Vibration—MIL-STD-202 method 204

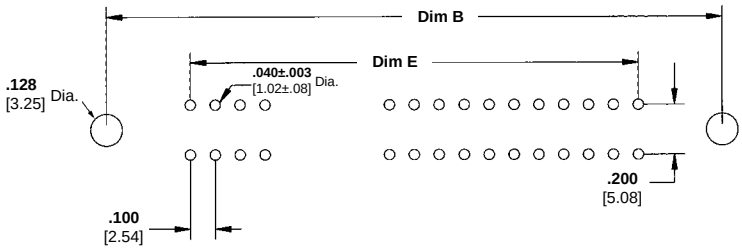
Related Product Data:

Daughter Card Edge Pattern—page 57

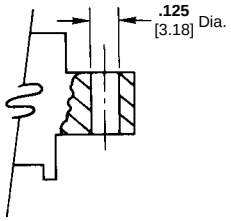




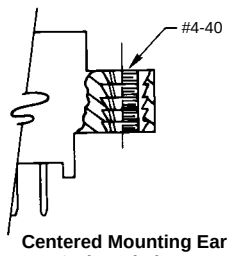




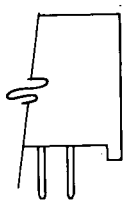
Mounting Styles



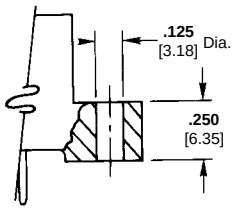
Centered Mounting Ear .125 [3.18] Thru Hole



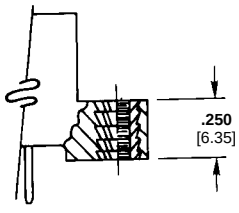
Centered Mounting Ear 4-40 Threaded Insert



No Mounting Ears



Flush Mounting Ear .125 [3.18] Thru Hole



Flush Mounting Ear 4-40 Threaded Insert

Catalog 1654080
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Japan: 81-44-844-8013
UK: 44-141-810-8967

Ordering Information

.100" [2.54] Centerline / .200" [5.08] Row-to-Row

No. of Dual Readout Positions	Dimensions					Mounting Ear Options				
	A	B	C	D	E	Centered Mounting Ear .125" [3.18] Thru Hole	Centered Mounting Ear 4-40 Threaded insert	No Mounting Ears	Flush Mounting Ear .125" [3.18] Thru Hole	Flush Mounting Ear 4-40 Threaded insert
Tail Length .130" [3.30] (DIM "J")										
6	**1.435** 36.45	**1.175** 29.85	**0.860** 21.84	**0.700** 17.78	**0.500** 12.70	C8D06DS29A1	C8D06DS29B1	C8D06DS29C1	C8D06DS29D1	C8D06DS29E1
10	**1.835** 46.61	**1.575** 40.01	**1.260** 32.00	**1.100** 27.94	**0.900** 22.86	C8D10DS29A1	C8D10DS29B1	C8D10DS29C1	C8D10DS29D1	C8D10DS29E1
12	**2.035** 51.69	**1.775** 45.09	**1.460** 37.08	**1.300** 33.02	**1.100** 27.94	C8D12DS29A1	C8D12DS29B1	C8D12DS29C1	C8D12DS29D1	C8D12DS29E1
15	**2.335** 59.31	**2.075** 52.71	**1.760** 44.70	**1.600** 40.64	**1.400** 35.56	C8D15DS29A1	C8D15DS29B1	C8D15DS29C1	C8D15DS29D1	C8D15DS29E1
18	**2.635** 66.93	**2.375** 60.33	**2.060** 52.32	**1.900** 48.26	**1.700** 43.18	C8D18DS29A1	C8D18DS29B1	C8D18DS29C1	C8D18DS29D1	C8D18DS29E1
20	**2.835** 72.01	**2.575** 65.41	**2.260** 57.40	**2.100** 53.34	**1.900** 48.26	C8D20DS29A1	C8D20DS29B1	C8D20DS29C1	C8D20DS29D1	C8D20DS29E1
22	**3.035** 77.09	**2.775** 70.49	**2.460** 62.48	**2.300** 58.42	**2.100** 53.34	C8D22DS29A1	C8D22DS29B1	C8D22DS29C1	C8D22DS29D1	C8D22DS29E1
25	**3.335** 84.71	**3.075** 78.11	**2.760** 70.10	**2.600** 66.04	**2.400** 60.96	C8D25DS29A1	C8D25DS29B1	C8D25DS29C1	C8D25DS29D1	C8D25DS29E1
28	**3.635** 92.33	**3.375** 85.73	**3.060** 77.72	**2.900** 73.66	**2.700** 68.58	C8D28DS29A1	C8D28DS29B1	C8D28DS29C1	C8D28DS29D1	C8D28DS29E1
30	**3.835** 97.41	**3.575** 90.81	**3.260** 82.80	**3.100** 78.74	**2.900** 73.66	C8D30DS29A1	C8D30DS29B1	C8D30DS29C1	C8D30DS29D1	C8D30DS29E1
31	**3.935** 99.95	**3.675** 93.35	**3.360** 85.34	**3.200** 81.28	**3.000** 76.20	C8D31DS29A1	C8D31DS29B1	C8D31DS29C1	C8D31DS29D1	C8D31DS29E1
35	**4.335** 110.11	**4.075** 103.51	**3.760** 95.50	**3.600** 91.44	**3.400** 86.36	C8D35DS29A1	C8D35DS29B1	C8D35DS29C1	C8D35DS29D1	C8D35DS29E1
36	**4.435** 112.65	**4.175** 106.05	**3.860** 98.04	**3.700** 93.98	**3.500** 88.90	C8D36DS29A1	C8D36DS29B1	C8D36DS29C1	C8D36DS29D1	C8D36DS29E1
40	**4.835** 122.81	**4.575** 116.21	**4.260** 108.20	**4.100** 104.14	**3.900** 99.06	C8D40DS29A1	C8D40DS29B1	C8D40DS29C1	C8D40DS29D1	C8D40DS29E1
43	**5.135** 130.43	**4.875** 123.83	**4.560** 115.82	**4.400** 111.76	**4.200** 106.68	C8D43DS29A1	C8D43DS29B1	C8D43DS29C1	C8D43DS29D1	C8D43DS29E1
50	**5.835** 148.21	**5.575** 141.61	**5.260** 133.60	**5.100** 129.54	**4.900** 124.46	C8D50DS29A1	C8D50DS29B1	C8D50DS29C1	C8D50DS29D1	C8D50DS29E1
60	**6.835** 173.61	**6.575** 167.01	**6.260** 159.00	**6.100** 154.94	**5.900** 149.86	C8D60DS29A1	C8D60DS29B1	C8D60DS29C1	C8D60DS29D1	C8D60DS29E1
Tail Length .160" [4.06] (DIM "J")										
6	**1.435** 36.45	**1.175** 29.85	**0.860** 21.84	**0.700** 17.78	**0.500** 12.70	C8D06DS29A2	C8D06DS29B2	C8D06DS29C2	C8D06DS29D2	C8D06DS29E2
10	**1.835** 46.61	**1.575** 40.01	**1.260** 32.00	**1.100** 27.94	**0.900** 22.86	C8D10DS29A2	C8D10DS29B2	C8D10DS29C2	C8D10DS29D2	C8D10DS29E2
12	**2.035** 51.69	**1.775** 45.09	**1.460** 37.08	**1.300** 33.02	**1.100** 27.94	C8D12DS29A2	C8D12DS29B2	C8D12DS29C2	C8D12DS29D2	C8D12DS29E2
15	**2.335** 59.31	**2.075** 52.71	**1.760** 44.70	**1.600** 40.64	**1.400** 35.56	C8D15DS29A2	C8D15DS29B2	C8D15DS29C2	C8D15DS29D2	C8D15DS29E2
18	**2.635** 66.93	**2.375** 60.33	**2.060** 52.32	**1.900** 48.26	**1.700** 43.18	C8D18DS29A2	C8D18DS29B2	C8D18DS29C2	C8D18DS29D2	C8D18DS29E2
20	**2.835** 72.01	**2.575** 65.41	**2.260** 57.40	**2.100** 53.34	**1.900** 48.26	C8D20DS29A2	C8D20DS29B2	C8D20DS29C2	C8D20DS29D2	C8D20DS29E2
22	**3.035** 77.09	**2.775** 70.49	**2.460** 62.48	**2.300** 58.42	**2.100** 53.34	C8D22DS29A2	C8D22DS29B2	C8D22DS29C2	C8D22DS29D2	C8D22DS29E2
25	**3.335** 84.71	**3.075** 78.11	**2.760** 70.10	**2.600** 66.04	**2.400** 60.96	C8D25DS29A2	C8D25DS29B2	C8D25DS29C2	C8D25DS29D2	C8D25DS29E2
28	**3.635** 92.33	**3.375** 85.73	**3.060** 77.72	**2.900** 73.66	**2.700** 68.58	C8D28DS29A2	C8D28DS29B2	C8D28DS29C2	C8D28DS29D2	C8D28DS29E2
30	**3.835** 97.41	**3.575** 90.81	**3.260** 82.80	**3.100** 78.74	**2.900** 73.66	C8D30DS29A2	C8D30DS29B2	C8D30DS29C2	C8D30DS29D2	C8D30DS29E2
31	**3.935** 99.95	**3.675** 93.35	**3.360** 85.34	**3.200** 81.28	**3.000** 76.20	C8D31DS29A2	C8D31DS29B2	C8D31DS29C2	C8D31DS29D2	C8D31DS29E2
35	**4.335** 110.11	**4.075** 103.51	**3.760** 95.50	**3.600** 91.44	**3.400** 86.36	C8D35DS29A2	C8D35DS29B2	C8D35DS29C2	C8D35DS29D2	C8D35DS29E2
36	**4.435** 112.65	**4.175** 106.05	**3.860** 98.04	**3.700** 93.98	**3.500** 88.90	C8D36DS29A2	C8D36DS29B2	C8D36DS29C2	C8D36DS29D2	C8D36DS29E2
40	**4.835** 122.81	**4.575** 116.21	**4.260** 108.20	**4.100** 104.14	**3.900** 99.06	C8D40DS29A2	C8D40DS29B2	C8D40DS29C2	C8D40DS29D2	C8D40DS29E2
43	**5.135** 130.43	**4.875** 123.83	**4.560** 115.82	**4.400** 111.76	**4.200** 106.68	C8D43DS29A2	C8D43DS29B2	C8D43DS29C2	C8D43DS29D2	C8D43DS29E2

Catalog 1654080
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Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Ordering Information

.100" [2.54] Centerline / .200" [5.08] Row-to-Row

No. of Dual Readout Positions	Dimensions					Mounting Ear Options				
	A	B	C	D	E	Centered Mounting Ear .125" [3.18] Thru Hole	Centered Mounting Ear 4-40 Threaded insert	No Mounting Ears	Flush Mounting Ear .125" [3.18] Thru Hole	Flush Mounting Ear 4-40 Threaded insert
Tail Length .160" [4.06] (DIM "J") (Continued)										
50	**5.835** 148.21	**5.575** 141.61	**5.260** 133.60	**5.100** 129.54	**4.900** 124.46	C8D50DS29A2	C8D50DS29B2	C8D50DS29C2	C8D50DS29D2	C8D50DS29E2
60	**6.835** 173.61	**6.575** 167.01	**6.260** 159.00	**6.100** 154.94	**5.900** 149.86	C8D60DS29A2	C8D60DS29B2	C8D60DS29C2	C8D60DS29D2	C8D60DS29E2
Tail Length .220" [5.59] (DIM "J")										
6	**1.435** 36.45	**1.175** 29.85	**0.860** 21.84	**0.700** 17.78	**0.500** 12.70	C8D06DS29A3	C8D06DS29B3	C8D06DS29C3	C8D06DS29D3	C8D06DS29E3
10	**1.835** 46.61	**1.575** 40.01	**1.260** 32.00	**1.100** 27.94	**0.900** 22.86	C8D10DS29A3	C8D10DS29B3	C8D10DS29C3	C8D10DS29D3	C8D10DS29E3
12	**2.035** 51.69	**1.775** 45.09	**1.460** 37.08	**1.300** 33.02	**1.100** 27.94	C8D12DS29A3	C8D12DS29B3	C8D12DS29C3	C8D12DS29D3	C8D12DS29E3
15	**2.335** 59.31	**2.075** 52.71	**1.760** 44.70	**1.600** 40.64	**1.400** 35.56	C8D15DS29A3	C8D15DS29B3	C8D15DS29C3	C8D15DS29D3	C8D15DS29E3
18	**2.635** 66.93	**2.375** 60.33	**2.060** 52.32	**1.900** 48.26	**1.700** 43.18	C8D18DS29A3	C8D18DS29B3	C8D18DS29C3	C8D18DS29D3	C8D18DS29E3
20	**2.835** 72.01	**2.575** 65.41	**2.260** 57.40	**2.100** 53.34	**1.900** 48.26	C8D20DS29A3	C8D20DS29B3	C8D20DS29C3	C8D20DS29D3	C8D20DS29E3
22	**3.035** 77.09	**2.775** 70.49	**2.460** 62.48	**2.300** 58.42	**2.100** 53.34	C8D22DS29A3	C8D22DS29B3	C8D22DS29C3	C8D22DS29D3	C8D22DS29E3
25	**3.335** 84.71	**3.075** 78.11	**2.760** 70.10	**2.600** 66.04	**2.400** 60.96	C8D25DS29A3	C8D25DS29B3	C8D25DS29C3	C8D25DS29D3	C8D25DS29E3
28	**3.635** 92.33	**3.375** 85.73	**3.060** 77.72	**2.900** 73.66	**2.700** 68.58	C8D28DS29A3	C8D28DS29B3	C8D28DS29C3	C8D28DS29D3	C8D28DS29E3
30	**3.835** 97.41	**3.575** 90.81	**3.260** 82.80	**3.100** 78.74	**2.900** 73.66	C8D30DS29A3	C8D30DS29B3	C8D30DS29C3	C8D30DS29D3	C8D30DS29E3
31	**3.935** 99.95	**3.675** 93.35	**3.360** 85.34	**3.200** 81.28	**3.000** 76.20	C8D31DS29A3	C8D31DS29B3	C8D31DS29C3	C8D31DS29D3	C8D31DS29E3
35	**4.335** 110.11	**4.075** 103.51	**3.760** 95.50	**3.600** 91.44	**3.400** 86.36	C8D35DS29A3	C8D35DS29B3	C8D35DS29C3	C8D35DS29D3	C8D35DS29E3
36	**4.435** 112.65	**4.175** 106.05	**3.860** 98.04	**3.700** 93.98	**3.500** 88.90	C8D36DS29A3	C8D36DS29B3	C8D36DS29C3	C8D36DS29D3	C8D36DS29E3
40	**4.835** 122.81	**4.575** 116.21	**4.260** 108.20	**4.100** 104.14	**3.900** 99.06	C8D40DS29A3	C8D40DS29B3	C8D40DS29C3	C8D40DS29D3	C8D40DS29E3
43	**5.135** 130.43	**4.875** 123.83	**4.560** 115.82	**4.400** 111.76	**4.200** 106.68	C8D43DS29A3	C8D43DS29B3	C8D43DS29C3	C8D43DS29D3	C8D43DS29E3
50	**5.835** 148.21	**5.575** 141.61	**5.260** 133.60	**5.100** 129.54	**4.900** 124.46	C8D50DS29A3	C8D50DS29B3	C8D50DS29C3	C8D50DS29D3	C8D50DS29E3
60	**6.835** 173.61	**6.575** 167.01	**6.260** 159.00	**6.100** 154.94	**5.900** 149.86	C8D60DS29A3	C8D60DS29B3	C8D60DS29C3	C8D60DS29D3	C8D60DS29E3

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Cantilever Series Connectors 100 x .200 [2.54 x 5.08], .510 [12.95] and .395 [10.03] Card Slot Depth, Full Scoop

Product Facts

- **Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980**
- **Certified by Canadian Standards Association, File No. LR49571**

Physical Properties:

Insulation Resistance—5000 megohms minimum.

Insertion/Withdrawal Force (Daughter Card)—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.

Insulator Body—Glass filled thermoplastic, UL rating 94V-O. High temp. plastic option is available; add suffix M399 to part number.

Color—Black

Contacts—High strength copper alloy.

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operation Voltage—600 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

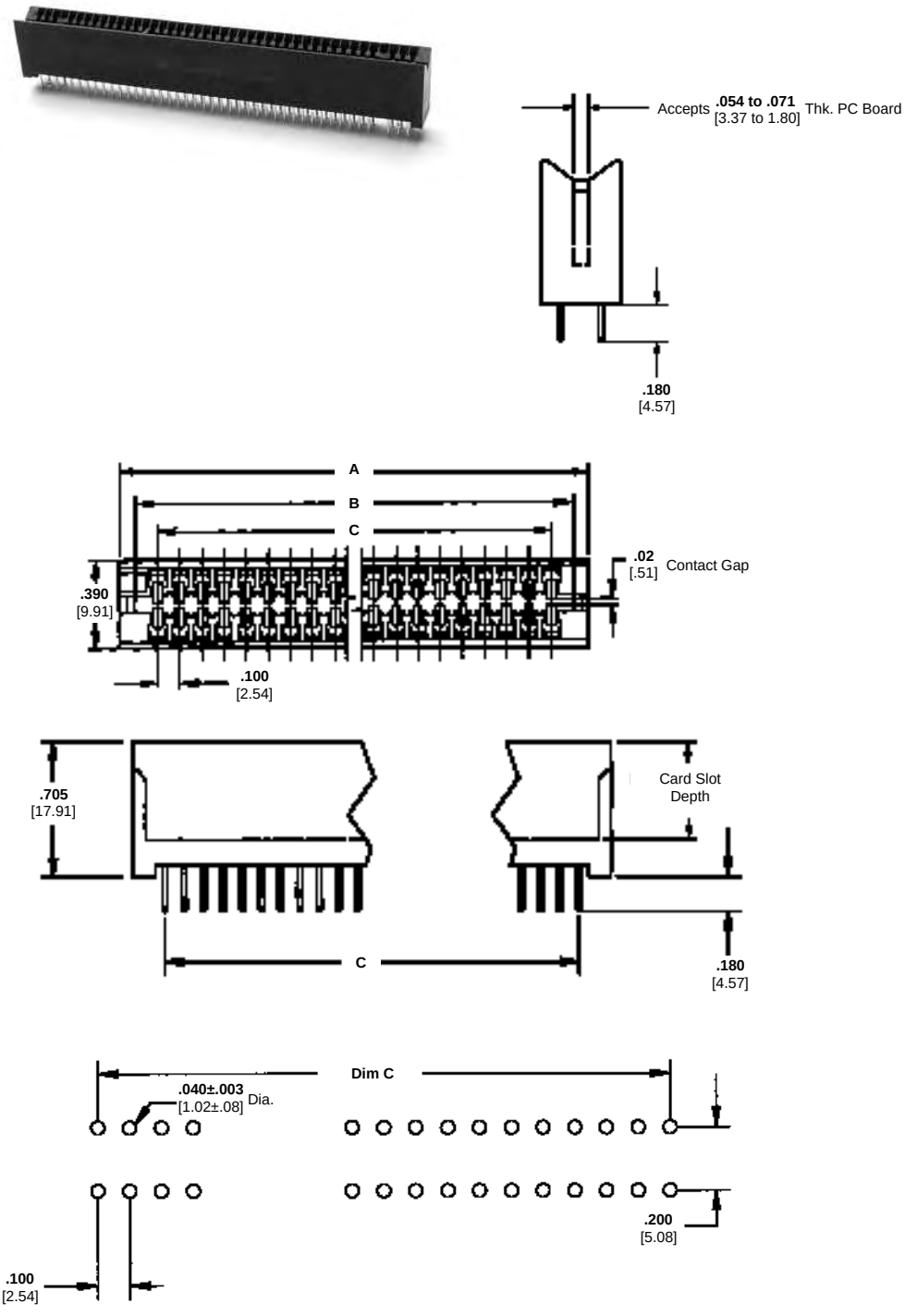
Operating Temperature—-55˚C to +125˚C

Temperature Cycling—MIL-STD-202 method 107

Vibration—MIL-STD-202 method 204

Related Product Data

Daughter Card Edge Pattern—page 57



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UK: 44-141-810-8967

Ordering Information

.100" [2.54] Centerline / .200" [5.08] Row-to-Row Full Scoop

No. of Dual Readout Pos.	Dimensions A	Dimensions B	Dimensions C	Acquired Part Number
.510" [12.95] Card Slot Depth				
18	**2.034** 51.66	**1.904** 48.36	**1.700** 43.18	W8D18DS29063
20	**2.234** 56.74	**2.104** 53.44	**1.900** 48.26	W8D20DS29063
22	**2.434** 61.82	**2.304** 58.52	**2.100** 53.34	W8D22DS29063
25	**2.734** 69.44	**2.604** 66.14	**2.400** 60.96	W8D25DS29063
28	**3.034** 77.06	**2.904** 73.76	**2.700** 68.58	W8D28DS29063
30	**3.234** 82.14	**3.104** 78.84	**2.900** 73.66	W8D30DS29063
35	**3.734** 94.84	**3.604** 91.54	**3.400** 86.36	W8D35DS29063
36	**3.834** 97.38	**3.704** 94.08	**3.500** 88.90	W8D36DS29063
40	**4.234** 107.54	**4.104** 104.24	**3.900** 99.06	W8D40DS29063
43	**4.534** 115.16	**4.404** 111.86	**4.200** 106.68	W8D43DS29063
45	**4.734** 120.24	**4.604** 116.94	**4.400** 111.76	W8D45DS29063
50	**5.234** 132.94	**5.104** 129.64	**4.900** 124.46	W8D50DS29063
60	**6.234** 158.34	**6.104** 155.04	**5.900** 149.86	W8D60DS29063
.395" [10.03] Card Slot Depth				
18	**2.034** 51.66	**1.904** 48.36	**1.700** 43.18	W8D18DS29093
20	**2.234** 56.74	**2.104** 53.44	**1.900** 48.26	W8D20DS29093
22	**2.434** 61.82	**2.304** 58.52	**2.100** 53.34	W8D22DS29093
25	**2.734** 69.44	**2.604** 66.14	**2.400** 60.96	W8D25DS29093
28	**3.034** 77.06	**2.904** 73.76	**2.700** 68.58	W8D28DS29093
30	**3.234** 82.14	**3.104** 78.84	**2.900** 73.66	W8D30DS29093
35	**3.734** 94.84	**3.604** 91.54	**3.400** 86.36	W8D35DS29093
36	**3.834** 97.38	**3.704** 94.08	**3.500** 88.90	W8D36DS29093
40	**4.234** 107.54	**4.104** 104.24	**3.900** 99.06	W8D40DS29093
43	**4.534** 115.16	**4.404** 111.86	**4.200** 106.68	W8D43DS29093
45	**4.734** 120.24	**4.604** 116.94	**4.400** 111.76	W8D45DS29093
50	**5.234** 132.94	**5.104** 129.64	**4.900** 124.46	W8D50DS29093
60	**6.234** 158.34	**6.104** 155.04	**5.900** 149.86	W8D60DS29093

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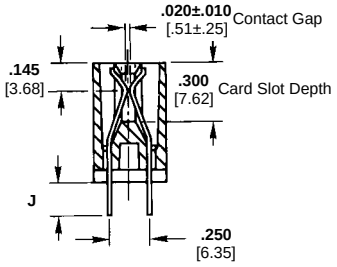
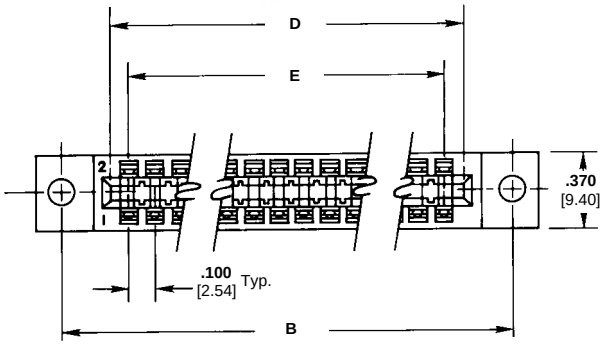
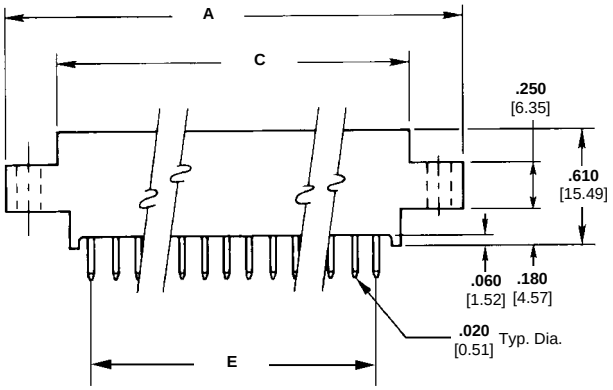
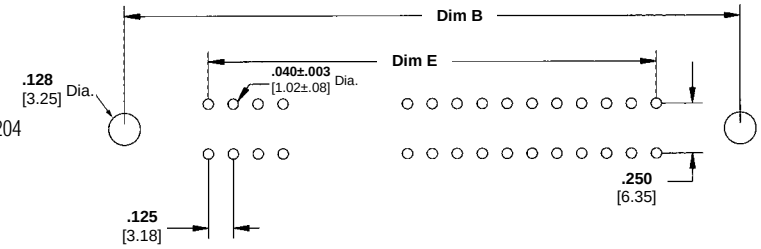
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Cantilever Series Connectors .125 x .250 [3.18 x 6.35] Centerline, Dip Solder Tails, .300 [7.62] Card Slot Depth









Product Facts

- **Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980**
- **Certified by Canadian Standards Association, File No. LR49571**

Physical Properties:

Insulation Resistance—5000 megohms minimum.

Insertion/Withdrawal Force (Daughter Card)—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.

Insulator Body—Glass filled thermoplastic, UL rating 94V-O. High temp. plastic option is available; add suffix M399 to part number.

Color—Black

Contacts—High strength copper alloy.

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operation Voltage—1000 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

Operating Temperature—-55˚C to +125˚C

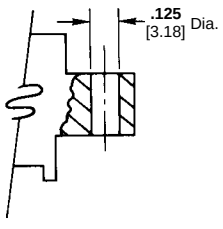
Temperature Cycling—MIL-STD-202 method 107

Vibration—MIL-STD-202 method 204

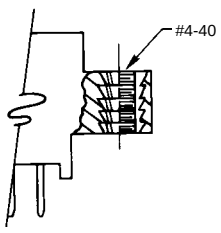
Related Product Data:

Daughter Card Edge Pattern—page 57

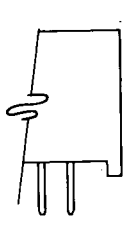
Mounting Styles



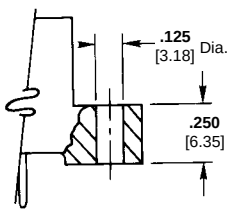
Centered Mounting Ear .125 [3.18] Thru Hole



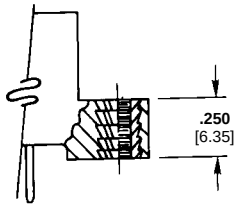
Centered Mounting Ear 4-40 Threaded Insert



No Mounting Ears



Flush Mounting Ear .125 [3.18] Thru Hole



Flush Mounting Ear 4-40 Threaded Insert

Catalog 1654080
Issued 7-03

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Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Ordering Information

.125" [3.18] Centerline / .250" [6.35] Row-to-Row

No. of Dual Readout Positions	Dimensions					Mounting Ear Options				
	A	B	C	D	E	Centered Mounting Ear .125" [3.18] Thru Hole	Centered Mounting Ear 4-40 Threaded insert	No Mounting Ears	Flush Mounting Ear .125" [3.18] Thru Hole	Flush Mounting Ear 4-40 Threaded insert
Tail Length .130 [3.30] (DIM. "J")										
6	**1.555** 39.50	**1.295** 32.89	**1.035** 26.29	**0.875** 22.23	**0.625** 15.88	C7D06DS29A1	C7D06DS29B1	C7D06DS29C1	C7D06DS29D1	C7D06DS29E1
10	**2.055** 52.20	**1.795** 45.59	**1.535** 38.99	**1.375** 34.93	**1.125** 28.58	C7D10DS29A1	C7D10DS29B1	C7D10DS29C1	C7D10DS29D1	C7D10DS29E1
15	**2.680** 68.07	**2.420** 61.47	**2.160** 54.86	**2.000** 50.80	**1.750** 44.45	C7D15DS29A1	C7D15DS29B1	C7D15DS29C1	C7D15DS29D1	C7D15DS29E1
18	**3.055** 77.60	**2.795** 70.99	**2.535** 64.39	**2.375** 60.33	**2.125** 53.98	C7D18DS29A1	C7D18DS29B1	C7D18DS29C1	C7D18DS29D1	C7D18DS29E1
22	**3.555** 90.30	**3.295** 83.69	**3.035** 77.09	**2.875** 73.03	**2.625** 66.68	C7D22DS29A1	C7D22DS29B1	C7D22DS29C1	C7D22DS29D1	C7D22DS29E1
25	**3.930** 99.82	**3.670** 93.22	**3.410** 86.61	**3.250** 82.55	**3.000** 76.20	C7D25DS29A1	C7D25DS29B1	C7D25DS29C1	C7D25DS29D1	C7D25DS29E1
28	**4.305** 109.35	**4.045** 102.74	**3.785** 96.14	**3.625** 92.08	**3.375** 85.73	C7D28DS29A1	C7D28DS29B1	C7D28DS29C1	C7D28DS29D1	C7D28DS29E1
30	**4.555** 115.70	**4.295** 109.09	**4.035** 102.49	**3.875** 98.43	**3.625** 92.08	C7D30DS29A1	C7D30DS29B1	C7D30DS29C1	C7D30DS29D1	C7D30DS29E1
31	**4.680** 118.87	**4.420** 112.27	**4.160** 105.66	**4.000** 101.60	**3.750** 95.25	C7D31DS29A1	C7D31DS29B1	C7D31DS29C1	C7D31DS29D1	C7D31DS29E1
35	**5.180** 131.57	**4.920** 124.97	**4.660** 118.36	**4.500** 114.30	**4.250** 107.95	C7D35DS29A1	C7D35DS29B1	C7D35DS29C1	C7D35DS29D1	C7D35DS29E1
36	**5.305** 134.75	**5.045** 128.14	**4.785** 121.54	**4.625** 117.48	**4.375** 111.13	C7D36DS29A1	C7D36DS29B1	C7D36DS29C1	C7D36DS29D1	C7D36DS29E1
40	**5.805** 147.45	**5.545** 140.84	**5.285** 134.24	**5.125** 130.18	**4.875** 123.83	C7D40DS29A1	C7D40DS29B1	C7D40DS29C1	C7D40DS29D1	C7D40DS29E1
43	**6.180** 156.97	**5.920** 150.37	**5.660** 143.76	**5.500** 139.70	**5.250** 133.35	C7D43DS29A1	C7D43DS29B1	C7D43DS29C1	C7D43DS29D1	C7D43DS29E1
50	**7.055** 179.20	**6.795** 172.59	**6.535** 165.99	**6.375** 161.93	**6.125** 155.58	C7D50DS29A1	C7D50DS29B1	C7D50DS29C1	C7D50DS29D1	C7D50DS29E1
Tail Length .160 [4.06] (DIM. "J")										
6	**1.555** 39.50	**1.295** 32.89	**1.035** 26.29	**0.875** 22.23	**0.625** 15.88	C7D06DS29A3	C7D06DS29B3	C7D06DS29C3	C7D06DS29D3	C7D06DS29E3
10	**2.055** 52.20	**1.795** 45.59	**1.535** 38.99	**1.375** 34.93	**1.125** 28.58	C7D10DS29A3	C7D10DS29B3	C7D10DS29C3	C7D10DS29D3	C7D10DS29E3
15	**2.680** 68.07	**2.420** 61.47	**2.160** 54.86	**2.000** 50.80	**1.750** 44.45	C7D15DS29A3	C7D15DS29B3	C7D15DS29C3	C7D15DS29D3	C7D15DS29E3
18	**3.055** 77.60	**2.795** 70.99	**2.535** 64.39	**2.375** 60.33	**2.125** 53.98	C7D18DS29A3	C7D18DS29B3	C7D18DS29C3	C7D18DS29D3	C7D18DS29E3
22	**3.555** 90.30	**3.295** 83.69	**3.035** 77.09	**2.875** 73.03	**2.625** 66.68	C7D22DS29A3	C7D22DS29B3	C7D22DS29C3	C7D22DS29D3	C7D22DS29E3
25	**3.930** 99.82	**3.670** 93.22	**3.410** 86.61	**3.250** 82.55	**3.000** 76.20	C7D25DS29A3	C7D25DS29B3	C7D25DS29C3	C7D25DS29D3	C7D25DS29E3
28	**4.305** 109.35	**4.045** 102.74	**3.785** 96.14	**3.625** 92.08	**3.375** 85.73	C7D28DS29A3	C7D28DS29B3	C7D28DS29C3	C7D28DS29D3	C7D28DS29E3
30	**4.555** 115.70	**4.295** 109.09	**4.035** 102.49	**3.875** 98.43	**3.625** 92.08	C7D30DS29A3	C7D30DS29B3	C7D30DS29C3	C7D30DS29D3	C7D30DS29E3
31	**4.680** 118.87	**4.420** 112.27	**4.160** 105.66	**4.000** 101.60	**3.750** 95.25	C7D31DS29A3	C7D31DS29B3	C7D31DS29C3	C7D31DS29D3	C7D31DS29E3
35	**5.180** 131.57	**4.920** 124.97	**4.660** 118.36	**4.500** 114.30	**4.250** 107.95	C7D35DS29A3	C7D35DS29B3	C7D35DS29C3	C7D35DS29D3	C7D35DS29E3
36	**5.305** 134.75	**5.045** 128.14	**4.785** 121.54	**4.625** 117.48	**4.375** 111.13	C7D36DS29A3	C7D36DS29B3	C7D36DS29C3	C7D36DS29D3	C7D36DS29E3
40	**5.805** 147.45	**5.545** 140.84	**5.285** 134.24	**5.125** 130.18	**4.875** 123.83	C7D40DS29A3	C7D40DS29B3	C7D40DS29C3	C7D40DS29D3	C7D40DS29E3
43	**6.180** 156.97	**5.920** 150.37	**5.660** 143.76	**5.500** 139.70	**5.250** 133.35	C7D43DS29A3	C7D43DS29B3	C7D43DS29C3	C7D43DS29D3	C7D43DS29E3
50	**7.055** 179.20	**6.795** 172.59	**6.535** 165.99	**6.375** 161.93	**6.125** 155.58	C7D50DS29A3	C7D50DS29B3	C7D50DS29C3	C7D50DS29D3	C7D50DS29E3

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UK: 44-141-810-8967

Ordering Information

.125" [3.18] Centerline / .250" [6.35] Row-to-Row

No. of Dual Readout Positions	Dimensions					Mounting Ear Options				
	A	B	C	D	E	Centered Mounting Ear .125" [3.18] Thru Hole	Centered Mounting Ear 4-40 Threaded insert	No Mounting Ears	Flush Mounting Ear .125" [3.18] Thru Hole	Flush Mounting Ear 4-40 Threaded insert
Tail Length .220 [5.59] (DIM. "J")										
6	**1.555** 39.50	**1.295** 32.89	**1.035** 26.29	**0.875** 22.23	**0.625** 15.88	C7D06DS29A4	C7D06DS29B4	C7D06DS29C4	C7D06DS29D4	C7D06DS29E4
10	**2.055** 52.20	**1.795** 45.59	**1.535** 38.99	**1.375** 34.93	**1.125** 28.58	C7D10DS29A4	C7D10DS29B4	C7D10DS29C4	C7D10DS29D4	C7D10DS29E4
15	**2.680** 68.07	**2.420** 61.47	**2.160** 54.86	**2.000** 50.80	**1.750** 44.45	C7D15DS29A4	C7D15DS29B4	C7D15DS29C4	C7D15DS29D4	C7D15DS29E4
18	**3.055** 77.60	**2.795** 70.99	**2.535** 64.39	**2.375** 60.33	**2.125** 53.98	C7D18DS29A4	C7D18DS29B4	C7D18DS29C4	C7D18DS29D4	C7D18DS29E4
22	**3.555** 90.30	**3.295** 83.69	**3.035** 77.09	**2.875** 73.03	**2.625** 66.68	C7D22DS29A4	C7D22DS29B4	C7D22DS29C4	C7D22DS29D4	C7D22DS29E4
25	**3.930** 99.82	**3.670** 93.22	**3.410** 86.61	**3.250** 82.55	**3.000** 76.20	C7D25DS29A4	C7D25DS29B4	C7D25DS29C4	C7D25DS29D4	C7D25DS29E4
28	**4.305** 109.35	**4.045** 102.74	**3.785** 96.14	**3.625** 92.08	**3.375** 85.73	C7D28DS29A4	C7D28DS29B4	C7D28DS29C4	C7D28DS29D4	C7D28DS29E4
30	**4.555** 115.70	**4.295** 109.09	**4.035** 102.49	**3.875** 98.43	**3.625** 92.08	C7D30DS29A4	C7D30DS29B4	C7D30DS29C4	C7D30DS29D4	C7D30DS29E4
31	**4.680** 118.87	**4.420** 112.27	**4.160** 105.66	**4.000** 101.60	**3.750** 95.25	C7D31DS29A4	C7D31DS29B4	C7D31DS29C4	C7D31DS29D4	C7D31DS29E4
35	**5.180** 131.57	**4.920** 124.97	**4.660** 118.36	**4.500** 114.30	**4.250** 107.95	C7D35DS29A4	C7D35DS29B4	C7D35DS29C4	C7D35DS29D4	C7D35DS29E4
36	**5.305** 134.75	**5.045** 128.14	**4.785** 121.54	**4.625** 117.48	**4.375** 111.13	C7D36DS29A4	C7D36DS29B4	C7D36DS29C4	C7D36DS29D4	C7D36DS29E4
40	**5.805** 147.45	**5.545** 140.84	**5.285** 134.24	**5.125** 130.18	**4.875** 123.83	C7D40DS29A4	C7D40DS29B4	C7D40DS29C4	C7D40DS29D4	C7D40DS29E4
43	**6.180** 156.97	**5.920** 150.37	**5.660** 143.76	**5.500** 139.70	**5.250** 133.35	C7D43DS29A4	C7D43DS29B4	C7D43DS29C4	C7D43DS29D4	C7D43DS29E4
50	**7.055** 179.20	**6.795** 172.59	**6.535** 165.99	**6.375** 161.93	**6.125** 155.58	C7D50DS29A4	C7D50DS29B4	C7D50DS29C4	C7D50DS29D4	C7D50DS29E4

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Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Cantilever Series .156 x .200 [3.96 x 5.08] Centerline, Dip Solder Tails, .300 [7.62] Card Slot Depth

Product Facts

- **Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980**
- **Certified by Canadian Standards Association, File No. LR49571**

Physical Properties:

Insulation Resistance—5000 megohms minimum.

Insertion/Withdrawal Force (Daughter Card)—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.

Insulator Body—Glass filled thermoplastic, UL rating 94V-O. High temp. plastic option is available; add suffix M399 to part number.

Color—Black

Contacts—High strength copper alloy.

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operation Voltage—1500 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

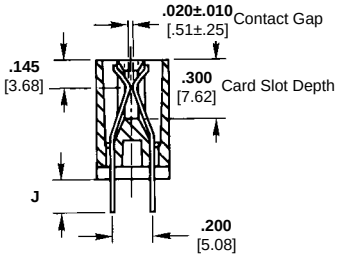
Operating Temperature—-55˚C to +125˚C

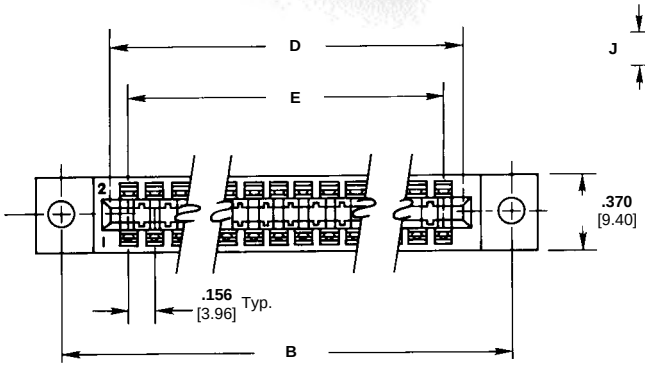
Temperature Cycling—MIL-STD-202 method 107

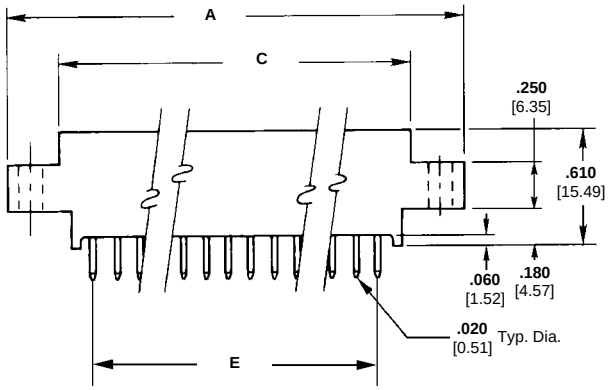
Vibration—MIL-STD-202 method 204

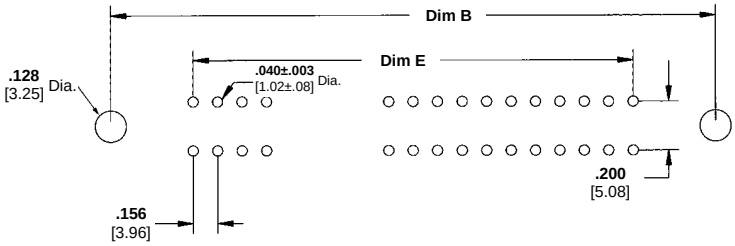
Related Product Data:

Daughter Card Edge Pattern—page 57

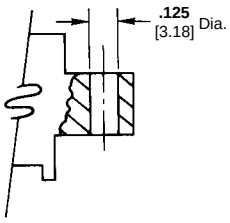




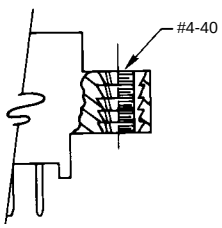




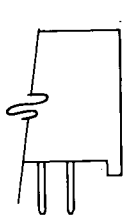
Mounting Styles



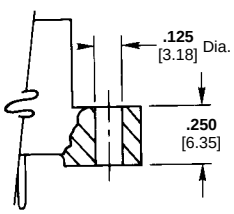
Centered Mounting Ear .125 [3.18] Thru Hole



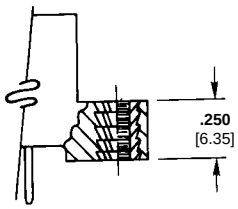
Centered Mounting Ear 4-40 Threaded Insert



No Mounting Ears



Flush Mounting Ear .125 [3.18] Thru Hole



Flush Mounting Ear 4-40 Threaded Insert

Catalog 1654080
Issued 7-03

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UK: 44-141-810-8967

Ordering Information

.156" [3.96] Centerline / .200" [5.08] Row-to-Row

No. of Dual Readout Positions	Dimensions					Mounting Ear Options				
	A	B	C	D	E	Centered Mounting Ear .125" [3.18] Thru Hole	Centered Mounting Ear 4-40 Threaded insert	No Mounting Ears	Flush Mounting Ear .125" [3.18] Thru Hole	Flush Mounting Ear 4-40 Threaded insert
Tail Length .130 [3.30] (DIM. "J")										
6	**1.784** 45.31	**1.534** 38.96	**1.221** 31.01	**1.100** 27.94	**0.780** 19.81	C6D06DS29A1	C6D06DS29B1	C6D06DS29C1	C6D06DS29D1	C6D06DS29E1
10	**2.408** 61.16	**2.158** 54.81	**1.845** 46.86	**1.724** 43.79	**1.404** 35.66	C6D10DS29A1	C6D10DS29B1	C6D10DS29C1	C6D10DS29D1	C6D10DS29E1
12	**2.720** 69.09	**2.470** 62.74	**2.157** 54.79	**2.036** 51.71	**1.716** 43.59	C6D12DS29A1	C6D12DS29B1	C6D12DS29C1	C6D12DS29D1	C6D12DS29E1
15	**3.188** 80.98	**2.938** 74.63	**2.625** 66.68	**2.504** 63.60	**2.184** 55.47	C6D15DS29A1	C6D15DS29B1	C6D15DS29C1	C6D15DS29D1	C6D15DS29E1
18	**3.656** 92.86	**3.406** 86.51	**3.093** 78.56	**2.972** 75.49	**2.652** 67.36	C6D18DS29A1	C6D18DS29B1	C6D18DS29C1	C6D18DS29D1	C6D18DS29E1
20	**3.968** 100.79	**3.718** 94.44	**3.405** 86.49	**3.284** 83.41	**2.964** 75.29	C6D20DS29A1	C6D20DS29B1	C6D20DS29C1	C6D20DS29D1	C6D20DS29E1
22	**4.280** 108.71	**4.030** 102.36	**3.717** 94.41	**3.595** 91.31	**3.276** 83.21	C6D22DS29A1	C6D22DS29B1	C6D22DS29C1	C6D22DS29D1	C6D22DS29E1
25	**4.748** 120.60	**4.498** 114.25	**4.185** 106.30	**4.064** 103.23	**3.744** 95.10	C6D25DS29A1	C6D25DS29B1	C6D25DS29C1	C6D25DS29D1	C6D25DS29E1
28	**5.216** 132.49	**4.966** 126.14	**4.653** 118.19	**4.532** 115.11	**4.212** 106.98	C6D28DS29A1	C6D28DS29B1	C6D28DS29C1	C6D28DS29D1	C6D28DS29E1
30	**5.528** 140.41	**5.278** 134.06	**4.965** 126.11	**4.844** 123.04	**4.524** 114.91	C6D30DS29A1	C6D30DS29B1	C6D30DS29C1	C6D30DS29D1	C6D30DS29E1
31	**5.684** 144.37	**5.434** 138.02	**5.121** 130.07	**5.000** 127.00	**4.680** 118.87	C6D31DS29A1	C6D31DS29B1	C6D31DS29C1	C6D31DS29D1	C6D31DS29E1
35	**6.308** 160.22	**6.058** 153.87	**5.745** 145.92	**5.624** 142.85	**5.304** 134.72	C6D35DS29A1	C6D35DS29B1	C6D35DS29C1	C6D35DS29D1	C6D35DS29E1
36	**6.464** 164.19	**6.214** 157.84	**5.901** 149.89	**5.780** 146.81	**5.460** 138.68	C6D36DS29A1	C6D36DS29B1	C6D36DS29C1	C6D36DS29D1	C6D36DS29E1
40	**7.088** 180.04	**6.838** 173.69	**6.525** 165.74	**6.404** 162.66	**6.085** 154.56	C6D40DS29A1	C6D40DS29B1	C6D40DS29C1	C6D40DS29D1	C6D40DS29E1
43	**7.556** 191.92	**7.306** 185.57	**6.993** 177.62	**6.872** 174.55	**6.552** 166.42	C6D43DS29A1	C6D43DS29B1	C6D43DS29C1	C6D43DS29D1	C6D43DS29E1
50	**8.648** 219.66	**8.398** 213.31	**8.085** 205.36	**7.964** 202.29	**7.644** 194.16	C6D50DS29A1	C6D50DS29B1	C6D50DS29C1	C6D50DS29D1	C6D50DS29E1
Tail Length .160 [4.06] (DIM. "J")										
6	**1.784** 45.31	**1.534** 38.96	**1.221** 31.01	**1.100** 27.94	**0.780** 19.81	C6D06DS29A3	C6D06DS29B3	C6D06DS29C3	C6D06DS29D3	C6D06DS29E3
10	**2.408** 61.16	**2.158** 54.81	**1.845** 46.86	**1.724** 43.79	**1.404** 35.66	C6D10DS29A3	C6D10DS29B3	C6D10DS29C3	C6D10DS29D3	C6D10DS29E3
12	**2.720** 69.09	**2.470** 62.74	**2.157** 54.79	**2.036** 51.71	**1.716** 43.59	C6D12DS29A3	C6D12DS29B3	C6D12DS29C3	C6D12DS29D3	C6D12DS29E3
15	**3.188** 80.98	**2.938** 74.63	**2.625** 66.68	**2.504** 63.60	**2.184** 55.47	C6D15DS29A3	C6D15DS29B3	C6D15DS29C3	C6D15DS29D3	C6D15DS29E3
18	**3.656** 92.86	**3.406** 86.51	**3.093** 78.56	**2.972** 75.49	**2.652** 67.36	C6D18DS29A3	C6D18DS29B3	C6D18DS29C3	C6D18DS29D3	C6D18DS29E3
20	**3.968** 100.79	**3.718** 94.44	**3.405** 86.49	**3.284** 83.41	**2.964** 75.29	C6D20DS29A3	C6D20DS29B3	C6D20DS29C3	C6D20DS29D3	C6D20DS29E3
22	**4.280** 108.71	**4.030** 102.36	**3.717** 94.41	**3.595** 91.31	**3.276** 83.21	C6D22DS29A3	C6D22DS29B3	C6D22DS29C3	C6D22DS29D3	C6D22DS29E3
25	**4.748** 120.60	**4.498** 114.25	**4.185** 106.30	**4.064** 103.23	**3.744** 95.10	C6D25DS29A3	C6D25DS29B3	C6D25DS29C3	C6D25DS29D3	C6D25DS29E3
28	**5.216** 132.49	**4.966** 126.14	**4.653** 118.19	**4.532** 115.11	**4.212** 106.98	C6D28DS29A3	C6D28DS29B3	C6D28DS29C3	C6D28DS29D3	C6D28DS29E3
30	**5.528** 140.41	**5.278** 134.06	**4.965** 126.11	**4.844** 123.04	**4.524** 114.91	C6D30DS29A3	C6D30DS29B3	C6D30DS29C3	C6D30DS29D3	C6D30DS29E3
31	**5.684** 144.37	**5.434** 138.02	**5.121** 130.07	**5.000** 127.00	**4.680** 118.87	C6D31DS29A3	C6D31DS29B3	C6D31DS29C3	C6D31DS29D3	C6D31DS29E3
35	**6.308** 160.22	**6.058** 153.87	**5.745** 145.92	**5.624** 142.85	**5.304** 134.72	C6D35DS29A3	C6D35DS29B3	C6D35DS29C3	C6D35DS29D3	C6D35DS29E3
36	**6.464** 164.19	**6.214** 157.84	**5.901** 149.89	**5.780** 146.81	**5.460** 138.68	C6D36DS29A3	C6D36DS29B3	C6D36DS29C3	C6D36DS29D3	C6D36DS29E3
40	**7.088** 180.04	**6.838** 173.69	**6.525** 165.74	**6.404** 162.66	**6.085** 154.56	C6D40DS29A3	C6D40DS29B3	C6D40DS29C3	C6D40DS29D3	C6D40DS29E3
43	**7.556** 191.92	**7.306** 185.57	**6.993** 177.62	**6.872** 174.55	**6.552** 166.42	C6D43DS29A3	C6D43DS29B3	C6D43DS29C3	C6D43DS29D3	C6D43DS29E3
50	**8.648** 219.66	**8.398** 213.31	**8.085** 205.36	**7.964** 202.29	**7.644** 194.16	C6D50DS29A3	C6D50DS29B3	C6D50DS29C3	C6D50DS29D3	C6D50DS29E3

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Ordering Information

.156" [3.96] Centerline / .200" [5.08] Row-to-Row

No. of Dual Readout Positions	Dimensions					Mounting Ear Options				
	A	B	C	D	E	Centered Mounting Ear .125" [3.18] ThruHole	Centered Mounting Ear 4-40 Threaded insert	No Mounting Ears	Flush Mounting Ear .125" [3.18] Thru Hole	Flush Mounting Ear 4-40 Threaded insert
Tail Length .220" [5.59] (DIM. "J")										
6	**1.784** 45.31	**1.534** 38.96	**1.221** 31.01	**1.100** 27.94	**0.780** 19.81	C6D06DS29A4	C6D06DS29B4	C6D06DS29C4	C6D06DS29D4	C6D06DS29E4
10	**2.408** 61.16	**2.158** 54.81	**1.845** 46.86	**1.724** 43.79	**1.404** 35.66	C6D10DS29A4	C6D10DS29B4	C6D10DS29C4	C6D10DS29D4	C6D10DS29E4
12	**2.720** 69.09	**2.470** 62.74	**2.157** 54.79	**2.036** 51.71	**1.716** 43.59	C6D12DS29A4	C6D12DS29B4	C6D12DS29C4	C6D12DS29D4	C6D12DS29E4
15	**3.188** 80.98	**2.938** 74.63	**2.625** 66.68	**2.504** 63.60	**2.184** 55.47	C6D15DS29A4	C6D15DS29B4	C6D15DS29C4	C6D15DS29D4	C6D15DS29E4
18	**3.656** 92.86	**3.406** 86.51	**3.093** 78.56	**2.972** 75.49	**2.652** 67.36	C6D18DS29A4	C6D18DS29B4	C6D18DS29C4	C6D18DS29D4	C6D18DS29E4
20	**3.968** 100.79	**3.718** 94.44	**3.405** 86.49	**3.284** 83.41	**2.964** 75.29	C6D20DS29A4	C6D20DS29B4	C6D20DS29C4	C6D20DS29D4	C6D20DS29E4
22	**4.280** 108.71	**4.030** 102.36	**3.717** 94.41	**3.595** 91.31	**3.276** 83.21	C6D22DS29A4	C6D22DS29B4	C6D22DS29C4	C6D22DS29D4	C6D22DS29E4
25	**4.748** 120.60	**4.498** 114.25	**4.185** 106.30	**4.064** 103.23	**3.744** 95.10	C6D25DS29A4	C6D25DS29B4	C6D25DS29C4	C6D25DS29D4	C6D25DS29E4
28	**5.216** 132.49	**4.966** 126.14	**4.653** 118.19	**4.532** 115.11	**4.212** 106.98	C6D28DS29A4	C6D28DS29B4	C6D28DS29C4	C6D28DS29D4	C6D28DS29E4
30	**5.528** 140.41	**5.278** 134.06	**4.965** 126.11	**4.844** 123.04	**4.524** 114.91	C6D30DS29A4	C6D30DS29B4	C6D30DS29C4	C6D30DS29D4	C6D30DS29E4
31	**5.684** 144.37	**5.434** 138.02	**5.121** 130.07	**5.000** 127.00	**4.680** 118.87	C6D31DS29A4	C6D31DS29B4	C6D31DS29C4	C6D31DS29D4	C6D31DS29E4
35	**6.308** 160.22	**6.058** 153.87	**5.745** 145.92	**5.624** 142.85	**5.304** 134.72	C6D35DS29A4	C6D35DS29B4	C6D35DS29C4	C6D35DS29D4	C6D35DS29E4
36	**6.464** 164.19	**6.214** 157.84	**5.901** 149.89	**5.780** 146.81	**5.460** 138.68	C6D36DS29A4	C6D36DS29B4	C6D36DS29C4	C6D36DS29D4	C6D36DS29E4
40	**7.088** 180.04	**6.838** 173.69	**6.525** 165.74	**6.404** 162.66	**6.085** 154.56	C6D40DS29A4	C6D40DS29B4	C6D40DS29C4	C6D40DS29D4	C6D40DS29E4
43	**7.556** 191.92	**7.306** 185.57	**6.993** 177.62	**6.872** 174.55	**6.552** 166.42	C6D43DS29A4	C6D43DS29B4	C6D43DS29C4	C6D43DS29D4	C6D43DS29E4
50	**8.648** 219.66	**8.398** 213.31	**8.085** 205.36	**7.964** 202.29	**7.644** 194.16	C6D50DS29A4	C6D50DS29B4	C6D50DS29C4	C6D50DS29D4	C6D50DS29E4

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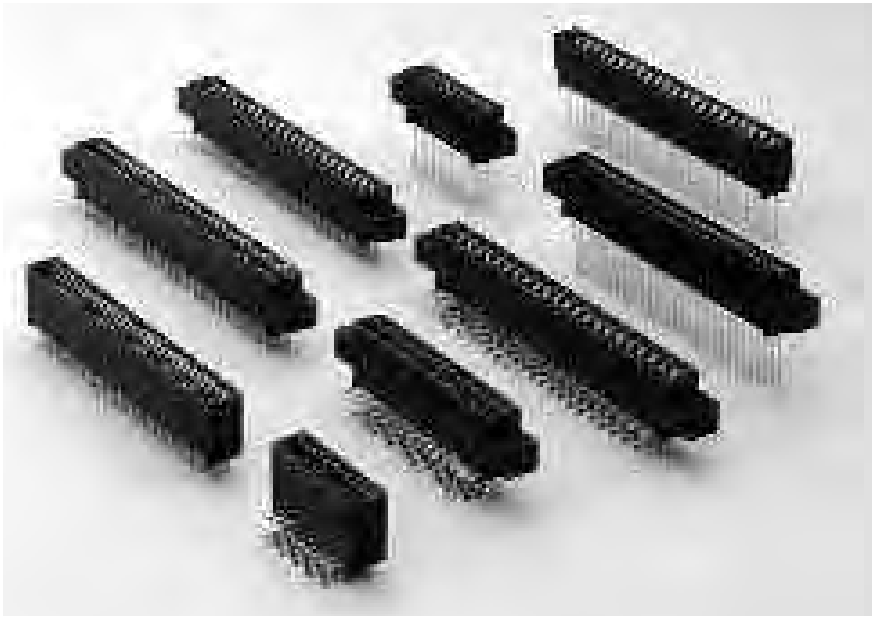
Modified Bellows Card Edge Connectors

Product Facts

- Sizes from 6 to 65 dual positions.
- Contact mating surface optimizes reliability by concentrating the normal force in the actual contact area.
- Mounting ear options accommodate both Panel and PC Board attachment.
- Solder stand-offs facilitate cleaning.
- Bifurcated contact design provides redundant points of contact to maximize reliability.
- Tail lengths available to accommodate .062" [1.57] through .125" [3.18] thick PCB Boards and Wire Wrap termination.
- Straight or Right Angle contact configurations.



Bifurcated contact design provides maximum reliability

Description/Application

The modified bellows card edge connectors are dual readout and are designed for reliable termination to double sided PCB boards.

Modified Bellows

The modified bellows card edge connector offers a variety of tail lengths for solder and wire wrap applications. Contacts are available in straight tail or right angle configurations to meet your individual purpose. The modified bellows line of connectors offers a variety of card slot depths and has optional high temperature plastic insulators.

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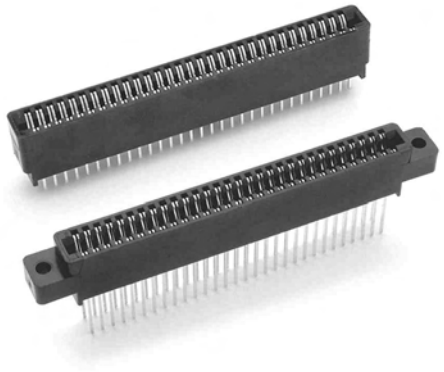
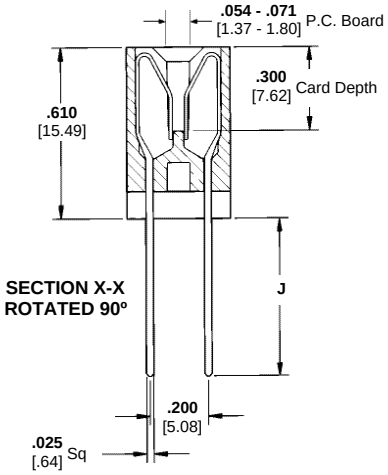
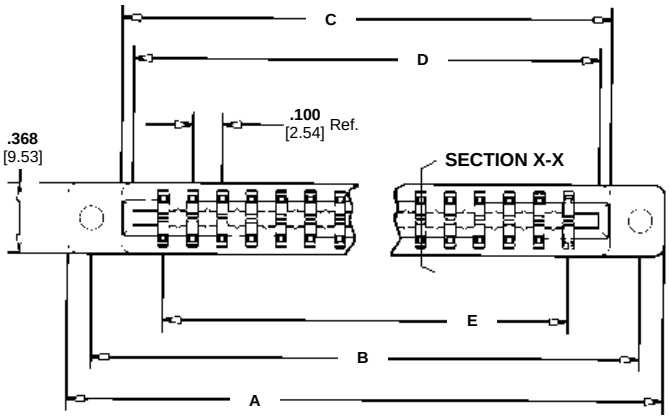
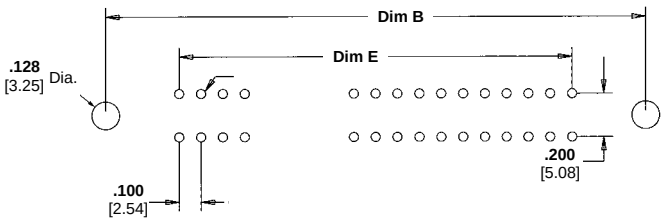
Modified Bellows Connectors .100 x .200 [2.54 x 5.08], Straight Dip Solder And Wire Wrap Tails









P=.040 [1.02] Dip Solder Applications
P=.042 [1.07] For Wire Wrap Applications

Product Facts

- **Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980**
- **Certified by Canadian Standards Association, File No. LR49571**

Physical Properties:

Insulation Resistance—5000 megohms minimum.

Insertion/Withdrawal Force (Daughter Card)—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.

Insulator Body—Glass filled thermoplastic, UL rating 94V-0. High temp. plastic option is available; add suffix M399 to part number.

Color—Black

Contacts—High strength copper alloy.

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operation Voltage—600 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

Operating Temperature—-55˚C to +125˚C

Temperature Cycling—MIL-STD-202 method 107

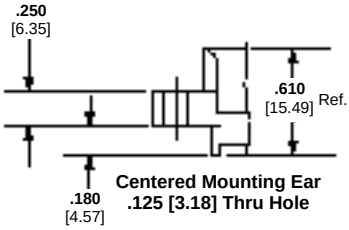
Vibration—MIL-STD-202 method 204

Related Product Data:

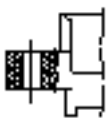
Polarization Key—page 57

Daughter Card Edge Pattern—page 57

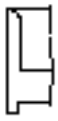
Mounting Styles



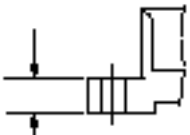
Centered Mounting Ear .125 [3.18] Thru Hole



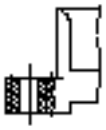
Centered Mounting Ear 4-40 Threaded Insert



No Mounting Ears



Flush Mounting Ear .125 [3.18] Thru Hole



Flush Mounting Ear 4-40 Threaded Insert

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South America: 55-11-3611-1514
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Ordering Information

.100" [2.54] Centerline / .200" [5.08] Row-to-Row

No. of Dual Readout Positions	Dimensions					Mounting Ear Options				
	A	B	C	D	E	Centered Mounting Ear .125" [3.18] Thru Hole	Centered Mounting Ear 4-40 Threaded insert	No Mounting Ears	Flush Mounting Ear .125" [3.18] Thru Hole	Flush Mounting Ear 4-40 Threaded insert
Tail Length .160" [4.06] (DIM "J")										
10	**1.835** 46.61	**1.575** 40.01	**1.260** 32.00	**1.100** 27.94	**0.900** 22.86	A8D10DS29A2	A8D10DS29B2	A8D10DS29C2	A8D10DS29D2	A8D10DS29E2
12	**2.035** 51.69	**1.775** 45.09	**1.460** 37.08	**1.300** 33.02	**1.100** 27.94	A8D12DS29A2	A8D12DS29B2	A8D12DS29C2	—	—
15	**2.335** 59.31	**2.075** 52.71	**1.760** 44.70	**1.600** 40.64	**1.400** 35.56	A8D15DS29A2	A8D15DS29B2	A8D15DS29C2	A8D15DS29D2	A8D15DS29E2
18	**2.635** 66.93	**2.375** 60.33	**2.060** 52.32	**1.900** 48.26	**1.700** 43.18	A8D18DS29A2	A8D18DS29B2	A8D18DS29C2	A8D18DS29D2	A8D18DS29E2
20	**2.835** 72.01	**2.575** 65.41	**2.260** 57.40	**2.100** 53.34	**1.900** 48.26	A8D20DS29A2	A8D20DS29B2	A8D20DS29C2	–	–
22	**3.035** 77.09	**2.775** 70.49	**2.460** 62.48	**2.300** 58.42	**2.100** 53.34	A8D22DS29A2	A8D22DS29B2	A8D22DS29C2	–	–
25	**3.335** 84.71	**3.075** 78.11	**2.760** 70.10	**2.600** 66.04	**2.400** 60.96	A8D25DS29A2	A8D25DS29B2	A8D25DS29C2	A8D25DS29D2	A8D25DS29E2
28	**3.635** 92.33	**3.375** 85.73	**3.060** 77.72	**2.900** 73.66	**2.700** 68.58	A8D28DS29A2	A8D28DS29B2	A8D28DS29C2	–	–
30	**3.835** 97.41	**3.575** 90.81	**3.260** 82.80	**3.100** 78.74	**2.900** 73.66	A8D30DS29A2	A8D30DS29B2	A8D30DS29C2	A8D30DS29D2	A8D30DS29E2
31	**3.935** 99.95	**3.675** 93.35	**3.360** 85.34	**3.200** 81.28	**3.100** 78.74	A8D31DS29A2	A8D31DS29B2	A8D31DS29C2	A8D31DS29D2	A8D31DS29E2
35	**4.335** 110.11	**4.075** 103.51	**3.760** 95.50	**3.600** 91.44	**3.400** 86.36	A8D35DS29A2	A8D35DS29B2	A8D35DS29C2	–	–
36	**4.435** 112.65	**4.175** 106.05	**3.860** 98.04	**3.700** 93.98	**3.500** 88.90	A8D36DS29A2	A8D36DS29B2	A8D36DS29C2	–	–
40	**4.835** 122.81	**4.575** 116.21	**4.260** 108.20	**4.100** 104.14	**3.900** 99.06	A8D40DS29A2	A8D40DS29B2	A8D40DS29C2	–	–
43	**5.135** 130.43	**4.875** 123.83	**4.560** 115.82	**4.400** 111.76	**4.200** 106.68	A8D43DS29A2	A8D43DS29B2	A8D43DS29C2	–	–
44	**5.235** 132.97	**4.975** 126.37	**4.660** 118.36	**4.500** 114.30	**4.300** 109.22	A8D44DS29A2	A8D44DS29B2	A8D44DS29C2	–	–
50	**5.835** 148.21	**5.575** 141.61	**5.260** 133.60	**5.100** 129.54	**4.800** 121.92	A8D50DS29A2	A8D50DS29B2	A8D50DS29C2	A8D50DS29D2	A8D50DS29E2
60	**6.835** 173.61	**6.575** 167.01	**6.260** 159.00	**6.100** 154.94	**5.900** 149.86	A8D60DS29A2	A8D60DS29B2	A8D60DS29C2	–	–
65	**7.335** 186.31	**7.075** 179.71	**6.760** 171.70	**6.600** 167.64	**6.400** 162.56	A8D65DS29A2	A8D65DS29B2	A8D65DS29C2	A8D65DS29D2	A8D65DS29E2
Tail Length .220" [5.59] (DIM "J")										
10	**1.835** 46.61	**1.575** 40.01	**1.260** 32.00	**1.100** 27.94	**0.900** 22.86	A8D10DS29A3	A8D10DS29B3	A8D10DS29C3	A8D10DS29D3	A8D10DS29E3
12	**2.035** 51.69	**1.775** 45.09	**1.460** 37.08	**1.300** 33.02	**1.100** 27.94	A8D12DS29A3	A8D12DS29B3	A8D12DS29C3	–	–
15	**2.335** 59.31	**2.075** 52.71	**1.760** 44.70	**1.600** 40.64	**1.400** 35.56	A8D15DS29A3	A8D15DS29B3	A8D15DS29C3	A8D15DS29D3	A8D15DS29E3
18	**2.635** 66.93	**2.375** 60.33	**2.060** 52.32	**1.900** 48.26	**1.700** 43.18	A8D18DS29A3	A8D18DS29B3	A8D18DS29C3	A8D18DS29D3	A8D18DS29E3
20	**2.835** 72.01	**2.575** 65.41	**2.260** 57.40	**2.100** 53.34	**1.900** 48.26	A8D20DS29A3	A8D20DS29B3	A8D20DS29C3	–	–
22	**3.035** 77.09	**2.775** 70.49	**2.460** 62.48	**2.300** 58.42	**2.100** 53.34	A8D22DS29A3	A8D22DS29B3	A8D22DS29C3	–	–
25	**3.335** 84.71	**3.075** 78.11	**2.760** 70.10	**2.600** 66.04	**2.400** 60.96	A8D25DS29A3	A8D25DS29B3	A8D25DS29C3	A8D35DS29D3	A8D35DS29E3
28	**3.635** 92.33	**3.375** 85.73	**3.060** 77.72	**2.900** 73.66	**2.700** 68.58	A8D28DS29A3	A8D28DS29B3	A8D28DS29C3	–	–
30	**3.835** 97.41	**3.575** 90.81	**3.260** 82.80	**3.100** 78.74	**2.900** 73.66	A8D30DS29A3	A8D30DS29B3	A8D30DS29C3	A8D30DS29D3	A8D30DS29E3
31	**3.935** 99.95	**3.675** 93.35	**3.360** 85.34	**3.200** 81.28	**3.100** 78.74	A8D31DS29A3	A8D31DS29B3	A8D31DS29C3	A8D31DS29D3	A8D31DS29E3
35	**4.335** 110.11	**4.075** 103.51	**3.760** 95.50	**3.600** 91.44	**3.400** 86.36	A8D35DS29A3	A8D35DS29B3	A8D35DS29C3	–	–
36	**4.435** 112.65	**4.175** 106.05	**3.860** 98.04	**3.700** 93.98	**3.500** 88.90	A8D36DS29A3	A8D36DS29B3	A8D36DS29C3	–	–
40	**4.835** 122.81	**4.575** 116.21	**4.260** 108.20	**4.100** 104.14	**3.900** 99.06	A8D40DS29A3	A8D40DS29B3	A8D40DS29C3	–	–
43	**5.135** 130.43	**4.875** 123.83	**4.560** 115.82	**4.400** 111.76	**4.200** 106.68	A8D43DS29A3	A8D43DS29B3	A8D43DS29C3	–	–

Catalog 1654080
Issued 7-03

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Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

USA: 1-800-522-6752
Canada: 1-905-470-4425
Mexico: 01-800-733-8926
C. America: 52-55-5-729-0425

South America: 55-11-3611-1514
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Ordering Information

.100" [2.54] Centerline / .200" [5.08] Row-to-Row

No. of Dual Readout Positions	Dimensions					Mounting Ear Options				
	A	B	C	D	E	Centered Mounting Ear .125" [3.18] Thru Hole	Centered Mounting Ear 4-40 Threaded insert	No Mounting Ears	Flush Mounting Ear .125" [3.18] Thru Hole	Flush Mounting Ear 4-40 Threaded insert
Tail Length .220" [5.59] (DIM "J") (Continued)										
44	**5.235** 132.97	**4.975** 126.37	**4.660** 118.36	**4.500** 114.30	**4.300** 109.22	A8D44DS29A3	A8D44DS29B3	A8D44DS29C3	–	–
50	**5.835** 148.21	**5.575** 141.61	**5.260** 133.60	**5.100** 129.54	**4.800** 121.92	A8D50DS29A3	A8D50DS29B3	A8D50DS29C3	A8D50DS29D3	A8D50DS29E3
60	**6.835** 173.61	**6.575** 167.01	**6.260** 159.00	**6.100** 154.94	**5.900** 149.86	A8D60DS29A3	A8D60DS29B3	A8D60DS29C3	–	–
65	**7.335** 186.31	**7.075** 179.71	**6.760** 171.70	**6.600** 167.64	**6.400** 162.56	A8D65DS29A3	A8D65DS29B3	A8D65DS29C3	A8D65DS29D3	A8D65DS29E3
Tail Length .560" [14.22] (DIM "J") for Wire Wrap Termination										
10	**1.835** 46.61	**1.575** 40.01	**1.260** 32.00	**1.100** 27.94	**0.900** 22.86	A8D10WW29A3	A8D10WW29B3	–	–	–
12	**2.035** 51.69	**1.775** 45.09	**1.460** 37.08	**1.300** 33.02	**1.100** 27.94	A8D12WW29A3	A8D12WW29B3	–	–	–
15	**2.335** 59.31	**2.075** 52.71	**1.760** 44.70	**1.600** 40.64	**1.400** 35.56	A8D15WW29A3	A8D15WW29B3	–	–	–
18	**2.635** 66.93	**2.375** 60.33	**2.060** 52.32	**1.900** 48.26	**1.700** 43.18	A8D18WW29A3	A8D18WW29B3	–	–	–
20	**2.835** 72.01	**2.575** 65.41	**2.260** 57.40	**2.100** 53.34	**1.900** 48.26	A8D20WW29A3	A8D20WW29B3	–	–	–
22	**3.035** 77.09	**2.775** 70.49	**2.460** 62.48	**2.300** 58.42	**2.100** 53.34	A8D22WW29A3	A8D22WW29B3	–	–	–
25	**3.335** 84.71	**3.075** 78.11	**2.760** 70.10	**2.600** 66.04	**2.400** 60.96	A8D25WW29A3	A8D25WW29B3	–	–	–
28	**3.635** 92.33	**3.375** 85.73	**3.060** 77.72	**2.900** 73.66	**2.700** 68.58	A8D28WW29A3	A8D28WW29B3	–	–	–
30	**3.835** 97.41	**3.575** 90.81	**3.260** 82.80	**3.100** 78.74	**2.900** 73.66	A8D30WW29A3	A8D30WW29B3	–	–	–
31	**3.935** 99.95	**3.675** 93.35	**3.360** 85.34	**3.200** 81.28	**3.100** 78.74	A8D31WW29A3	A8D31WW29B3	–	–	–
35	**4.335** 110.11	**4.075** 103.51	**3.760** 95.50	**3.600** 91.44	**3.400** 86.36	A8D35WW29A3	A8D35WW29B3	–	–	–
36	**4.435** 112.65	**4.175** 106.05	**3.860** 98.04	**3.700** 93.98	**3.500** 88.90	A8D36WW29A3	A8D36WW29B3	–	–	–
40	**4.835** 122.81	**4.575** 116.21	**4.260** 108.20	**4.100** 104.14	**3.900** 99.06	A8D40WW29A3	A8D40WW29B3	–	–	–
43	**5.135** 130.43	**4.875** 123.83	**4.560** 115.82	**4.400** 111.76	**4.200** 106.68	A8D43WW29A3	A8D43WW29B3	–	–	–
44	**5.235** 132.97	**4.975** 126.37	**4.660** 118.36	**4.500** 114.30	**4.300** 109.22	A8D44WW29A3	A8D44WW29B3	–	–	–
50	**5.835** 148.21	**5.575** 141.61	**5.260** 133.60	**5.100** 129.54	**4.800** 121.92	A8D50WW29A3	A8D50WW29B3	–	–	–
60	**6.835** 173.61	**6.575** 167.01	**6.260** 159.00	**6.100** 154.94	**5.900** 149.86	A8D60WW29A3	A8D60WW29B3	–	–	–
65	**7.335** 186.31	**7.075** 179.71	**6.760** 171.70	**6.600** 167.64	**6.400** 162.56	A8D65WW29A3	A8D65WW29B3	–	–	–

Catalog 1654080
Issued 7-03

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Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

USA: 1-800-522-6752
Canada: 1-905-470-4425
Mexico: 01-800-733-8926
C. America: 52-55-5-729-0425

South America: 55-11-3611-1514
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Modified Bellows Connectors .100 x .200 [2.54 x 5.08] and .100 x .150 [2.54 x 3.81] Right Angle Dip Solder Tails

Product Facts

- **Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980**
- **Certified by Canadian Standards Association, File No. LR49571**

Physical Properties:

Insulation Resistance—5000 megohms minimum.

Insertion/Withdrawal Force (Daughter Card)—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.

Insulator Body—Glass filled thermoplastic, UL rating 94V-O. High temp. plastic option is available; add suffix M399 to part number.

Color—Black

Contacts—High strength copper alloy.

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operation Voltage—600 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

Operating Temperature—-55˚C to +125˚C

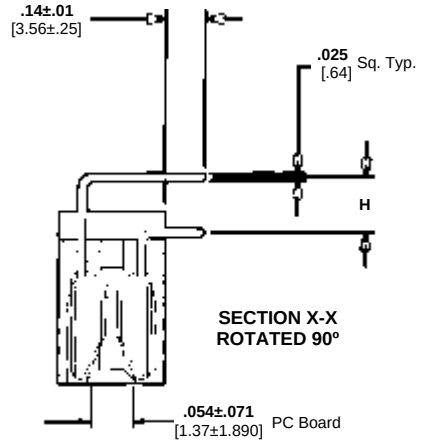
Temperature Cycling—MIL-STD-202 method 107

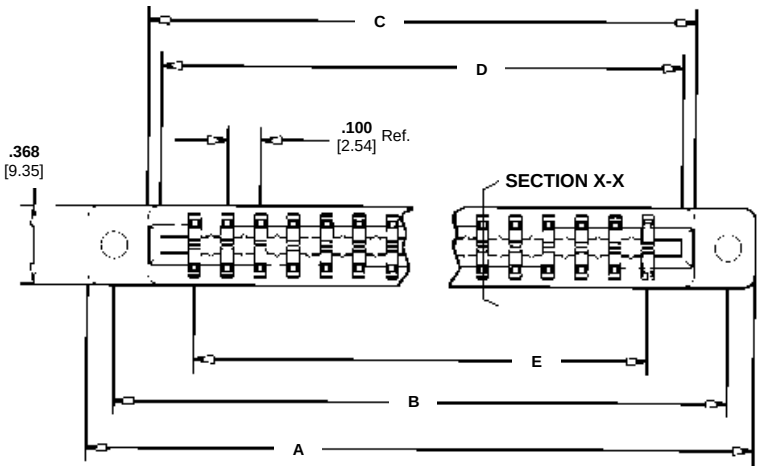
Vibration—MIL-STD-202 method 204

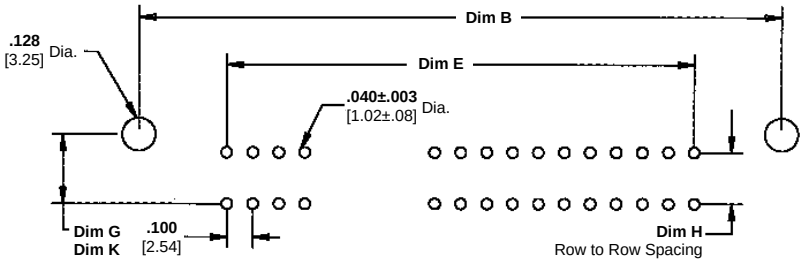
Related Product Data:

Polarization Key—page 57

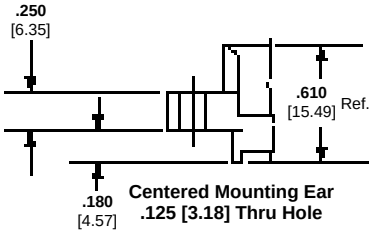
Daughter Card Edge Pattern—page 57



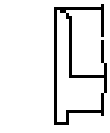




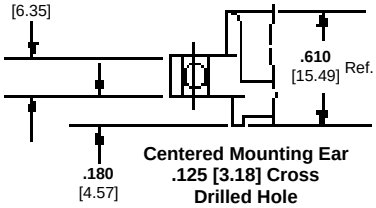
Dim G - Centered Mounting Ear .125 [3.18] Cross Drilled Hole Only
Dim K - Flush Mounting Ear .125 [3.18] Cross Drilled Hole Only

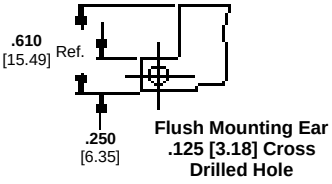


Mounting Styles



No Mounting Ears





Catalog 1654080
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South America: 55-11-3611-1514
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Ordering Information

.100" [2.54] Centerline / .200" [5.08] Row-to-Row (Dim. "H") Spacing

No. of Dual Readout Positions	Dimensions							Mounting Ear Options			
	A	B	C	D	E	Centered Mounting Ear Only G	Flush Mounting Ear Only K	Centered Mounting Ear .125" [3.18] Thru Hole	No Mounting Ears	Centered Mounting Ear .125" [3.18] Cross-Drilled Hole	Flush Mounting Ear .125" [3.18] Cross-Drilled Hole
10	**1.835** 46.61	**1.575** 40.01	**1.260** 32.00	**1.100** 27.94	**0.900** 22.86	**0.470** 11.94	**0.290** 7.37	A8D10RA29A	A8D10RA29C	A8D10RA29E	A8D10RA29F
12	**2.035** 51.69	**1.775** 45.09	**1.460** 37.08	**1.300** 33.02	**1.100** 27.94	**0.470** 11.94	**0.290** 7.37	A8D12RA29A	A8D12RA29C	A8D12RA29E	–
15	**2.335** 59.31	**2.075** 52.71	**1.760** 44.70	**1.600** 40.64	**1.400** 35.56	**0.470** 11.94	**0.290** 7.37	A8D15RA29A	A8D15RA29C	A8D15RA29E	A8D15RA29F
18	**2.635** 66.93	**2.375** 60.33	**2.060** 52.32	**1.900** 48.26	**1.700** 43.18	**0.470** 11.94	**0.290** 7.37	A8D18RA29A	A8D18RA29C	A8D18RA29E	A8D18RA29F
20	**2.835** 72.01	**2.575** 65.41	**2.260** 57.40	**2.100** 53.34	**1.900** 48.26	**0.470** 11.94	**0.290** 7.37	A8D20RA29A	A8D20RA29C	A8D20RA29E	–
22	**3.035** 77.09	**2.775** 70.49	**2.460** 62.48	**2.300** 58.42	**2.100** 53.34	**0.470** 11.94	**0.290** 7.37	A8D22RA29A	A8D22RA29C	A8D22RA29E	–
25	**3.335** 84.71	**3.075** 78.11	**2.760** 70.10	**2.600** 66.04	**2.400** 60.96	**0.470** 11.94	**0.290** 7.37	A8D25RA29A	A8D25RA29C	A8D25RA29E	A8D25RA29F
28	**3.635** 92.33	**3.375** 85.73	**3.060** 77.72	**2.900** 73.66	**2.700** 68.58	**0.470** 11.94	**0.290** 7.37	A8D28RA29A	A8D28RA29C	A8D28RA29E	–
30	**3.835** 97.41	**3.575** 90.81	**3.260** 82.80	**3.100** 78.74	**2.900** 73.66	**0.470** 11.94	**0.290** 7.37	A8D30RA29A	A8D30RA29C	A8D30RA29E	A8D30RA29F
31	**3.935** 99.95	**3.675** 93.35	**3.360** 85.34	**3.200** 81.28	**3.100** 78.74	**0.470** 11.94	**0.290** 7.37	A8D31RA29A	A8D31RA29C	A8D31RA29E	A8D31RA29F
35	**4.335** 110.11	**4.075** 103.51	**3.760** 95.50	**3.600** 91.44	**3.400** 86.36	**0.470** 11.94	**0.290** 7.37	A8D35RA29A	A8D35RA29C	A8D35RA29E	–
36	**4.435** 112.65	**4.175** 106.05	**3.860** 98.04	**3.700** 93.98	**3.500** 88.90	**0.470** 11.94	**0.290** 7.37	A8D36RA29A	A8D36RA29C	A8D36RA29E	–
40	**4.835** 122.81	**4.575** 116.21	**4.260** 108.20	**4.100** 104.14	**3.900** 99.06	**0.470** 11.94	**0.290** 7.37	A8D40RA29A	A8D40RA29C	A8D40RA29E	–
43	**5.135** 130.43	**4.875** 123.83	**4.560** 115.82	**4.400** 111.76	**4.200** 106.68	**0.470** 11.94	**0.290** 7.37	A8D43RA29A	A8D43RA29C	A8D43RA29E	–
44	**5.235** 132.97	**4.975** 126.37	**4.660** 118.36	**4.500** 114.30	**4.300** 109.22	**0.470** 11.94	**0.290** 7.37	A8D44RA29A	A8D44RA29C	A8D44RA29E	–
50	**5.835** 148.21	**5.575** 141.61	**5.260** 133.60	**5.100** 129.54	**4.800** 121.92	**0.470** 11.94	**0.290** 7.37	A8D50RA29A	A8D50RA29C	A8D50RA29E	A8D50RA29F
60	**6.835** 173.61	**6.575** 167.01	**6.260** 159.00	**6.100** 154.94	**5.900** 149.86	**0.470** 11.94	**0.290** 7.37	A8D60RA29A	A8D60RA29C	A8D60RA29E	–
65	**7.335** 186.31	**7.075** 179.71	**6.760** 171.70	**6.600** 167.64	**6.400** 162.56	**0.470** 11.94	**0.290** 7.37	A8D65RA29A	A8D65RA29C	A8D65RA29E	A8D65RA29F

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Hong Kong: 852-2735-1628
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UK: 44-141-810-8967

Ordering Information

.100" [2.54] Centerline / .150" [3.81] Row-to-Row (Dim. "H") Spacing

No. of Dual Readout Positions	Dimensions							Mounting Ear Options			
	A	B	C	D	E	Centered Mounting Ear Only G	Flush Mounting Ear Only K	Centered Mounting Ear .125" [3.18] Thru Hole	No Mounting Ears	Centered Mounting Ear .125" [3.18] Cross-Drilled Hole	Flush Mounting Ear .125" [3.18] Cross-Drilled Hole
10	**1.835** 46.61	**1.575** 40.01	**1.260** 32.00	**1.100** 27.94	**0.900** 22.86	**0.420** 10.67	**0.240** 6.10	A8D10RA29AM233	A8D10RA29CM233	A8D10RA29EM233	A8D10RA29FM233
12	**2.035** 51.69	**1.775** 45.09	**1.460** 37.08	**1.300** 33.02	**1.100** 27.94	**0.420** 10.67	**0.240** 6.10	A8D12RA29AM233	A8D12RA29CM233	A8D12RA29EM233	–
15	**2.335** 59.31	**2.075** 52.71	**1.760** 44.70	**1.600** 40.64	**1.400** 35.56	**0.420** 10.67	**0.240** 6.10	A8D15RA29AM233	A8D15RA29CM233	A8D15RA29EM233	A8D15RA29FM233
18	**2.635** 66.93	**2.375** 60.33	**2.060** 52.32	**1.900** 48.26	**1.700** 43.18	**0.420** 10.67	**0.240** 6.10	A8D18RA29AM233	A8D18RA29CM233	A8D18RA29EM233	A8D18RA29FM233
20	**2.835** 72.01	**2.575** 65.41	**2.260** 57.40	**2.100** 53.34	**1.900** 48.26	**0.420** 10.67	**0.240** 6.10	A8D20RA29AM233	A8D20RA29CM233	A8D20RA29EM233	–
22	**3.035** 77.09	**2.775** 70.49	**2.460** 62.48	**2.300** 58.42	**2.100** 53.34	**0.420** 10.67	**0.240** 6.10	A8D22RA29AM233	A8D22RA29CM233	A8D22RA29EM233	–
25	**3.335** 84.71	**3.075** 78.11	**2.760** 70.10	**2.600** 66.04	**2.400** 60.96	**0.420** 10.67	**0.240** 6.10	A8D25RA29AM233	A8D25RA29CM233	A8D25RA29EM233	A8D25RA29FM233
28	**3.635** 92.33	**3.375** 85.73	**3.060** 77.72	**2.900** 73.66	**2.700** 68.58	**0.420** 10.67	**0.240** 6.10	A8D28RA29AM233	A8D28RA29CM233	A8D28RA29EM233	–
30	**3.835** 97.41	**3.575** 90.81	**3.260** 82.80	**3.100** 78.74	**2.900** 73.66	**0.420** 10.67	**0.240** 6.10	A8D30RA29AM233	A8D30RA29CM233	A8D30RA29EM233	A8D30RA29FM233
31	**3.935** 99.95	**3.675** 93.35	**3.360** 85.34	**3.200** 81.28	**3.100** 78.74	**0.420** 10.67	**0.240** 6.10	A8D31RA29AM233	A8D31RA29CM233	A8D31RA29EM233	A8D31RA29FM233
35	**4.335** 110.11	**4.075** 103.51	**3.760** 95.50	**3.600** 91.44	**3.400** 86.36	**0.420** 10.67	**0.240** 6.10	A8D35RA29AM233	A8D35RA29CM233	A8D35RA29EM233	–
36	**4.435** 112.65	**4.175** 106.05	**3.860** 98.04	**3.700** 93.98	**3.500** 88.90	**0.420** 10.67	**0.240** 6.10	A8D36RA29AM233	A8D36RA29CM233	A8D36RA29EM233	–
40	**4.835** 122.81	**4.575** 116.21	**4.260** 108.20	**4.100** 104.14	**3.900** 99.06	**0.420** 10.67	**0.240** 6.10	A8D40RA29AM233	A8D40RA29CM233	A8D40RA29EM233	–
43	**5.135** 130.43	**4.875** 123.83	**4.560** 115.82	**4.400** 111.76	**4.200** 106.68	**0.420** 10.67	**0.240** 6.10	A8D43RA29AM233	A8D43RA29CM233	A8D43RA29EM233	–
44	**5.235** 132.97	**4.975** 126.37	**4.660** 118.36	**4.500** 114.30	**4.300** 109.22	**0.420** 10.67	**0.240** 6.10	A8D44RA29AM233	A8D44RA29CM233	A8D44RA29EM233	–
50	**5.835** 148.21	**5.575** 141.61	**5.260** 133.60	**5.100** 129.54	**4.800** 121.92	**0.420** 10.67	**0.240** 6.10	A8D50RA29AM233	A8D50RA29CM233	A8D50RA29EM233	A8D50RA29FM233
60	**6.835** 173.61	**6.575** 167.01	**6.260** 159.00	**6.100** 154.94	**5.900** 149.86	**0.420** 10.67	**0.240** 6.10	A8D60RA29AM233	A8D60RA29CM233	A8D60RA29EM233	–
65	**7.335** 186.31	**7.075** 179.71	**6.760** 171.70	**6.600** 167.64	**6.400** 162.56	**0.420** 10.67	**0.240** 6.10	A8D65RA29AM233	A8D65RA29CM233	A8D65RA29EM233	A8D65RA29FM233

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Japan: 81-44-844-8013
UK: 44-141-810-8967

Modified Bellows Connectors .125 x .250 [3.18 x 6.35], Centerline Straight Dip Solder and Wire Wrap Tails

Product Facts

- **Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980**
- **Certified by Canadian Standards Association, File No. LR49571**

Physical Properties:

Insulation Resistance—5000 megohms minimum.

Insertion/Withdrawal Force (Daughter Card)—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.

Insulator Body—Glass filled thermoplastic, UL rating 94V-O. High temp. plastic option is available; add suffix M399 to part number.

Color—Black

Contacts—High strength copper alloy.

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operation Voltage—600 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

Operating Temperature—-55˚C to +125˚C

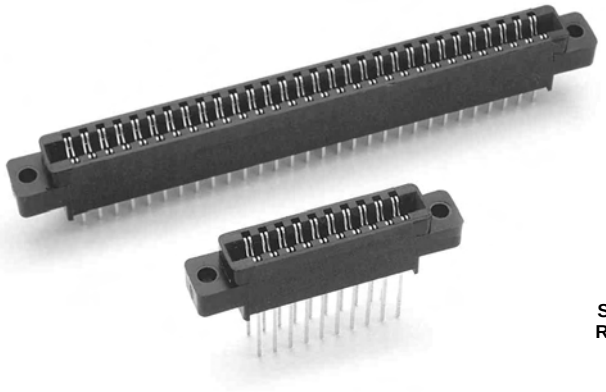
Temperature Cycling—MIL-STD-202 method 107

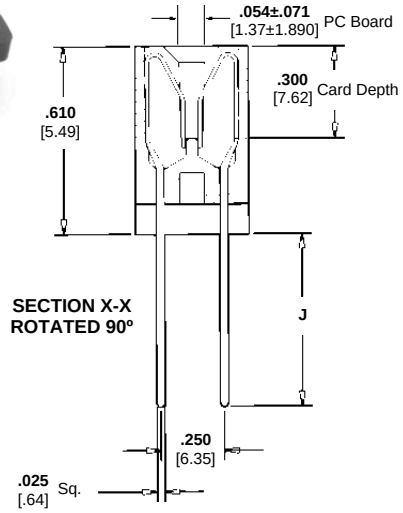
Vibration—MIL-STD-202 method 204

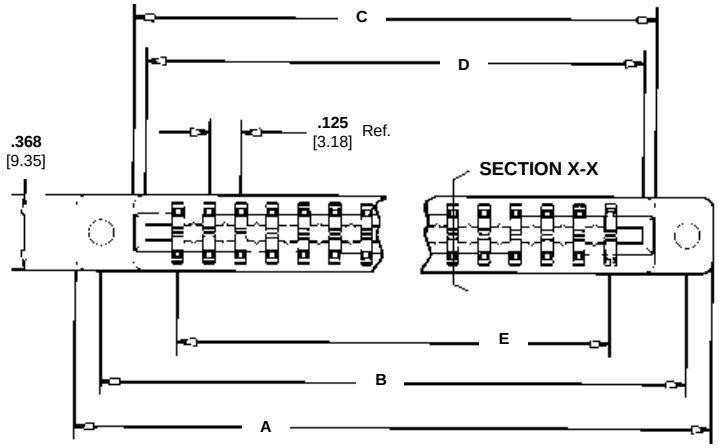
Related Product Data:

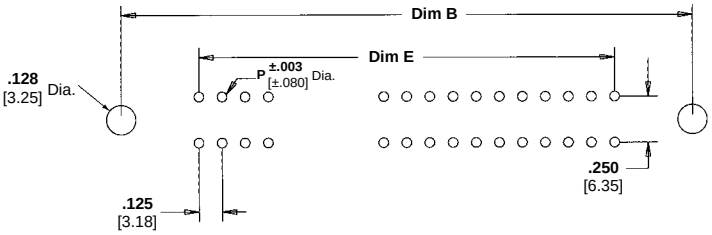
Polarization Key—page 57

Daughter Card Edge Pattern—page 57



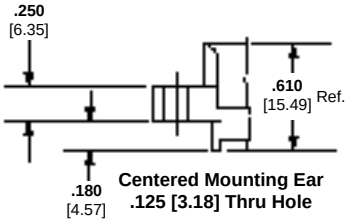




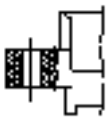


P=.040 [1.02] Dip Solder Applications
P=.042 [1.07] For Wire Wrap Applications

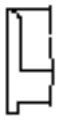
Mounting Styles



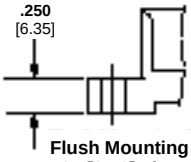
Centered Mounting Ear .125 [3.18] Thru Hole



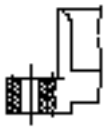
Centered Mounting Ear 4-40 Threaded Insert



No Mounting Ears



Flush Mounting Ear .125 [3.18] Thru Hole



Flush Mounting Ear 4-40 Threaded Insert

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Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Ordering Information

.125" [3.18] Centerline / .250" [6.35] Row-to-Row Dip Solder

No. of Dual Readout Positions	Dimensions					Mounting Ear Options				
	A	B	C	D	E	Centered Mounting Ear .125" [3.18] Thru Hole	Centered Mounting Ear 4-40 Threaded insert	No Mounting Ears	Flush Mounting Ear .125" [3.18] Thru Hole	Flush Mounting Ear 4-40 Threaded insert
Tail Length .160" [4.06] (DIM "J")										
6	**1.555** 39.50	**1.295** 32.89	**1.035** 26.29	**0.875** 22.23	**0.625** 15.88	A7D06DS29A2	A7D06DS29B2	A7D06DS29C2	A7D06DS29D2	A7D06DS29E2
10	**2.055** 52.20	**1.795** 45.59	**1.535** 38.99	**1.375** 34.93	**1.125** 28.58	A7D10DS29A2	A7D10DS29B2	A7D10DS29C2	A7D10DS29D2	A7D10DS29E2
15	**2.680** 68.07	**2.420** 61.47	**2.160** 54.86	**2.000** 50.80	**1.750** 44.45	A7D15DS29A2	A7D15DS29B2	A7D15DS29C2	A7D15DS29D2	A7D15DS29E2
18	**3.055** 77.60	**2.795** 70.99	**2.535** 64.39	**2.375** 60.33	**2.125** 53.98	A7D18DS29A2	A7D18DS29B2	A7D18DS29C2	A7D18DS29D2	A7D18DS29E2
22	**3.555** 90.30	**3.295** 83.69	**3.035** 77.09	**2.875** 73.03	**2.625** 66.68	A7D22DS29A2	A7D22DS29B2	A7D22DS29C2	–	–
25	**3.930** 99.82	**3.670** 93.22	**3.410** 86.61	**3.250** 82.55	**3.000** 76.20	A7D25DS29A2	A7D25DS29B2	A7D25DS29C2	A7D25DS29D2	A7D25DS29E2
28	**4.305** 109.35	**4.045** 102.74	**3.785** 96.14	**3.625** 92.08	**3.375** 85.73	A7D28DS29A2	A7D28DS29B2	A7D28DS29C2	–	–
30	**4.555** 115.70	**4.295** 109.09	**4.035** 102.49	**3.875** 98.43	**3.625** 92.08	A7D30DS29A2	A7D30DS29B2	A7D30DS29C2	A7D30DS29D2	A7D30DS29E2
35	**5.180** 131.57	**4.920** 124.97	**4.660** 118.36	**4.500** 114.30	**4.250** 107.95	A7D35DS29A2	A7D35DS29B2	A7D35DS29C2	–	–
36	**5.305** 134.75	**5.045** 128.14	**4.785** 121.54	**4.625** 117.48	**4.375** 111.13	A7D36DS29A2	A7D36DS29B2	A7D36DS29C2	–	–
40	**5.805** 147.45	**5.545** 140.84	**5.285** 134.24	**5.125** 130.18	**4.875** 123.83	A7D40DS29A2	A7D40DS29B2	A7D40DS29C2	–	–
43	**6.180** 156.97	**5.920** 150.37	**5.660** 143.76	**5.500** 139.70	**5.250** 133.35	A7D43DS29A2	A7D43DS29B2	A7D43DS29C2	–	–
50	**7.055** 179.20	**6.795** 172.59	**6.535** 165.99	**6.375** 161.93	**6.125** 155.58	A7D50DS29A2	A7D50DS29B2	A7D50DS29C2	A7D50DS29D2	A7D50DS29E2

.125" [3.18] Centerline / .250" [6.35] Row-to-Row Wire Wrap

No. of Dual Readout Positions	Dimensions					Mounting Ear Options				
	A	B	C	D	E	Centered Mounting Ear .125" [3.18] Thru Hole	Centered Mounting Ear 4-40 Threaded insert	No Mounting Ears	Flush Mounting Ear .125" [3.18] Thru Hole	Flush Mounting Ear 4-40 Threaded insert
Tail Length .560" [14.22] (DIM "J")										
6	**1.555** 39.50	**1.295** 32.89	**1.035** 26.29	**0.875** 22.23	**0.625** 15.88	A7D06WW29A3	A7D06WW29B3	–	–	–
10	**2.055** 52.20	**1.795** 45.59	**1.535** 38.99	**1.375** 34.93	**1.125** 28.58	A7D10WW29A3	A7D10WW29B3	–	–	–
15	**2.680** 68.07	**2.420** 61.47	**2.160** 54.86	**2.000** 50.80	**1.750** 44.45	A7D15WW29A3	A7D15WW29B3	–	–	–
18	**3.055** 77.60	**2.795** 70.99	**2.535** 64.39	**2.375** 60.33	**2.125** 53.98	A7D18WW29A3	A7D18WW29B3	–	–	–
22	**3.555** 90.30	**3.295** 83.69	**3.035** 77.09	**2.875** 73.03	**2.625** 66.68	A7D22WW29A3	A7D22WW29B3	–	–	–
25	**3.930** 99.82	**3.670** 93.22	**3.410** 86.61	**3.250** 82.55	**3.000** 76.20	A7D25WW29A3	A7D25WW29B3	–	–	–
28	**4.305** 109.35	**4.045** 102.74	**3.785** 96.14	**3.625** 92.08	**3.375** 85.73	A7D28WW29A3	A7D28WW29B3	–	–	–
30	**4.555** 115.70	**4.295** 109.09	**4.035** 102.49	**3.875** 98.43	**3.625** 92.08	A7D30WW29A3	A7D30WW29B3	–	–	–
35	**5.180** 131.57	**4.920** 124.97	**4.660** 118.36	**4.500** 114.30	**4.250** 107.95	A7D35WW29A3	A7D35WW29B3	–	–	–
36	**5.305** 134.75	**5.045** 128.14	**4.785** 121.54	**4.625** 117.48	**4.375** 111.13	A7D36WW29A3	A7D36WW29B3	–	–	–
40	**5.805** 147.45	**5.545** 140.84	**5.285** 134.24	**5.125** 130.18	**4.875** 123.83	A7D40WW29A3	A7D40WW29B3	–	–	–
43	**6.180** 156.97	**5.920** 150.37	**5.660** 143.76	**5.500** 139.70	**5.250** 133.35	A7D43WW29A3	A7D43WW29B3	–	–	–
50	**7.055** 179.20	**6.795** 172.59	**6.535** 165.99	**6.375** 161.93	**6.125** 155.58	A7D50WW29A3	A7D50WW29B3	–	–	–

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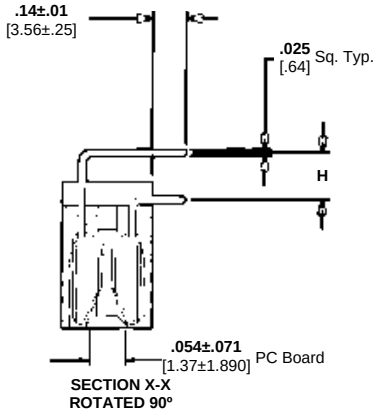
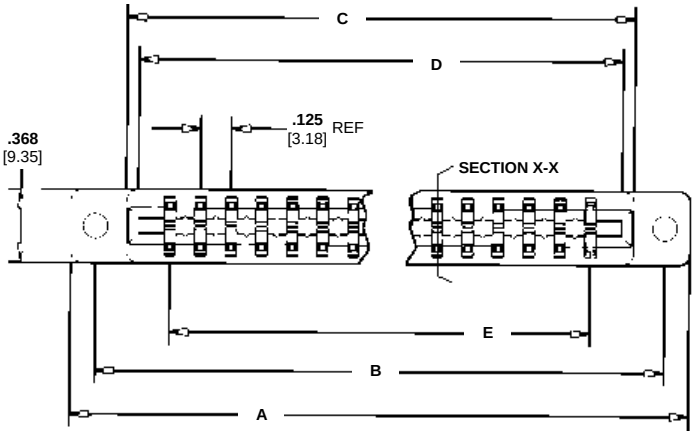
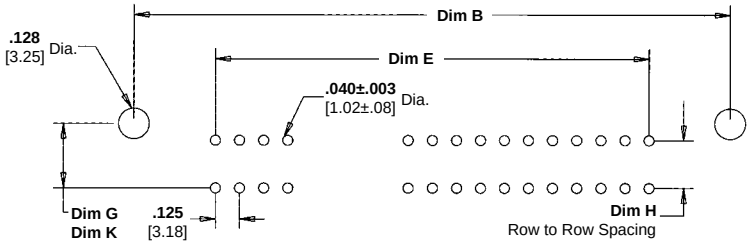
UK: 44-141-810-8967

Modified Bellows Connectors .125 x .250 [3.18 x 6.35], .125 x .150 [3.18 x 3.81], .125 x .200 [3.18 x 5.08] Centerline, Right Angle Tails







Dim G - Centered Mounting Ear .125 [3.18] Cross Drilled Hole Only
Dim K - Flush Mounting Ear .125 [3.18] Cross Drilled Hole Only

Product Facts

- **Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980**
- **Certified by Canadian Standards Association, File No. LR49571**

Physical Properties:

Insulation Resistance—5000 megohms minimum.

Insertion/Withdrawal Force (Daughter Card)—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.

Insulator Body—Glass filled thermoplastic, UL rating 94V-0. High temp. plastic option is available; add suffix M399 to part number.

Color—Black

Contacts—High strength copper alloy.

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operation Voltage—1000 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

Operating Temperature—-55˚C to +125˚C

Temperature Cycling—MIL-STD-202 method 107

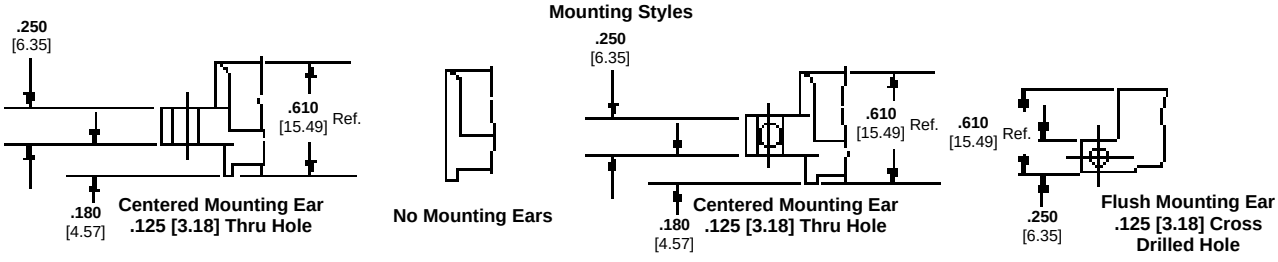
Vibration—MIL-STD-202 method 204

Related Product Data:

Polarization Key—page 57

Daughter Card Edge Pattern—page 57

Mounting Styles



Catalog 1654080
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Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Ordering Information

.125" [3.18] Centerline / .200" [5.08] and .150" [3.81] Row-to-Row (Dim. "H") Spacing

No. of Dual Readout Positions	Dimensions							Mounting Ear Options			
	A	B	C	D	E	Centered Mounting Ear Only G	Flush Mounting Ear Only K	Centered Mounting Ear .125" [3.18] Thru Hole	No Mounting Ears	Centered Mounting Ear .125" [3.18] Cross-Drilled Hole	Flush Mounting Ear .125" [3.18] Cross-Drilled Hole
.150" [3.81] Row-to-Row (Dim. "H") Spacing											
6	**1.555** 39.50	**1.295** 32.89	**1.035** 26.29	**0.875** 22.23	**0.625** 15.88	**0.420** 10.67	**0.240** 6.10	A7D06RA29AM231	A7D06RA29CM231	A7D06RA29EM231	A7D06RA29FM231
10	**2.055** 52.20	**1.795** 45.59	**1.535** 38.99	**1.375** 34.93	**1.125** 28.58	**0.420** 10.67	**0.240** 6.10	A7D10RA29AM231	A7D10RA29CM231	A7D10RA29EM231	A7D10RA29FM231
15	**2.680** 68.07	**2.420** 61.47	**2.160** 54.86	**2.000** 50.80	**1.750** 44.45	**0.420** 10.67	**0.240** 6.10	A7D15RA29AM231	A7D15RA29CM231	A7D15RA29EM231	A7D15RA29FM231
18	**3.055** 77.60	**2.795** 70.99	**2.535** 64.39	**2.375** 60.33	**2.125** 53.98	**0.420** 10.67	**0.240** 6.10	A7D18RA29AM231	A7D18RA29CM231	A7D18RA29EM231	A7D18RA29FM231
22	**3.555** 90.30	**3.295** 83.69	**3.035** 77.09	**2.875** 73.03	**2.625** 66.68	**0.420** 10.67	**0.240** 6.10	A7D22RA29AM231	A7D22RA29CM231	A7D22RA29EM231	A7D22RA29FM231
25	**3.930** 99.82	**3.670** 93.22	**3.410** 86.61	**3.250** 82.55	**3.000** 76.20	**0.420** 10.67	**0.240** 6.10	A7D25RA29AM231	A7D25RA29CM231	A7D25RA29EM231	A7D25RA29FM231
28	**4.305** 109.35	**4.045** 102.74	**3.785** 96.14	**3.625** 92.08	**3.375** 85.73	**0.420** 10.67	**0.240** 6.10	A7D28RA29AM231	A7D28RA29CM231	A7D28RA29EM231	A7D28RA29FM231
30	**4.555** 115.70	**4.295** 109.09	**4.035** 102.49	**3.875** 98.43	**3.625** 92.08	**0.420** 10.67	**0.240** 6.10	A7D30RA29AM231	A7D30RA29CM231	A7D30RA29EM231	A7D30RA29FM231
35	**5.180** 131.57	**4.920** 124.97	**4.660** 118.36	**4.500** 114.30	**4.250** 107.95	**0.420** 10.67	**0.240** 6.10	A7D35RA29AM231	A7D35RA29CM231	A7D35RA29EM231	A7D35RA29FM231
36	**5.305** 134.75	**5.045** 128.14	**4.785** 121.54	**4.625** 117.48	**4.375** 111.13	**0.420** 10.67	**0.240** 6.10	A7D36RA29AM231	A7D36RA29CM231	A7D36RA29EM231	A7D36RA29FM231
40	**5.805** 147.45	**5.545** 140.84	**5.285** 134.24	**5.125** 130.18	**4.875** 123.83	**0.420** 10.67	**0.240** 6.10	A7D40RA29AM231	A7D40RA29CM231	A7D40RA29EM231	A7D40RA29FM231
43	**6.180** 156.97	**5.920** 150.37	**5.660** 143.76	**5.500** 139.70	**5.250** 133.35	**0.420** 10.67	**0.240** 6.10	A7D43RA29AM231	A7D43RA29CM231	A7D43RA29EM231	A7D43RA29FM231
50	**7.055** 179.20	**6.795** 172.59	**6.535** 165.99	**6.375** 161.93	**6.125** 155.58	**0.420** 10.67	**0.240** 6.10	A7D50RA29AM231	A7D50RA29CM231	A7D50RA29EM231	A7D50RA29FM231
.200" [5.08] Row-to-Row (Dim. "H") Spacing											
6	**1.555** 39.50	**1.295** 32.89	**1.035** 26.29	**0.875** 22.23	**0.625** 15.88	**0.470** 11.94	**0.290** 7.37	A7D06RA29AM232	A7D06RA29CM232	A7D06RA29EM232	A7D06RA29FM232
10	**2.055** 52.20	**1.795** 45.59	**1.535** 38.99	**1.375** 34.93	**1.125** 28.58	**0.470** 11.94	**0.290** 7.37	A7D10RA29AM232	A7D10RA29CM232	A7D10RA29EM232	A7D10RA29FM232
15	**2.680** 68.07	**2.420** 61.47	**2.160** 54.86	**2.000** 50.80	**1.750** 44.45	**0.470** 11.94	**0.290** 7.37	A7D15RA29AM232	A7D15RA29CM232	A7D15RA29EM232	A7D15RA29FM232
18	**3.055** 77.60	**2.795** 70.99	**2.535** 64.39	**2.375** 60.33	**2.125** 53.98	**0.470** 11.94	**0.290** 7.37	A7D18RA29AM232	A7D18RA29CM232	A7D18RA29EM232	A7D18RA29FM232
22	**3.555** 90.30	**3.295** 83.69	**3.035** 77.09	**2.875** 73.03	**2.625** 66.68	**0.470** 11.94	**0.290** 7.37	A7D22RA29AM232	A7D22RA29CM232	A7D22RA29EM232	A7D22RA29FM232
25	**3.930** 99.82	**3.670** 93.22	**3.410** 86.61	**3.250** 82.55	**3.000** 76.20	**0.470** 11.94	**0.290** 7.37	A7D25RA29AM232	A7D25RA29CM232	A7D25RA29EM232	A7D25RA29FM232
28	**4.305** 109.35	**4.045** 102.74	**3.785** 96.14	**3.625** 92.08	**3.375** 85.73	**0.470** 11.94	**0.290** 7.37	A7D28RA29AM232	A7D28RA29CM232	A7D28RA29EM232	A7D28RA29FM232
30	**4.555** 115.70	**4.295** 109.09	**4.035** 102.49	**3.875** 98.43	**3.625** 92.08	**0.470** 11.94	**0.290** 7.37	A7D30RA29AM232	A7D30RA29CM232	A7D30RA29EM232	A7D30RA29FM232
35	**5.180** 131.57	**4.920** 124.97	**4.660** 118.36	**4.500** 114.30	**4.250** 107.95	**0.470** 11.94	**0.290** 7.37	A7D35RA29AM232	A7D35RA29CM232	A7D35RA29EM232	A7D35RA29FM232
36	**5.305** 134.75	**5.045** 128.14	**4.785** 121.54	**4.625** 117.48	**4.375** 111.13	**0.470** 11.94	**0.290** 7.37	A7D36RA29AM232	A7D36RA29CM232	A7D36RA29EM232	A7D36RA29FM232
40	**5.805** 147.45	**5.545** 140.84	**5.285** 134.24	**5.125** 130.18	**4.875** 123.83	**0.470** 11.94	**0.290** 7.37	A7D40RA29AM232	A7D40RA29CM232	A7D40RA29EM232	A7D40RA29FM232
43	**6.180** 156.97	**5.920** 150.37	**5.660** 143.76	**5.500** 139.70	**5.250** 133.35	**0.470** 11.94	**0.290** 7.37	A7D43RA29AM232	A7D43RA29CM232	A7D43RA29EM232	A7D43RA29FM232
50	**7.055** 179.20	**6.795** 172.59	**6.535** 165.99	**6.375** 161.93	**6.125** 155.58	**0.470** 11.94	**0.290** 7.37	A7D50RA29AM232	A7D50RA29CM232	A7D50RA29EM232	A7D50RA29FM232

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Ordering Information

.125" [3.18] Centerline / .250" [6.35] Row-to-Row (Dim. "H") Spacing

No. of Dual Readout Positions	Dimensions							Mounting Ear Options			
	A	B	C	D	E	Centered Mounting Ear Only G	Flush Mounting Ear Only K	Centered Mounting Ear .125" [3.18] Thru Hole	No Mounting Ears	Centered Mounting Ear .125" [3.18] Cross-Drilled Hole	Flush Mounting Ear .125" [3.18] Cross-Drilled Hole
.250" [6.35] Row-to-Row (Dim. "H") Spacing											
6	**1.555** 39.50	**1.295** 32.89	**1.035** 26.29	**0.875** 22.23	**0.625** 15.88	**0.520** 13.21	**0.340** 8.64	A7D06RA29A	A7D06RA29C	A7D06RA29E	A7D06RA29F
10	**2.055** 52.20	**1.795** 45.59	**1.535** 38.99	**1.375** 34.93	**1.125** 28.58	**0.520** 13.21	**0.340** 8.64	A7D10RA29A	A7D10RA29C	A7D10RA29E	A7D10RA29F
15	**2.680** 68.07	**2.420** 61.47	**2.160** 54.86	**2.000** 50.80	**1.750** 44.45	**0.520** 13.21	**0.340** 8.64	A7D15RA29A	A7D15RA29C	A7D15RA29E	A7D15RA29F
18	**3.055** 77.60	**2.795** 70.99	**2.535** 64.39	**2.375** 60.33	**2.125** 53.98	**0.520** 13.21	**0.340** 8.64	A7D18RA29A	A7D18RA29C	A7D18RA29E	A7D18RA29F
22	**3.555** 90.30	**3.295** 83.69	**3.035** 77.09	**2.875** 73.03	**2.625** 66.68	**0.520** 13.21	**0.340** 8.64	A7D22RA29A	A7D22RA29C	A7D22RA29E	A7D22RA29F
25	**3.930** 99.82	**3.670** 93.22	**3.410** 86.61	**3.250** 82.55	**3.000** 76.20	**0.520** 13.21	**0.340** 8.64	A7D25RA29A	A7D25RA29C	A7D25RA29E	A7D25RA29F
28	**4.305** 109.35	**4.045** 102.74	**3.785** 96.14	**3.625** 92.08	**3.375** 85.73	**0.520** 13.21	**0.340** 8.64	A7D28RA29A	A7D28RA29C	A7D28RA29E	A7D28RA29F
30	**4.555** 115.70	**4.295** 109.09	**4.035** 102.49	**3.875** 98.43	**3.625** 92.08	**0.520** 13.21	**0.340** 8.64	A7D30RA29A	A7D30RA29C	A7D30RA29E	A7D30RA29F
35	**5.180** 131.57	**4.920** 124.97	**4.660** 118.36	**4.500** 114.30	**4.250** 107.95	**0.520** 13.21	**0.340** 8.64	A7D35RA29A	A7D35RA29C	A7D35RA29E	A7D35RA29F
36	**5.305** 134.75	**5.045** 128.14	**4.785** 121.54	**4.625** 117.48	**4.375** 111.13	**0.520** 13.21	**0.340** 8.64	A7D36RA29A	A7D36RA29C	A7D36RA29E	A7D36RA29F
40	**5.805** 147.45	**5.545** 140.84	**5.285** 134.24	**5.125** 130.18	**4.875** 123.83	**0.520** 13.21	**0.340** 8.64	A7D40RA29A	A7D40RA29C	A7D40RA29E	A7D40RA29F
43	**6.180** 156.97	**5.920** 150.37	**5.660** 143.76	**5.500** 139.70	**5.250** 133.35	**0.520** 13.21	**0.340** 8.64	A7D43RA29A	A7D43RA29C	A7D43RA29E	A7D43RA29F
50	**7.055** 179.20	**6.795** 172.59	**6.535** 165.99	**6.375** 161.93	**6.125** 155.58	**0.520** 13.21	**0.340** 8.64	A7D50RA29A	A7D50RA29C	A7D50RA29E	A7D50RA29F

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UK: 44-141-810-8967

Modified Bellows Connectors, .156 x .200 [3.96 x 5.08] Centerline, Straight Dip Solder and Wire Wrap Tails

Product Facts

- **Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980**
- **Certified by Canadian Standards Association, File No. LR49571**

Physical Properties:

Insulation Resistance—5000 megohms minimum.

Insertion/Withdrawal Force (Daughter Card)—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.

Insulator Body—Glass filled thermoplastic, UL rating 94V-O. High temp. plastic option is available; add suffix M399 to part number.

Color—Black

Contacts—High strength copper alloy.

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operation Voltage—1500 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

Operating Temperature—-55˚C to +125˚C

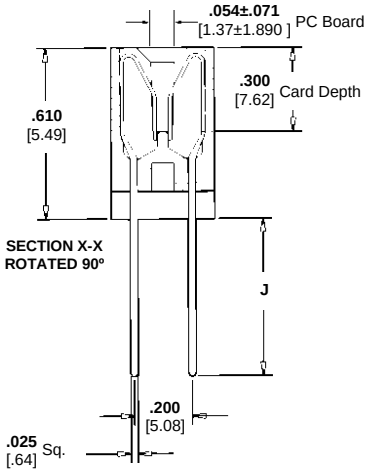
Temperature Cycling—MIL-STD-202 method 107

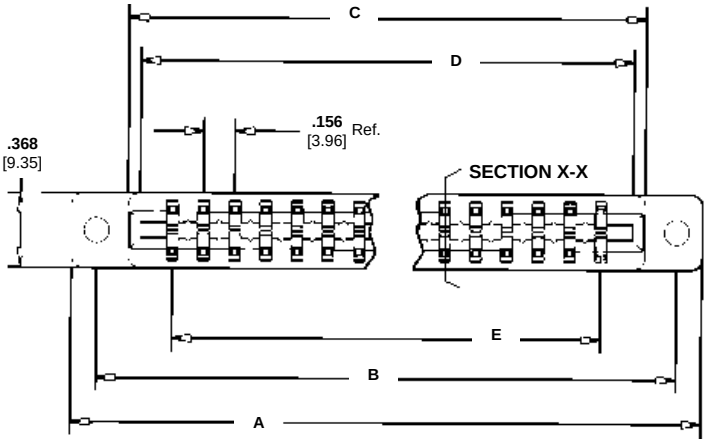
Vibration—MIL-STD-202 method 204

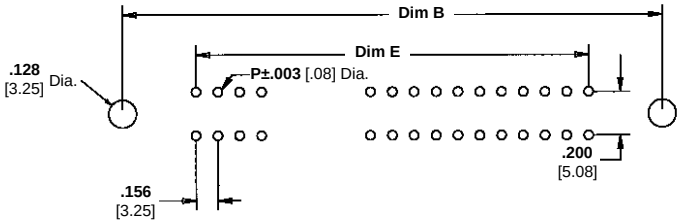
Related Product Data:

Polarization Key—page 57

Daughter Card Edge Pattern—page 57







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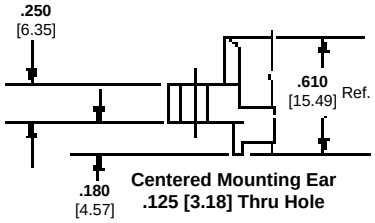
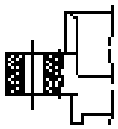
P=.042 [1.07] For Wire Wrap Applications

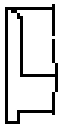
Mounting Styles



Centered Mounting Ear
.125 [3.18] Thru Hole



Centered Mounting Ear
4-40 Threaded Insert



No Mounting Ears

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Japan: 81-44-844-8013
UK: 44-141-810-8967

Ordering Information

.156" [3.96] Centerline / .200" [5.08] Row-to-Row

No. of Dual Readout Positions	Dimensions					Mounting Ear Options		
	A	B	C	D	E	Centered Mounting Ear .125" [3.18] Thru Hole	Centered Mounting Ear 4-40 Threaded Insert	No Mounting Ears
Tail Length .160" [4.06] (DIM "J")								
6	**1.784** 45.31	**1.534** 38.96	**1.221** 31.01	**1.100** 27.94	**0.780** 19.81	A6D06DS29A2	A6D06DS29B2	A6D06DS29C2
10	**2.408** 61.16	**2.158** 54.81	**1.845** 46.86	**1.724** 43.79	**1.404** 35.66	A6D10DS29A2	A6D10DS29B2	A6D10DS29C2
12	**2.720** 69.09	**2.470** 62.74	**2.157** 54.79	**2.036** 51.71	**1.716** 43.59	A6D12DS29A2	A6D12DS29B2	A6D12DS29C2
15	**3.188** 80.98	**2.938** 74.63	**2.625** 66.68	**2.504** 63.60	**2.184** 55.47	A6D15DS29A2	A6D15DS29B2	A6D15DS29C2
18	**3.656** 92.86	**3.406** 86.51	**3.093** 78.56	**2.972** 75.49	**2.652** 67.36	A6D18DS29A2	A6D18DS29B2	A6D18DS29C2
22	**4.280** 108.71	**4.030** 102.36	**3.717** 94.41	**3.596** 91.34	**3.276** 83.21	A6D22DS29A2	A6D22DS29B2	A6D22DS29C2
25	**4.748** 120.60	**4.498** 114.25	**4.185** 106.30	**4.064** 103.23	**3.744** 95.10	A6D25DS29A2	A6D25DS29B2	A6D25DS29C2
28	**5.216** 132.49	**4.966** 126.14	**4.653** 118.19	**4.532** 115.11	**4.212** 106.98	A6D28DS29A2	A6D28DS29B2	A6D28DS29C2
36	**6.464** 164.19	**6.214** 157.84	**5.901** 149.89	**5.780** 146.81	**5.460** 138.68	A6D36DS29A2	A6D36DS29B2	A6D36DS29C2
43	**7.556** 191.92	**7.306** 185.57	**6.993** 177.62	**6.872** 174.55	**6.552** 166.42	A6D43DS29A2	A6D43DS29B2	A6D43DS29C2
Tail Length .220" [5.59] (DIM "J")								
6	**1.784** 45.31	**1.534** 38.96	**1.221** 31.01	**1.100** 27.94	**0.780** 19.81	A6D06DS29A3	A6D06DS29B3	A6D06DS29C3
10	**2.408** 61.16	**2.158** 54.81	**1.845** 46.86	**1.724** 43.79	**1.404** 35.66	A6D10DS29A3	A6D10DS29B3	A6D10DS29C3
12	**2.720** 69.09	**2.470** 62.74	**2.157** 54.79	**2.036** 51.71	**1.716** 43.59	A6D12DS29A3	A6D12DS29B3	A6D12DS29C3
15	**3.188** 80.98	**2.938** 74.63	**2.625** 66.68	**2.504** 63.60	**2.184** 55.47	A6D15DS29A3	A6D15DS29B3	A6D15DS29C3
18	**3.656** 92.86	**3.406** 86.51	**3.093** 78.56	**2.972** 75.49	**2.652** 67.36	A6D18DS29A3	A6D18DS29B3	A6D18DS29C3
22	**4.280** 108.71	**4.030** 102.36	**3.717** 94.41	**3.596** 91.34	**3.276** 83.21	A6D22DS29A3	A6D22DS29B3	A6D22DS29C3
25	**4.748** 120.60	**4.498** 114.25	**4.185** 106.30	**4.064** 103.23	**3.744** 95.10	A6D25DS29A3	A6D25DS29B3	A6D25DS29C3
28	**5.216** 132.49	**4.966** 126.14	**4.653** 118.19	**4.532** 115.11	**4.212** 106.98	A6D28DS29A3	A6D28DS29B3	A6D28DS29C3
36	**6.464** 164.19	**6.214** 157.84	**5.901** 149.89	**5.780** 146.81	**5.460** 138.68	A6D36DS29A3	A6D36DS29B3	A6D36DS29C3
43	**7.556** 191.92	**7.306** 185.57	**6.993** 177.62	**6.872** 174.55	**6.552** 166.42	A6D43DS29A3	A6D43DS29B3	A6D43DS29C3
Tail Length .560" [14.22] (DIM "J") For Wire Wrap Termination								
6	**1.784** 45.31	**1.534** 38.96	**1.221** 31.01	**1.100** 27.94	**0.780** 19.81	A6D06WW29A3	A6D06WW29B3	–
10	**2.408** 61.16	**2.158** 54.81	**1.845** 46.86	**1.724** 43.79	**1.404** 35.66	A6D10WW29A3	A6D10WW29B3	–
12	**2.720** 69.09	**2.470** 62.74	**2.157** 54.79	**2.036** 51.71	**1.716** 43.59	A6D12WW29A3	A6D12WW29B3	–
15	**3.188** 80.98	**2.938** 74.63	**2.625** 66.68	**2.504** 63.60	**2.184** 55.47	A6D15WW29A3	A6D15WW29B3	–
18	**3.656** 92.86	**3.406** 86.51	**3.093** 78.56	**2.972** 75.49	**2.652** 67.36	A6D18WW29A3	A6D18WW29B3	–
22	**4.280** 108.71	**4.030** 102.36	**3.717** 94.41	**3.596** 91.34	**3.276** 83.21	A6D22WW29A3	A6D22WW29B3	–
25	**4.748** 120.60	**4.498** 114.25	**4.185** 106.30	**4.064** 103.23	**3.744** 95.10	A6D25WW29A3	A6D25WW29B3	–
28	**5.216** 132.49	**4.966** 126.14	**4.653** 118.19	**4.532** 115.11	**4.212** 106.98	A6D28WW29A3	A6D28WW29B3	–
36	**6.464** 164.19	**6.214** 157.84	**5.901** 149.89	**5.780** 146.81	**5.460** 138.68	A6D36WW29A3	A6D36WW29B3	–
43	**7.556** 191.92	**7.306** 185.57	**6.993** 177.62	**6.872** 174.55	**6.552** 166.42	A6D43WW29A3	A6D43WW29B3	–

Catalog 1654080
Issued 7-03

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UK: 44-141-810-8967

Modified Bellows Connectors .156 x .200 [3.96 x 5.08] Centerline, .156 x .150 [3.96 x 3.81], Right Angle, Dip Solder Tails

Product Facts

- **Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980**
- **Certified by Canadian Standards Association, File No. LR49571**

Physical Properties:

Insulation Resistance—5000 megohms minimum.

Insertion/Withdrawal Force (Daughter Card)—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.

Insulator Body—Glass filled thermoplastic, UL rating 94V-O. High temp. plastic option is available; add suffix M399 to part number.

Color—Black

Contacts—High strength copper alloy.

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operation Voltage—1500 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

Operating Temperature—-55˚C to +125˚C

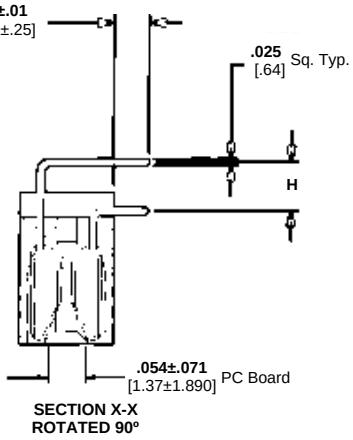
Temperature Cycling—MIL-STD-202 method 107

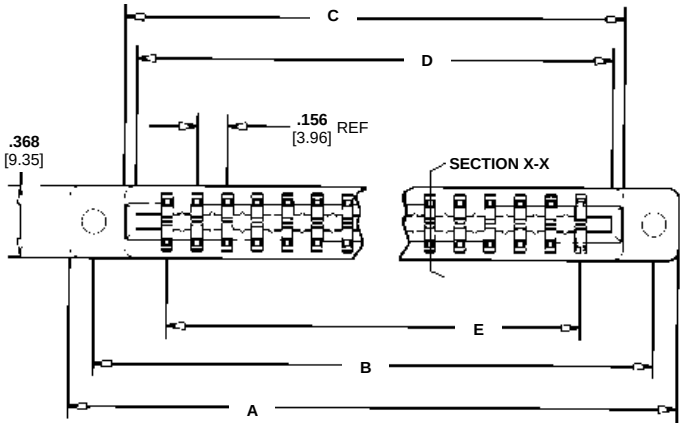
Vibration—MIL-STD-202 method 204

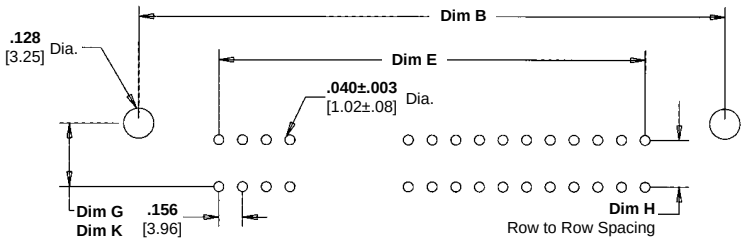
Related Product Data:

Polarization Key—page 57

Daughter Card Edge Pattern—page 57

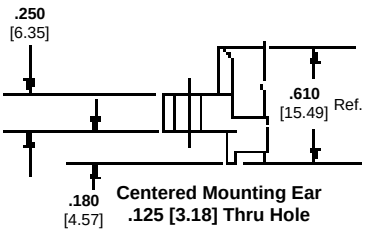


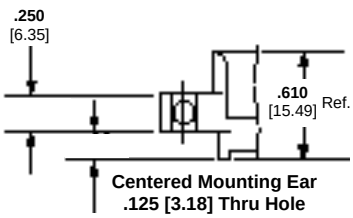


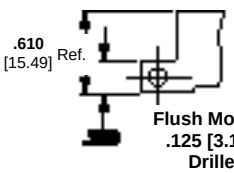


Dim G - Centered Mounting Ear .125 [3.18] Cross Drilled Hole Only
Dim K - Flush Mounting Ear .125 [3.18] Cross Drilled Hole Only

Mounting Styles







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UK: 44-141-810-8967

Ordering Information

.156" [3.96] Centerline / .200" [5.08] and .150" [3.81] Row-to-Row (Dim. "H") Spacing

No. of Dual Readout Positions	Dimensions							Mounting Ear Options			
	A	B	C	D	E	Centered Mounting Ear Only G	Flush Mounting Ear Only K	Centered Mounting Ear .125" [3.18] Thru Hole	No Mounting Ears	Centered Mounting Ear .125" [3.18] Cross-Drilled Hole	Flush Mounting Ear .125" [3.18] Cross-Drilled Hole
.200" [5.08] Row-to-Row (Dim. "H") Spacing											
6	**1.784** 45.31	**1.534** 38.96	**1.221** 31.01	**1.100** 27.94	**0.780** 19.81	**0.470** 11.94	**0.290** 7.37	A6D06RA29A	A6D06RA29C	A6D06RA29E	A6D06RA29F
10	**2.408** 61.16	**2.158** 54.81	**1.845** 46.86	**1.724** 43.79	**1.404** 35.66	**0.470** 11.94	**0.290** 7.37	A6D10RA29A	A6D10RA29C	A6D10RA29E	A6D10RA29F
12	**2.720** 69.09	**2.470** 62.74	**2.157** 54.79	**2.036** 51.71	**1.716** 43.59	**0.470** 11.94	**0.290** 7.37	A6D12RA29A	A6D12RA29C	A6D12RA29E	A6D12RA29F
15	**3.188** 80.98	**2.938** 74.63	**2.625** 66.68	**2.504** 63.60	**2.184** 55.47	**0.470** 11.94	**0.290** 7.37	A6D15RA29A	A6D15RA29C	A6D15RA29E	A6D15RA29F
18	**3.656** 92.86	**3.406** 86.51	**3.093** 78.56	**2.972** 75.49	**2.652** 67.36	**0.470** 11.94	**0.290** 7.37	A6D18RA29A	A6D18RA29C	A6D18RA29E	A6D18RA29F
22	**4.280** 108.71	**4.030** 102.36	**3.717** 94.41	**3.596** 91.34	**3.276** 83.21	**0.470** 11.94	**0.290** 7.37	A6D22RA29A	A6D22RA29C	A6D22RA29E	A6D22RA29F
25	**4.748** 120.60	**4.498** 114.25	**4.185** 106.30	**4.064** 103.23	**3.744** 95.10	**0.470** 11.94	**0.290** 7.37	A6D25RA29A	A6D25RA29C	A6D25RA29E	A6D25RA29F
28	**5.216** 132.49	**4.966** 126.14	**4.653** 118.19	**4.532** 115.11	**4.212** 106.98	**0.470** 11.94	**0.290** 7.37	A6D28RA29A	A6D28RA29C	A6D28RA29E	A6D28RA29F
36	**6.464** 164.19	**6.214** 157.84	**5.901** 149.89	**5.780** 146.81	**5.460** 138.68	**0.470** 11.94	**0.290** 7.37	A6D36RA29A	A6D36RA29C	A6D36RA29E	A6D36RA29F
40	**7.088** 180.04	**6.838** 173.69	**6.525** 165.74	**6.404** 213.46	**6.084** 154.53	**0.470** 11.94	**0.290** 7.37	A6D40RA29A	A6D40RA29C	A6D40RA29E	A6D40RA29F
43	**7.556** 191.92	**7.306** 185.57	**6.993** 177.62	**6.872** 174.55	**6.552** 166.42	**0.470** 11.94	**0.290** 7.37	A6D43RA29A	A6D43RA29C	A6D43RA29E	A6D43RA29F
.150" [3.81] Row-to-Row (Dim. "H") Spacing											
6	**1.784** 45.31	**1.534** 38.96	**1.221** 31.01	**1.100** 27.94	**0.780** 19.81	**0.420** 10.67	**0.240** 6.10	A6D06RA29AM233	A6D06RA29CM233	A6D06RA29EM233	A6D06RA29FM233
10	**2.408** 61.16	**2.158** 54.81	**1.845** 46.86	**1.724** 43.79	**1.404** 35.66	**0.420** 10.67	**0.240** 6.10	A6D10RA29AM233	A6D10RA29CM233	A6D10RA29EM233	A6D10RA29FM233
12	**2.720** 69.09	**2.470** 62.74	**2.157** 54.79	**2.036** 51.71	**1.716** 43.59	**0.420** 10.67	**0.240** 6.10	A6D12RA29AM233	A6D12RA29CM233	A6D12RA29EM233	A6D12RA29FM233
15	**3.188** 80.98	**2.938** 74.63	**2.625** 66.68	**2.504** 63.60	**2.184** 55.47	**0.420** 10.67	**0.240** 6.10	A6D15RA29AM233	A6D15RA29CM233	A6D15RA29EM233	A6D15RA29FM233
18	**3.656** 92.86	**3.406** 86.51	**3.093** 78.56	**2.972** 75.49	**2.652** 67.36	**0.420** 10.67	**0.240** 6.10	A6D18RA29AM233	A6D18RA29CM233	A6D18RA29EM233	A6D18RA29FM233
22	**4.280** 108.71	**4.030** 102.36	**3.717** 94.41	**3.596** 91.34	**3.276** 83.21	**0.420** 10.67	**0.240** 6.10	A6D22RA29AM233	A6D22RA29CM233	A6D22RA29EM233	A6D22RA29FM233
25	**4.748** 120.60	**4.498** 114.25	**4.185** 106.30	**4.064** 103.23	**3.744** 95.10	**0.420** 10.67	**0.240** 6.10	A6D25RA29AM233	A6D25RA29CM233	A6D25RA29EM233	A6D25RA29FM233
28	**5.216** 132.49	**4.966** 126.14	**4.653** 118.19	**4.532** 115.11	**4.212** 106.98	**0.420** 10.67	**0.240** 6.10	A6D28RA29AM233	A6D28RA29CM233	A6D28RA29EM233	A6D28RA29FM233
36	**6.464** 164.19	**6.214** 157.84	**5.901** 149.89	**5.780** 146.81	**5.460** 138.68	**0.420** 10.67	**0.240** 6.10	A6D36RA29AM233	A6D36RA29CM233	A6D36RA29EM233	A6D36RA29FM233
40	**7.088** 180.04	**6.838** 173.69	**6.525** 165.74	**6.404** 162.66	**6.084** 154.53	**0.420** 10.67	**0.240** 6.10	A6D40RA29AM233	A6D40RA29CM233	A6D40RA29EM233	A6D40RA29FM233
43	**7.556** 191.92	**7.306** 185.57	**6.993** 177.62	**6.872** 174.55	**6.552** 166.42	**0.420** 10.67	**0.240** 6.10	A6D43RA29AM233	A6D43RA29CM233	A6D43RA29EM233	A6D43RA29FM233

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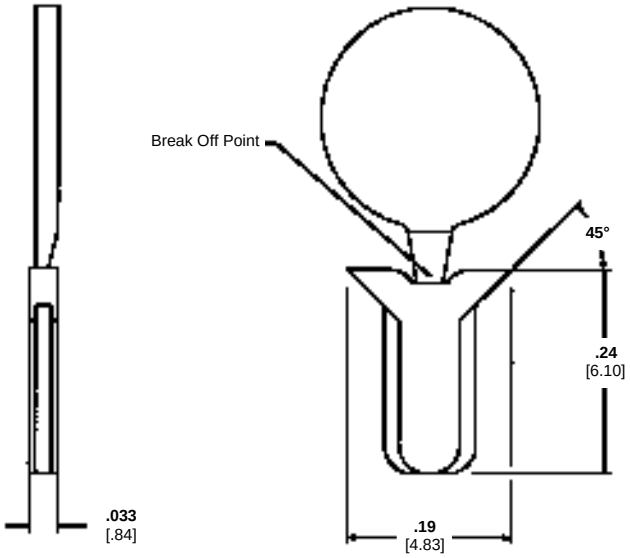
Card Edge Polarization Keys

Description/Application

Tyco Electronics can provide polarization keys in the basic configuration shown on this page. Our Modified Bellows and Cantilever Beam Series Card Edge Connectors use these keys. The part number and the connector series for which it was designed are listed in the table below.

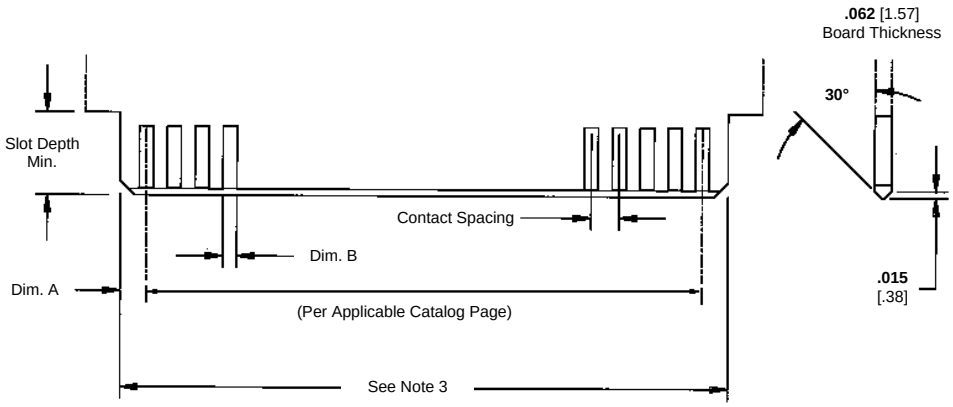


Ordering Information

Acquired Part Number	Used on Connector Series	Shown on Pages
98014-01	Modified Bellows	41-56
98014-01	Cantilever Beam	28-40

Card Edge Connectors Recommended Daughter Card Edge Pattern

Per MIL-C-21097E



Daughter Card

Contact Spacing Non-Accum.	Dim A ±.005 (.13)	Dim B
.100 [2.54]	.093 [2.36]	.052 [1.32]
.125 [3.18]	.093 [2.36]	.052 [1.32]
.156 [3.96]	.105* [2.67]	.094 [2.39]

* Except MIL-C-21097E 8–4 which is .070 [1.78]

NOTES:
1. Dimensions are in inches
2. Unless otherwise specified, tolerance is ±.005 [0.13 mm] for three place decimals.
3. Number of contact fingers shall be the same as the corresponding printed wiring connector.

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Low Profile Connectors

Product Facts

- **Low profile housing is .460 [11.68] deep**
- **6 through 43 dual positions on .156 [3.96] centerline; 6 though 50 dual positions on .125 [3.18] centerline**
- **Solder eyelet for wire-to-board or solder post for mother-daughter board application**
- **Selective gold plating of contact area for high performance at low cost**
- **Alternate platings are available on request**
- **Contacts bifurcated for redundancy**
- **Tin plate for high solderability of solder eyelets and posts**
- **Accepts .055-.070 [1.40-1.78] thick printed circuit boards**
- **Housings available with or without mounting ears**
- **Intercontact keying available**
- **UL 94V-0 rated, glass-filled polyester housings**
- **Variety of solder post lengths**
- **5 ampere current rating per contact***
- **Recognized under the Component Program of Underwriters Laboratories Inc. File No. E28476**

For printed circuit board packaging, AMP Low Profile Edge Connectors provide high performance, low cost connections on .125 [3.18] and .156 [3.96] centerline spacings. .100 [2.54] centerline connectors can be made available, consult Tyco Electronics.

Mounted connector housings extend only .460 [11.68] from the mother board to allow efficient use of available space.

These low profile connectors are available in 6 through 43 dual position sizes on .156 [3.96] centerline spacing and with 6 through 50 dual positions on .125 [3.18] centers. Connectors are supplied with either solder posts for mother-daughter board applications or solder eyelet contacts for wire-to-board use.

Low Profile Edge Connectors feature clear slot entry and accept .055-.070 [1.40-1.78] thick double-sided printed circuit boards. Solder posts are available with .150 [3.18] and .180 [4.57] long tails on .140 [3.56] or .200 [5.08] row-to-row spacing.

Impact-resistant thermoplastic housing, UL rated 94V-0, have molded-in cavity identification and are available with or without mounting ears. Additional features of the housings include intercontact keying provisions, probe slots and identification of number one position.

The precision formed contacts made of phosphor bronze are gold plated on the contact mating surface only. This selective plating provides high reliability while maintaining low cost. Solder eyelets and posts are tin plated for excellent solderability. The contact is bifurcated for redundancy. Shorting contacts are available.

All connector configurations are furnished preloaded. Selectively loaded connectors can be made available for added economy.

***Consult Tyco Electronicsengineering when paralleling contacts for power applications.**

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UK: 44-141-810-8967

Low Profile Connectors, .125 [3.18] Centerline

Material and Finish:

Housing—Green, glass-filled polyester

Contacts—Phosphor bronze, duplex plated .000030 [0.00076] gold in contact area; .000100 [0.00254] bright tin on posts, with entire contact underplated .000030 [0.00076] nickel

Related Product Data:

Keying Plug—page 63

PC Board Hole Layouts—See below

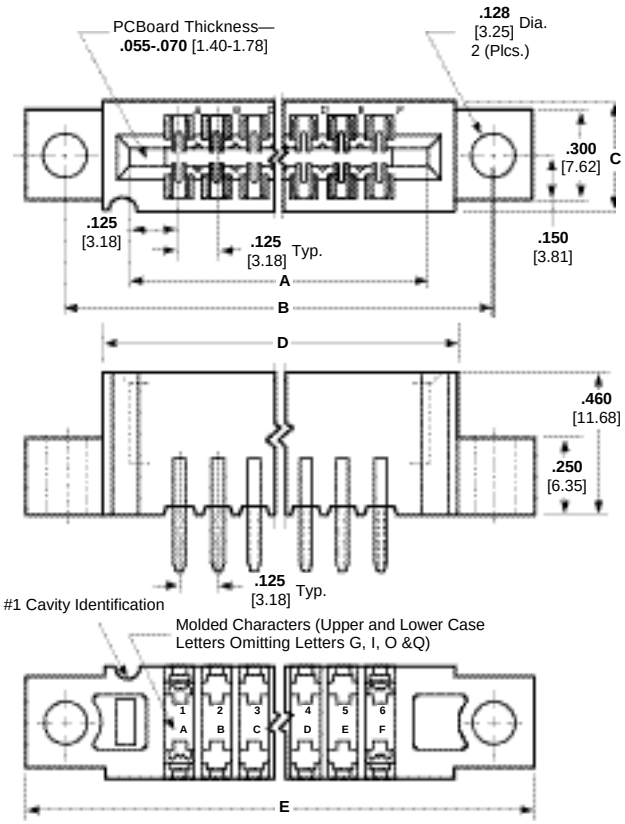
PC Board Edge Pattern—page 63

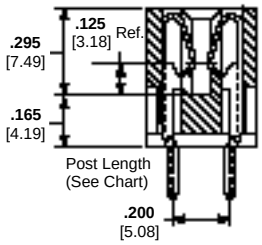
Technical Documents:

(pages 186, 187):

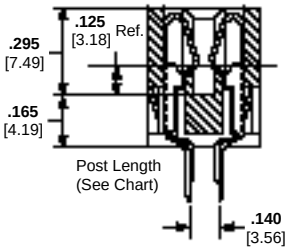
Product Specification
108-9044

Instruction Sheet 408-7772

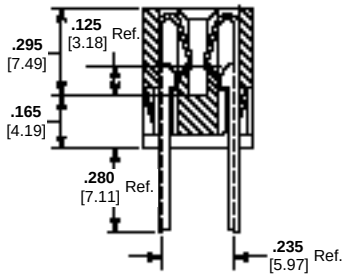




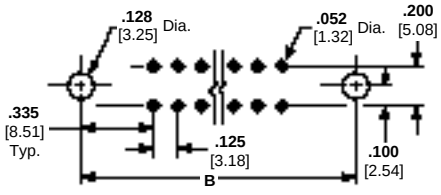
Flow Solder Post
.200 [5.08] Row-to-Row Spacing



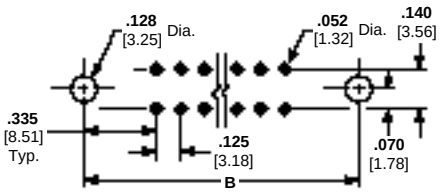
Flow Solder Post
.140 [3.56] Row-to-Row Spacing



Solder Eyelet Contact
.235 [5.97] Row-to-Row Spacing



Recommended
PC Board Hole Layout



Recommended
PC Board Hole Layout

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Low Profile Connectors, .125 [3.18] Centerline (Continued)

Flow Solder Post
.200 [5.08] Row-to-Row Spacing

No. of Dual Positions	Dimensions					Post Length*	With Mounting Ears	Without Mounting Ears
	A	B	C	D	E			
6	**.875** 22.23	—	**.370** 9.40	**1.035** 26.29	—	**.150**	—	2-530671-1
10	**1.375** 34.93	**1.795** 45.59	**.370** 9.40	**1.535** 38.99	**2.055** 52.20	**.150**	—	2-530671-2
						.180	2-530663-2	—
15	**2.000** 50.80	**2.420** 61.47	**.370** 9.40	**2.160** 54.86	**2.680** 68.07	**.150**	—	2-530671-3
18	**2.375** 60.33	**2.795** 70.99	**.370** 9.40	**2.535** 64.39	**3.055** 77.60	**.180**	2-530663-4	2-530671-4
22	**2.875** 73.03	**3.295** 83.69	**.370** 9.40	**3.035** 77.09	**3.555** 90.30	**.150**	2-530662-5	2-530671-5
24	**3.125** 79.38	—	**.370** 9.40	**3.285** 83.44	—	**.150**	—	3-530671-3
28	**3.625** 92.08	**4.045** 102.74	**.370** 9.40	**3.785** 96.14	**4.305** 109.35	**.150**	2-530662-6	2-530671-6
30	**3.875** 98.43	—	**.370** 9.40	**4.035** 102.49	—	**.150**	—	2-530671-7
36	**4.625** 117.48	**5.045** 128.14	**.370** 9.40	**4.785** 121.54	**5.305** 134.75	**.150**	—	2-530671-9
						.180	—	2-530672-9
40	**5.125** 130.18	**5.545** 140.84	**.437** 11.10	**5.285** 134.24	**5.805** 147.45	**.150**	—	3-530671-0
50	**6.375** 161.93	**6.795** 172.59	**.437** 11.10	**6.535** 165.99	**7.055** 179.20	**.150**	3-530662-2	—

Flow Solder Post
.140 [3.56] Row-to-Row Spacing

No. of Dual Positions	Dimensions					Post Length*	With Mounting Ears	Without Mounting Ears
	A	B	C	D	E			
15	**2.000** 50.80	—	**.370** 9.40	**2.160** 54.86	—	**.150**	—	2-530673-3
28	**3.625** 92.08	—	**.370** 9.40	**3.785** 96.14	—	**.150**	—	2-530673-6
						.180	2-530674-6	—
50	**6.375** 161.93	**6.795** 172.59	**.437** 11.10	**6.535** 165.99	**7.055** 179.20	**.180**	3-530659-2	—

Solder Eyelet Contact
.235 [5.97] Row-to-Row Spacing

No. of Dual Positions	Dimensions					With Mounting Ears
	A	B	C	D	E	
15	**2.000** 50.80	**2.420** 61.47	**.370** 9.40	**2.160** 54.86	**2.680** 68.07	2-530664-3
22	**2.875** 73.02	**3.295** 83.69	**.370** 9.40	**3.035** 77.08	**3.555** 90.29	2-530664-5
28	**3.625** 92.08	**4.045** 102.74	**.370** 9.40	**3.785** 96.14	**4.305** 109.35	2-530664-6
40	**5.125** 130.17	**5.545** 140.84	**.437** 11.10	**5.285** 134.23	**5.805** 147.44	3-530664-0
50	**6.375** 161.92	**6.795** 172.59	**.437** 11.10	**6.535** 165.98	**7.055** 179.19	3-530664-2

*Metric equivalents for post length are **.150** = [3.81]; **.180** = [4.57].

Note: Other connector sizes can be made available, consult Tyco Electronics.

Catalog 1654080
Issued 7-03

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Low Profile Connectors, .156 [3.96] Centerline

Material and Finish:

Housing—Green, glass-filled polyester

Contacts—Phosphor bronze, duplex plated .000030 [0.00076] gold in contact area; .000100 [0.00254] bright tin on posts, with entire contact underplated .000030 [0.00076] nickel

Insert—Brass

Related Product Data:

Keying Plug—page 63

PC Board Hole Layouts—See below

PC Board Edge Pattern—page 63

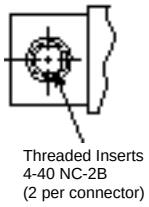
Technical Documents:

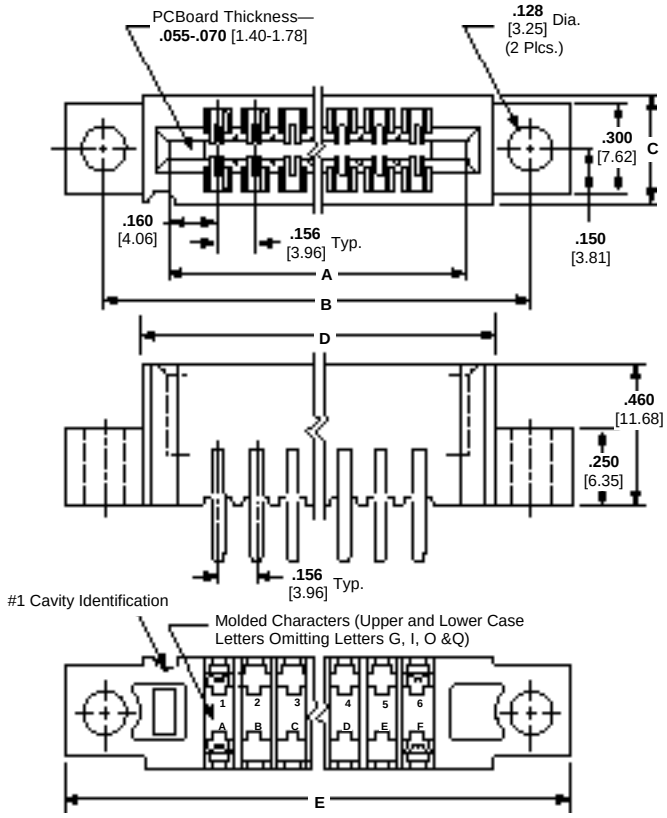
(pages 186, 187):

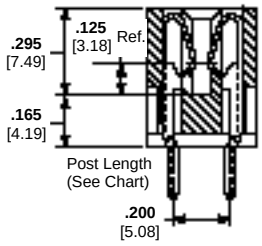
Product Specification
108-9044

Instruction Sheet 408-7772

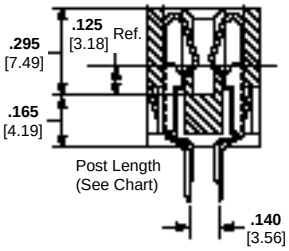
Mounting Ear with Insert



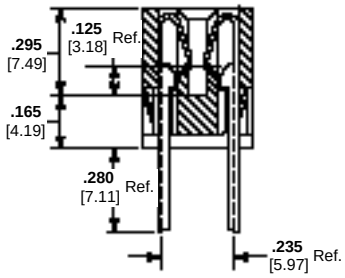




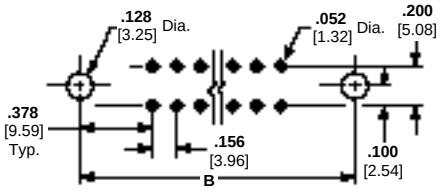
Flow Solder Post
.200 [5.08] Row-to-Row Spacing



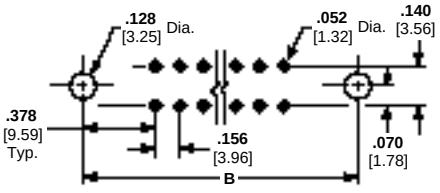
Flow Solder Post
.140 [3.56] Row-to-Row Spacing



Solder Eyelet Contact
.235 [5.97] Row-to-Row Spacing



Recommended
PC Board Hole Layout



Recommended
PC Board Hole Layout

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Low Profile Connectors, .156 [3.96] Centerline (Continued)

Flow Solder Post
.200 [5.08] Row-to-Row Spacing

No. of Dual Positions	Dimensions A	B	C	D	E	Post Length*	With Mounting Ears	With Mounting Ears and Inserts	Without Mounting Ears
6	**1.100** 27.94	**1.535** 38.99	**.370** 9.40	**1.240** 31.50	**1.785** 45.34	**.150**	2-530655-1	2-530677-1	—
							2-530689-1[1]	—	2-530666-1
10	**1.724** 43.79	**2.159** 54.84	**.370** 9.40	**1.864** 47.35	**2.409** 61.19	**.150**	2-530655-2	—	2-530666-2
						.180	2-530656-2	—	—
12	**2.036** 51.71	**2.471** 62.76	**.370** 9.40	**2.176** 55.27	**2.721** 69.11	**.150**	2-530655-3	—	2-530666-3
15	**2.504** 63.60	**2.939** 74.65	**.370** 9.40	**2.644** 67.16	**3.189** 81.00	**.150**	2-530655-4	—	2-530666-4
							2-530689-4[1]	—	—
18	**2.972** 75.49	**3.407** 86.54	**.370** 9.40	**3.112** 79.04	**3.657** 92.89	**.150**	2-530655-5	—	2-530666-5
						.180	—	—	2-530667-5
22	**3.596** 91.34	**4.031** 102.39	**.370** 9.40	**3.736** 94.89	**4.281** 108.74	**.150**	2-530655-6	—	2-530666-6
							2-530689-6[1]	—	531433-4[1]
						.180	2-530656-6	2-530678-6	2-530667-6
25	**4.064** 103.23	**4.499** 114.27	**.370** 9.40	**4.204** 106.78	**4.749** 120.62	**.150**	2-530655-8	—	531433-1[1]
						.180	2-530656-8	—	2-530666-8
28	**4.532** 115.11	**4.967** 126.16	**.370** 9.40	**4.672** 118.67	**5.217** 132.51	**.150**	3-530655-2	—	3-530666-2
						.180	3-530656-2	—	—
30	**4.844** 123.04	**5.279** 134.09	**.437** 11.10	**4.984** 126.59	**5.529** 140.44	**.150**	2-530655-9	—	2-530666-9
							2-530689-9[1]	—	—
						.180	—	—	2-530667-9
36	**5.780** 146.18	**6.215** 157.86	**.437** 11.10	**5.920** 150.37	**6.465** 164.21	**.150**	3-530655-0	—	531433-2[1]
						.180	3-530689-0[1]	—	2-530667-0
43	**6.872** 174.55	**7.307** 185.60	**.437** 11.10	**7.012** 178.10	**7.557** 191.95	**.150**	3-530655-3	3-530677-3	3-530666-3
						.180	3-530656-3	—	3-530667-3

Flow Solder Post
.140 [3.56] Row-to-Row Spacing
and
Solder Eyelet Contact
.235 [5.97] Row-to-Row Spacing

No. of Dual Positions	Dimensions A	B	C	D	E	Post Length*	Flow Solder Post With Mounting Ears	Flow Solder Post Without Mounting Ears	Solder Eyelet Contact With Mounting Ears	Solder Eyelet Contact Without Mounting Ears
6	**1.100** 27.94	**1.535** 38.99	**.370** 9.40	**1.240** 31.50	**1.785** 45.34	**.150**	—	—	2-530654-1	—
10	**1.724** 43.79	**2.159** 54.84	**.370** 9.40	**1.864** 47.35	**2.409** 61.19	**.150**	2-530657-2	—	2-530654-2	—
15	**2.504** 63.60	**2.939** 74.65	**.370** 9.40	**2.644** 67.16	**3.189** 81.00	**.150**	2-530657-4	—	2-530654-4	2-530667-4
						.180	—	2-530669-4	—	—
18	**2.972** 75.49	**3.407** 86.54	**.370** 9.40	**3.112** 79.04	**3.657** 92.89	**.150**	—	2-530668-5	2-530654-5	—
22	**3.596** 91.34	**4.031** 102.39	**.370** 9.40	**3.736** 94.89	**4.281** 108.74	**.150**	2-530657-6	2-530668-6	2-530654-6	—
24	**3.908** 99.26	**4.343** 110.31	**.370** 9.40	**4.048** 102.81	**4.593** 116.66	**.150**	—	—	2-530654-7	—
28	**4.532** 115.11	**4.967** 126.16	**.370** 9.40	**4.672** 118.67	**5.217** 132.51	**.150**	3-530657-2	3-530668-2	3-530654-2	—
30	**4.844** 123.04	**5.279** 134.09	**.437** 11.10	**4.984** 126.59	**5.529** 140.44	—	—	—	2-530654-9	—
36	**5.780** 146.81	**6.215** 155.58	**.437** 11.10	**5.920** 150.36	**6.465** 164.21	**.150**	—	—	3-530654-0	—
						.180	—	3-530669-0	—	—
43	**6.872** 174.55	**7.307** 185.60	**.437** 11.10	**7.012** 178.10	**7.557** 191.95	**.150**	3-530657-3	—	3-530654-3	—

*Metric equivalents for post length are **.150** = [3.81]; **.180** = [4.57].

[1]For **.040** [1.02] diameter hole.

Note: Other connector sizes can be made available, consult Tyco Electronics.

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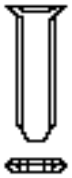
Low Profile Connectors (Continued)

Keying Plug

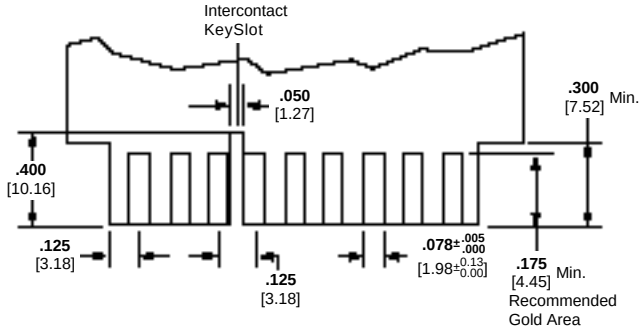
Material: Glass-filled nylon
Part No. 650025-2

Intercontact Key

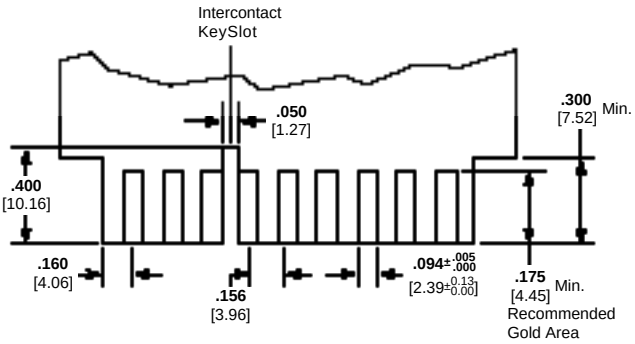


Recommended PC Board Edge Patterns

.125 [3.18] Centerline Boards



.156 [3.96] Centerline Boards



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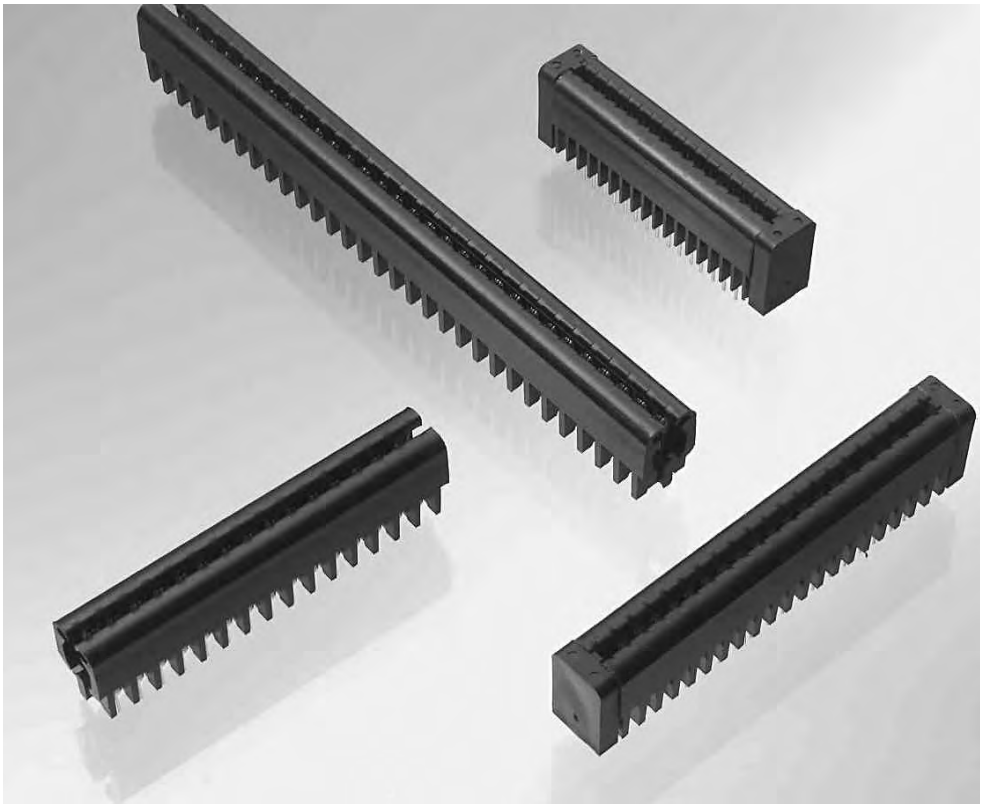
Twin Leaf Mother Board Connectors

Product Facts

- **Wide variety of sizes available from 3 dual positions and up—no initial tooling investment required for new versions**
- **Connectors can be selectively loaded with contacts in custom patterns**
- **Connectors tooled on all standard centerlines—.100 [2.54], .125 [3.18], .150 [3.81], .156 [3.96], and .200 [5.08]**

  Note: .200 [5.08] centerline capabilities provided by loading every-other dual position of .100 [2.54] centerline housings.
- **Closed card entry protects contacts and daughter board pads**
- **Adapts to a wide range of mother board thicknesses to .104 [2.64] maximum**
- **Phosphor bronze contacts selectively plated for top performance and maximum economy**
- **Protective channel helps prevent overstress of contacts**
- **Daughter board keying available in intercontact or on-contact styles**
- **Recognized under the Component Program of Underwriters Laboratories Inc., File No. E28476**



The AMP Twin Leaf Connector is a highly reliable, low-cost mother/daughter board connector designed for solid-state circuitry. The one-piece, multi-contact connector requires no front-end tooling.

This versatile connector for double-sided printed circuit boards uses preloaded contacts and selective plating to give lowest applied cost. Critical contact areas are gold-over-nickel plated to provide positive electrical connection between contacts and daughter board pads. Contact posts are tin plated for efficient dip soldering to mother boards up to .104 [2.64] thick.

The Twin Leaf Connector delivers high reliability because the contacts possess superior tolerance of environmental stresses including shock, vibration and variations of temperature and humidity. Other characteristics such as high insulation resistance, low termination resistance, long life and moderate contact separation force meet industry requirements for reliability. Connectors are tooled in sizes from 3 through 80 dual-contact positions with contacts on .100 [2.54], .125 [3.18], .150 [3.81], .156 [3.96] or .200 [5.08] centers. Other sizes and custom-loaded contact patterns are available on request.

The connector housing, made of glass-filled polyester with a UL 94V-0 rating, features a standoff which facilitates the use of a probe for electrical continuity checks without risk of damage to the contacts. A closed card-entry design of the housing protects the contacts and daughter board pads. Housings accept daughter boards ranging from .055 [1.40] to .070 [1.78] in thickness.

Intercontact and on-contact keys are available for polarization of the housings. Card guides or end caps make alignment of daughter board pads with Twin Leaf Connector contacts quick and easy.

Performance Specifications

Contact Rating*:
3 amperes continuous

Temperature Rating:
–55°C to +105°C

Insulation Resistance:
5,000 megohms

Dielectric Withstanding Voltage:

Altitude	Test Voltage (AC, RMS)	
	Contact Spacing	
	.100 [2.54]	.150 [3.81]
Sea Level	1,000	1,500
50,000 ft 15 240 m	400	600
70,000 ft 21 336 m	280	400

Termination Resistance:
10 milliohms, max.

Durability: Tested to 100 cycles (engage/withdraw)

Contact Plating: .000015 [0.00038] selective gold plating on contact area; bright tin on solder tine

***Consult Tyco Electronics engineering when paralleling contacts for power applications.**

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Twin Leaf Mother Board Connectors Without End Caps

.100 [2.54], .125 [3.18], .150 [3.81] and .156 [3.96] Centerlines, With Solder Posts

Material and Finish:

Housing—Glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated .000015 [0.00038] gold in contact area; tin on posts, with entire contact underplated .000030 [0.00076] nickel, except where noted

Related Product Data:

Performance Specifications—page 64

Card Guides—pages 70, 71

Keying Plugs—page 72

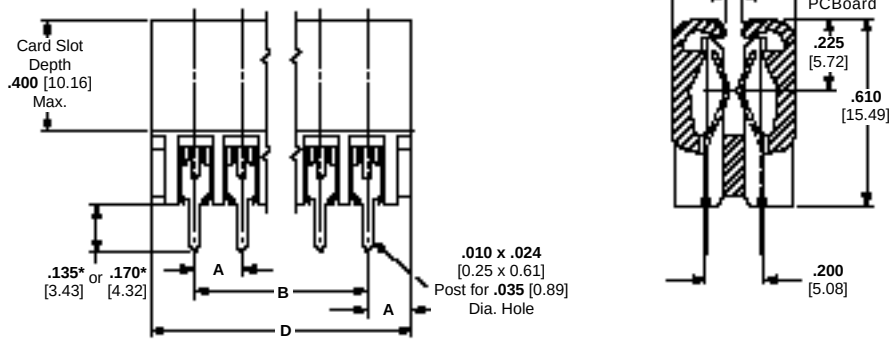
PC Board Hole Layouts—page 71

Technical Documents:

(pages 186, 187):

Product Specification 108-9027

Instruction Sheets 408-7479, 408-7498, 408-7506



*Post length: **.135** [3.43] for **.150** [3.81] and **.156** [3.96] centerlines, except where noted;
.170 [4.32] for **.100** [2.54] and **.125** [3.18] centerlines, except where noted.

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Twin Leaf Mother Board Connectors Without End Caps

No. of Dual Positions	A = .100 [2.54] Centerline Spacing			A = .125 [3.18] Centerline Spacing			A = .150 [3.81] Centerline Spacing			A = .156 [3.96] Centerline Spacing		
	B	D	Part Numbers	B	D	Part Numbers	B	D	Part Numbers	B	D	Part Numbers
2	—	—	—	—	—	—	**.300** 7.62	**.600** 15.24	1-583694-1	—	—	—
3	**.200** 5.08	**.400** 10.16	583485-6	—	—	—	**.300** 7.62	**.600** 15.24	645155-1[1,3]	**.312** 7.92	**.624** 15.85	4-583486-8
4	—	—	—	—	—	—	**.450** 11.43	**.750** 19.05	583407-5	—	—	—
5	**.400** 10.16	**.600** 15.24	583485-7	—	—	—	**.600** 15.24	**.900** 22.86	583407-6	—	—	—
8	—	—	—	—	—	—	**1.050** 26.67	**1.350** 34.29	583407-9	—	—	—
9	—	—	—	**1.000** 25.40	**1.250** 31.75	583533-7	—	—	—	—	—	—
10	**.900** 22.86	**1.100** 27.94	1-583485-2	—	—	—	—	—	—	**1.400** 35.56	**1.720** 43.69	4-583486-1
11	—	—	—	—	—	—	**1.500** 38.10	**1.800** 45.72	1-583407-2	—	—	—
14	**1.300** 33.02	**1.500** 38.10	1-583485-6	—	—	—	—	—	—	—	—	—
15	—	—	—	—	—	—	**2.100** 53.34	**2.400** 60.96	1-583407-5	—	—	—
18	—	—	—	**2.125** 53.97	**2.375** 60.32	1-583533-6	—	—	—	**2.652** 67.36	**2.964** 75.28	3-583486-3
20	—	—	—	—	—	—	**2.850** 72.39	**3.150** 80.01	2-583407-0 530292-9[3]	—	—	—
22	—	—	—	**2.625** 66.67	**2.875** 73.02	2-583533-0	—	—	—	—	—	—
28	—	—	—	—	—	—	**4.050** 102.87	**4.350** 110.49	583407-1	**4.212** 106.99	**4.524** 114.91	2-583486-3
30	—	—	—	**3.625** 92.08	**3.875** 98.43	531534-2[2]	—	—	—	**4.524** 114.91	**4.836** 122.83	2-583486-1
31	—	—	—	—	—	—	**4.500** 53.34	**4.800** 60.96	530292-3[3]	—	—	—
33	—	—	—	—	—	—	—	—	—	**4.992** 126.80	**5.304** 134.72	1-583486-8
36	—	—	—	—	—	—	—	—	—	**5.460** 138.68	**5.772** 146.61	1-583486-5
40	—	—	—	**4.875** 123.83	**5.125** 130.18	3-583533-8	**5.850** 148.59	**6.150** 156.21	3-583407-8	**6.084** 154.53	**6.396** 162.46	1-583486-1
43	—	—	—	—	—	—	—	—	—	**6.552** 166.42	**6.864** 174.35	583486-8
50	**4.900** 124.46	**5.100** 129.54	583485-3	**6.130** 155.70	**6.380** 162.05	5-583533-0[1]	**7.350** 186.69	**7.650** 194.31	4-583407-8	**7.640** 194.06	**7.960** 202.18	583486-1
56	—	—	—	—	—	—	—	—	—	**8.580** 217.93	**8.892** 225.86	5-583486-0
65	**6.400** 162.56	**6.600** 167.64	5-583485-6	—	—	—	—	—	—	—	—	—
80	**7.900** 200.66	**8.100** 205.74	5-583485-5	—	—	—	—	—	—	—	—	—

[1]Contacts are plated .000030 [0.00076] gold in contact area, tin on posts, with entire contact underplated .000030 [0.00076] nickel.
[2]Post length **.135** [3.43]
[3]Post length **.170** [4.32]

Note: Other connector sizes can be made available, consult Tyco Electronics.

Catalog 1654080
Issued 7-03

www.tycoelectronics.com

Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

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C. America: 52-55-5-729-0425

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Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Twin Leaf Mother Board Connectors With End Caps

.100 [2.54], .125 [3.18], .150 [3.81] and .156 [3.96] Centerlines, With Solder Posts

Material and Finish:

Housing—Glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated .000015 [0.00038] gold in contact area; tin on posts, with entire contact underplated .000030 [0.00076] nickel

Related Product Data:

Performance Specifications—page 64

Keying Plugs—page 72

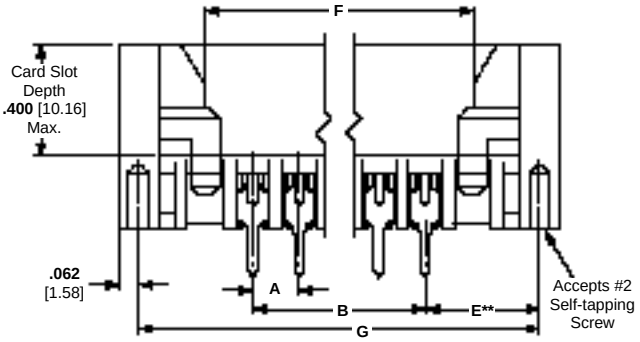
PC Board Hole Layouts—page 71

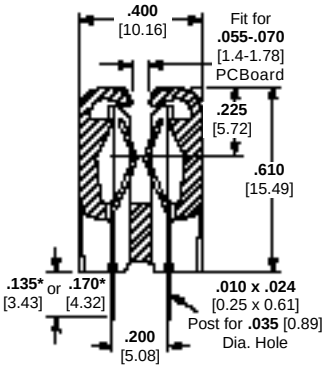
Technical Documents:

(pages 186, 187):

Product Specification 108-9027

Instruction Sheets 408-7479, 408-7498, 408-7506





*Post length: **.135** [3.43] for **.150** [3.81] and **.156** [3.96] centerlines; **.170** [4.32] for **.100** [2.54] and **.125** [3.18] centerlines.

**See page 27 for dimensions.

Catalog 1654080
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Twin Leaf Mother Board Connectors With End Caps

No. of Dual Pos.	A = .100 [2.54] Centerline Spacing				A = .125 [3.18] Centerline Spacing				A = .150 [3.81] Centerline Spacing				A = .156 [3.96] Centerline Spacing			
	B	F	G	Part Numbers	B	F	G	Part Numbers	B	F	G	Part Numbers	B	F	G	Part Numbers
3	.200 5.03	.400 10.16	.734 18.64	583715-1	—	—	—	—	—	—	—	—	—	—	—	—
5	.400 10.16	.600 15.24	.934 23.72	583715-3	—	—	—	—	—	—	—	—	—	—	—	—
6	.500 12.70	.700 17.78	1.034 26.26	583715-4	.625 15.88	.875 22.23	1.259 31.96	583679-5	—	—	—	—	.780 19.81	1.092 27.74	1.538 39.07	583660-6
7	.600 15.24	.800 20.32	1.134 28.80	583715-5	—	—	—	—	—	—	—	—	—	—	—	—
9	.800 20.32	1.000 25.40	1.334 33.88	583715-7	—	—	—	—	—	—	—	—	—	—	—	—
10	.900 22.86	1.100 27.94	1.434 36.42	583715-8	—	—	—	—	—	—	—	—	1.404 35.66	1.716 43.59	2.162 54.91	1-583660-0
12	1.100 27.94	1.300 33.02	1.634 41.50	1-583715-0	—	—	—	—	—	—	—	—	1.716 43.58	2.028 51.51	2.474 62.84	1-583660-2
13	1.200 30.48	1.400 35.56	1.734 44.04	1-583715-1	—	—	—	—	—	—	—	—	—	—	—	—
14	—	—	—	—	—	—	—	—	1.950 49.53	2.250 57.15	2.684 68.17	1-583692-3	2.028 51.51	2.340 59.44	2.786 70.76	1-583660-4
15	1.400 35.56	1.600 40.64	1.934 49.12	1-583715-3	—	—	—	—	2.100 53.34	2.400 60.96	2.834 71.98	1-583692-4	2.184 55.47	2.496 63.40	2.942 74.73	583660-2
17	1.600 40.64	1.800 45.72	2.134 54.20	1-583715-5	2.000 50.80	2.250 57.15	2.634 66.90	1-583679-6	—	—	—	—	—	—	—	—
18	1.700 43.18	1.900 48.26	2.234 56.74	1-583715-6	2.125 53.98	2.375 60.33	2.759 70.08	1-583679-7	—	—	—	—	2.652 67.36	2.964 75.28	3.410 86.61	1-583660-7
20	1.900 48.26	2.100 53.34	2.434 61.82	1-583715-8	2.375 60.33	2.625 66.68	3.009 76.43	1-583679-9	—	—	—	—	—	—	—	—
22	—	—	—	—	—	—	—	—	—	—	—	—	3.276 83.21	3.588 91.14	4.034 102.46	2-583660-1
25	2.400 60.96	2.600 66.04	2.934 74.52	2-583715-3	3.000 76.20	3.250 82.55	3.634 92.30	2-583679-4	3.600 91.44	3.900 99.06	4.334 110.08	2-583692-4	3.744 95.10	4.065 103.02	4.502 114.35	2-583660-4
26	2.500 63.50	2.700 68.58	3.034 77.05	2-583715-4	—	—	—	—	—	—	—	—	—	—	—	—
28	2.700 68.58	2.900 73.66	3.234 82.14	2-583715-6	3.375 85.73	3.625 92.08	4.009 101.83	2-583679-6	—	—	—	—	4.212 106.98	4.524 114.91	4.979 126.24	2-583660-7
30	2.900 73.66	3.100 78.74	3.434 87.22	2-583715-8	—	—	—	—	4.350 110.49	4.650 118.11	5.084 129.13	583692-1	4.524 114.91	4.836 122.83	5.282 134.16	2-583660-9
31	3.000 76.20	3.200 81.28	3.534 89.76	2-583715-9	—	—	—	—	—	—	—	—	—	—	—	—
32	3.100 78.74	3.300 83.82	3.634 92.30	3-583715-0	—	—	—	—	—	—	—	—	4.836 122.83	5.148 130.76	5.594 142.09	3-583660-1
33	—	—	—	—	—	—	—	—	4.800 121.92	5.100 129.54	5.534 140.56	3-583692-1	—	—	—	—
34	3.300 83.82	3.500 88.90	3.834 97.38	3-583715-2	—	—	—	—	—	—	—	—	—	—	—	—
35	3.400 83.36	3.600 91.44	3.934 99.92	3-583715-3	—	—	—	—	5.100 129.54	5.400 137.16	5.834 148.18	3-583692-3	5.304 134.72	5.616 142.64	6.062 153.97	3-583660-4
36	3.500 88.90	3.700 93.98	4.034 102.46	3-583715-4	—	—	—	—	5.250 133.35	5.550 140.97	5.984 151.99	3-583692-4	5.460 138.68	5.772 146.61	6.218 157.94	583660-1
40	3.900 99.06	4.100 104.14	4.434 112.62	3-583715-8	4.875 123.83	5.125 130.18	5.509 139.93	3-583679-8	5.850 148.59	6.150 156.21	6.584 167.23	3-583692-8	—	—	—	—
41	4.000 101.60	4.200 106.68	4.534 115.16	3-583715-9	—	—	—	—	—	—	—	—	—	—	—	—
43	—	—	—	—	—	—	—	—	—	—	—	—	6.552 166.42	6.864 174.35	7.310 185.67	4-583660-1
50	4.900 124.46	5.100 129.54	5.434 138.02	4-583715-8	6.125 155.58	6.375 161.93	6.759 171.68	4-583679-8	7.350 186.69	7.650 194.31	8.084 205.33	4-583692-8	7.644 194.16	7.956 202.08	8.402 213.41	4-583660-8
80	7.900 200.66	8.100 205.74	8.434 214.22	5-583715-7	—	—	—	—	—	—	—	—	—	—	—	—

Note: Other connector sizes can be made available, consult Tyco Electronics.

Catalog 1654080
Issued 7-03

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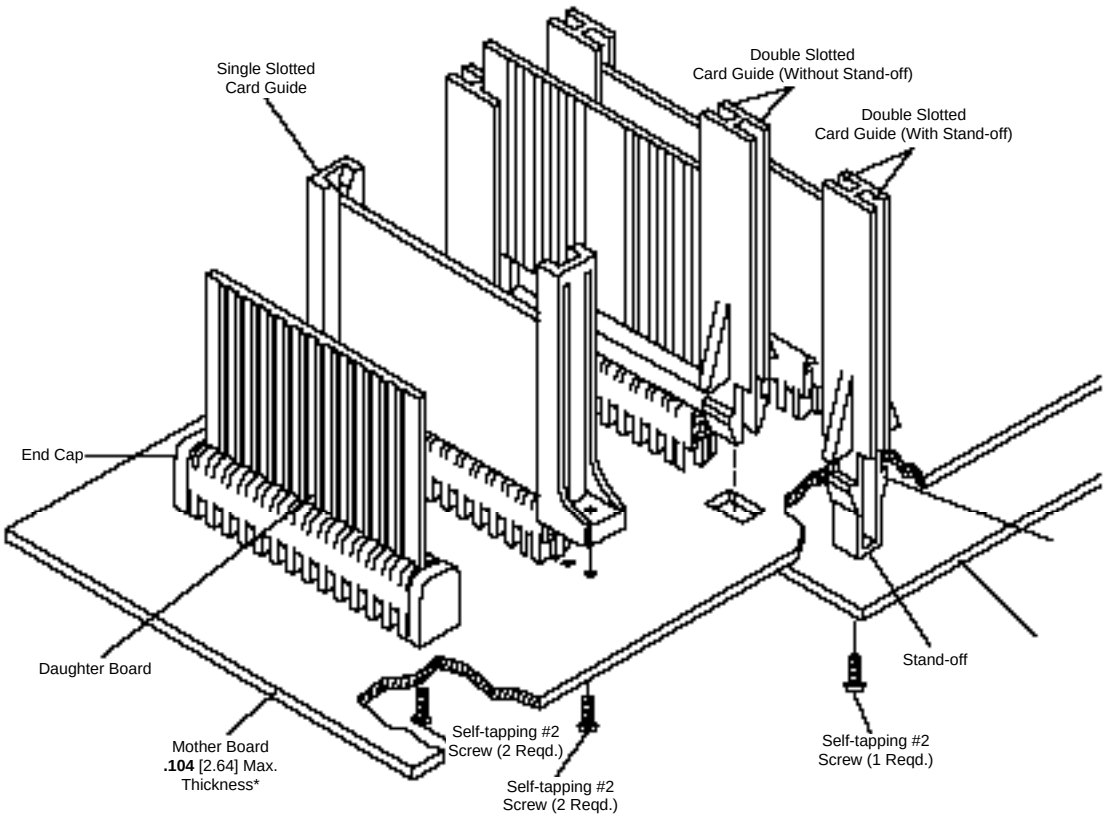
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Twin Leaf Mother Board Connectors With End Caps (Continued)

Typical Connector and Card Guide Assembly



*Must be **.063** [1.59] thick for use with Double Slotted Card Guides.

Catalog 1654080
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UK: 44-141-810-8967

Twin Leaf Mother Board Connectors (Continued)

Card Guides

Material: Glass-filled nylon, black

Part No. 583671-1

Related Product Data:

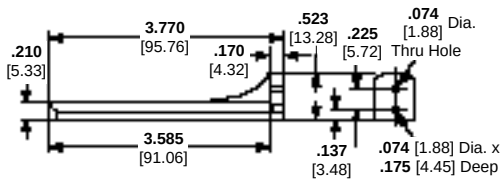
Connectors used with—page 65

Technical Documents:

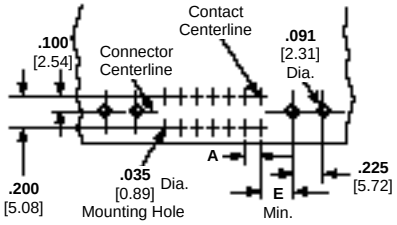
(pages 186, 187):

Instruction Sheets 408-7498, 408-7506

Single Slotted



Single Slotted Card Guide and Connector Mounting



Dimensions	
A	E
.100 2.54	.263 6.68
.125 3.18	.288 7.31
.150 3.81	.313 7.95
.156 3.96	.319 8.10

Catalog 1654080
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Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Twin Leaf Mother Board Connectors (Continued)

Card Guides
(Continued)

Material: Nylon, natural

Part No. 583425-1

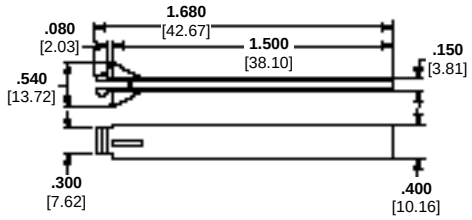
Related Product Data:

Connectors used with—page 65

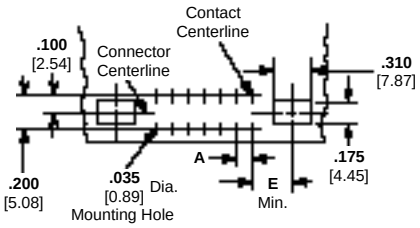
Technical Documents:
(pages 186, 187):

Instruction Sheets 408-7498, 408-7506

Double Slotted Without Stand-off



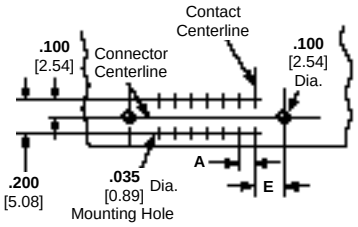
Double Slotted Card Guide and Connector Mounting



Dimensions	
A	E
.100 2.54	.328 8.33
.125 3.18	.353 8.96
.150 3.81	.376 9.60
.156 3.96	.384 9.75

Note: Mother Board must be **.063** [1.59] thick for use with Double Slotted Card Guides.

Recommended PC Board Layout for Connectors With End Caps



Dimensions	
A	E
.100 2.54	.267 6.78
.125 3.18	.317 8.05
.150 3.81	.367 9.32
.156 3.96	.379 9.62

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UK: 44-141-810-8967

Twin Leaf Mother Board Connectors (Continued)

Keying Plugs

Material: Nylon, natural

Technical Documents:
(pages 186, 187):
Instruction Sheet 408-7479

Type A

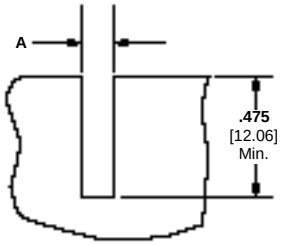
Type B

Intercontact

On-Contact

In-Row Contact Spacing	Type of Contact	Connector Style* with End Caps	Connector Style* without End Caps	Intercontact Keying Plug Type A Part Numbers	Intercontact Keying Plug Type B Part Numbers	Intercontact Keying Plug Insertion/Extraction Tool	On-Contact Keying Plug Part Numbers	On-Contact Keying Plug Insertion/Extraction Tool
.100 2.54	Solder Post	583715	583485	530286-3	—	91081-2	583714-1	91088-1
	Card Extender	530268	530291					
.125 3.18	Solder Post	583679	583533	530286-2	530030-1	91081-1	583714-1	91088-1
	Card Extender	530265	530290					
.150 3.81	Solder Post	583692	583407	530286-2	530030-1	91081-1	—	—
	Wrap-Type Post	583754	583752					
	Card Extender	530278	530270					
.156 3.96	Solder Post	583660	583486	530286-2	530030-1	91081-1	—	—
	Wrap-Type Post	583755	583753					
	Card Extender	530267	530282					

*Refer to pages 66-68, as applicable, for specific connector sizes.



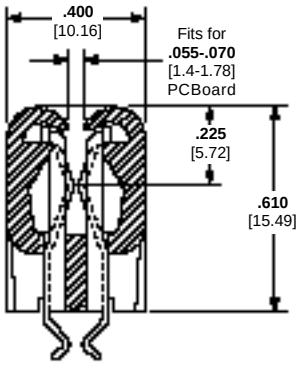
Connector Centerlines	Dimension A Intercontact	Dimension A On-Contact
.100 2.54	**.040** 1.02	**.129** 3.28
.125 3.18	**.050** 1.27	**.129** 3.28
.150 3.81	**.050** 1.27	**.160** 4.06
.156 3.96	**.050** 1.27	**.160** 4.06

Recommended PC Board Cutout for Keying Plugs

Other Twin Leaf Mother Board Connectors

For more information on the connectors shown here, consult Tyco Electronics.

Card Extender Connectors



Connectors With End Caps

Centerlines	Part Number Series*
.150 3.81	530278
.156 3.96	530267

*Consult Tyco Electronicsfor specific connector sizes.

Catalog 1654080
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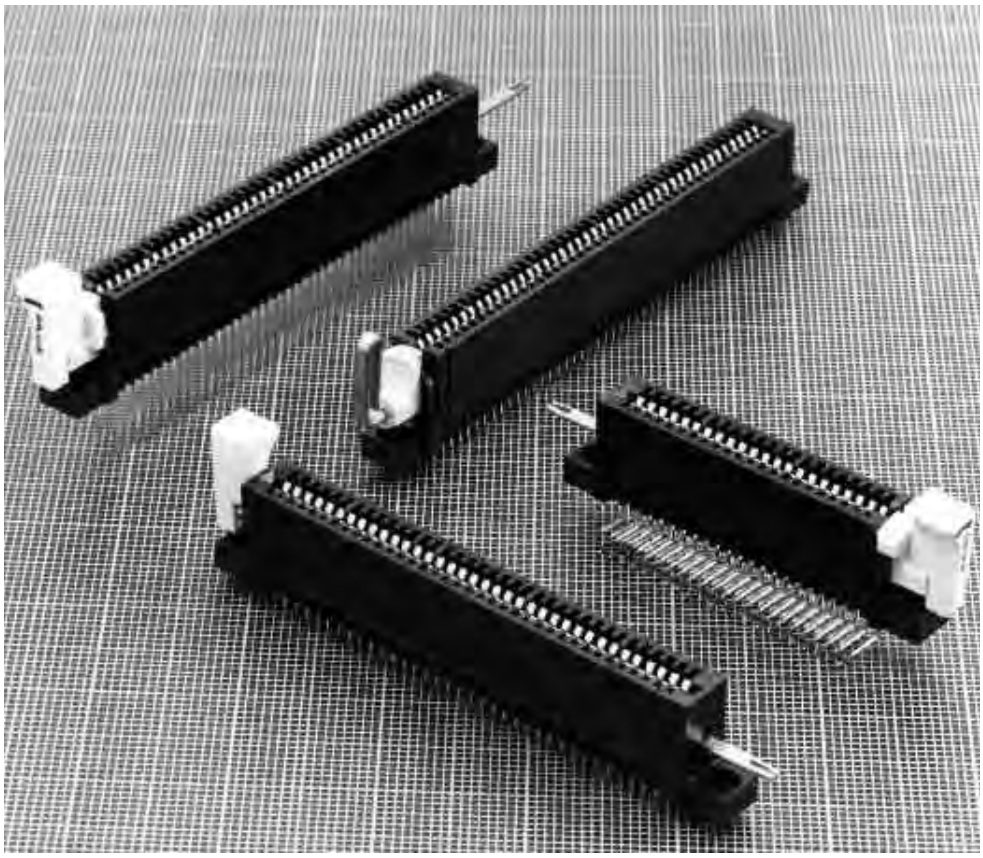
UK: 44-141-810-8967

Rotary Cam ZIF Connectors

Product Facts

- **Zero insertion force; little or no effort required to insert and withdraw PC boards**
- **Reduced pad wear for extended board life**
- **Allows all four sides of board to be used for input/output functions**
- **Accepts double-sided boards**
- **Three contact styles to choose from: vertical solder post, right-angle solder post and wrap-type post (2 and 3 high)**
- **Available in .100 [2.54], .125 [3.18] and .156 [3.96] centerlines**
- **Three configurations available: open one end, open both ends and closed both ends**
- **Products indicated are recognized under the Component Program of Underwriters Laboratories Inc., File No. E28476**



Performance Specifications

Current vs. Temperature Rise*: 3 amperes at 30°C

Operating Temperature: –55°C to +105°C

Contact Resistance: 20 milliohms max.

Durability: Tested to 5000 cycles

AMP Rotary Cam Zero Insertion Force (ZIF) Card Edge Connectors are available in sizes to fit most industry-standard printed circuit boards. A clockwise rotation of the cam handle opens contacts to allow zero-force insertion or removal of PC boards—even boards with a large number of contacts. Turning the cam handle to close the connector locks the board securely in place. Rotary Cam ZIF Connectors accept double-sided PC boards .054-.070 [1.37-1.78] thick, with contact centerline intervals of .100 [2.54], .125 [3.18] and .156 [3.96]. Row-to-row spacing of connector posts is .200 [5.08] for .100 [2.54] and .156 [3.96] connectors and .250 [6.35] for .125 [3.18] connectors.

Contacts are nickel underplated phosphor bronze with gold plate in the contact area and tin-lead plated posts. Contact configurations include vertical and right-angle solder posts and wrap-type posts. Preassembled connectors feature housings made from 94V-0 rated glass-filled polyester and mounting ears for easy mounting to the mother board. Housings are available with one end open, both ends open and both ends closed for side and top daughter board insertion. Integral board locks secure boards in the connectors. Accessories include dust covers, cam rods (with and without boots) and cam keys for nut-driver actuation and for tandem operation of connectors.

***Consult Tyco Electronicsengineering when paralleling contacts for power applications.**

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UK: 44-141-810-8967

Rotary Cam ZIF Connectors, .100 x .200 [2.54 x 5.08] Centerline

Vertical Connector, Solder Post Terminals

Material and Finish:

Housing—Glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated .000030 [0.00076] gold per MIL-G-45204 in contact area; .000100 [0.00254] tin-lead per MIL-P-81728 on post with entire contact underplated .000050 [0.00127] nickel per QQ-N-290

Related Product Data:

Board Lock Feature—On connectors open one end and open both ends

Daughter PC Board—.054-.070 [1.37-1.78] thick

Performance Specifications—page 73

Dust Cover—page 79

PC Board Hole Layout and Edge Patterns—pages 81, 82

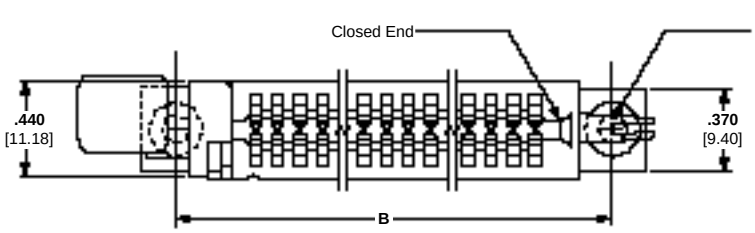
Special Application—pages 82, 96

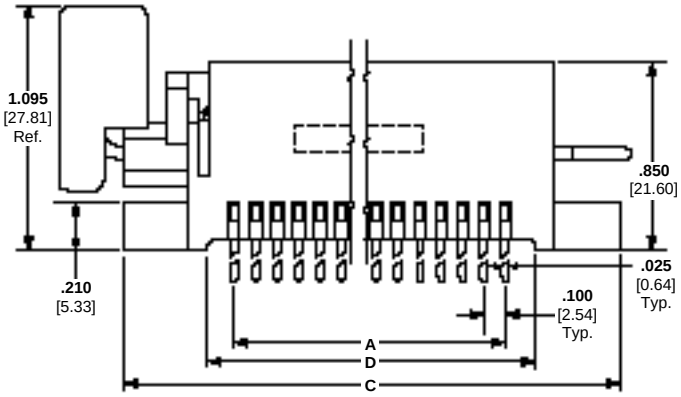
Technical Documents:

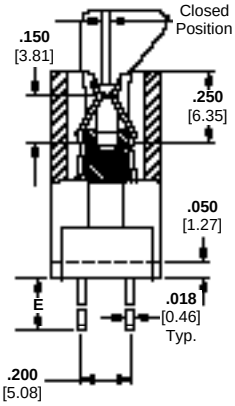
(pages 186, 187):

Product Specification 108-9048

Instruction Sheet 408-7911







No. of Dual Positions	Dimensions					Part Numbers		
	A	B	C	D	E*	Open One End[1]	Open Both Ends[1]	Closed Both Ends
22	**2.100** 53.34	**2.800** 71.12	**3.100** 78.74	**2.300** 58.42	**.125**	531020-1	—	531019-1
					.160	1-531020-1	—	—
25	**2.400** 60.96	**3.100** 78.74	**3.400** 86.36	**2.600** 66.04	**.125**	531020-2	—	531019-2
					.160	1-531020-2	—	—
28	**2.700** 68.58	**3.400** 86.36	**3.700** 93.98	**2.900** 73.66	**.160**	1-531020-3	—	—
31	**3.000** 76.20	**3.700** 93.98	**4.000** 101.60	**3.200** 81.28	**.160**	2-531020-1	—	—
36	**3.500** 88.90	**4.200** 106.68	**4.500** 114.30	**3.700** 93.98	**.125**	3-531020-2	—	531019-4
					.160	1-531020-4	—	—
40	**3.900** 99.06	**4.600** 116.84	**4.900** 124.46	**4.100** 104.14	**.125**	531020-5	—	—
					.160	1-531020-5	—	—
43	**4.200** 106.68	**4.900** 124.46	**5.200** 132.08	**4.400** 111.76	**.125**	3-531020-3	—	—
					.160	1-531020-7	—	—
						2-531020-8[2]	—	—
50	**4.900** 124.46	**5.600** 142.24	**5.900** 149.86	**5.100** 129.54	**.125**	531020-8	531021-8	—
					.160	1-531020-8	—	1-531019-8
						2-531020-9[2]	—	—
60	**5.900** 149.86	**6.600** 167.64	**6.900** 175.26	**6.100** 154.94	**.160**	1-531020-9	1-531021-9	1-531019-9
65	**6.400** 162.56	**7.100** 180.34	**7.400** 187.96	**6.600** 167.64	**.125**	1-531020-0	—	—
					.160	2-531020-0	—	—
						3-531020-0[2]	—	—

*Metric equivalents in millimeters for post lengths **E** are **.125** = [3.18]; **.160** = [4.06].

[1]Recognized under the Component Program of Underwriters Laboratories Inc.
[2]Connectors without cam rod and boardlock.

Notes: 1. Connector with card slot open one end is shown for illustration purposes.
2. Other connector sizes can be made available, consult Tyco Electronics.

Catalog 1654080
Issued 7-03

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UK: 44-141-810-8967

Rotary Cam ZIF Connectors, .100 x .200 [2.54 x 5.08] Centerline (Continued)

Right-Angle Connector, Solder Post Terminals

Material and Finish:

Housing—Glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated .000030 [0.00076] gold per MIL-G-45204 in contact area; .000100 [0.00254] tin-lead per MIL-P-81728 on post with entire contact underplated .000050 [0.00127] nickel per QQ-N-290

Related Product Data:

Board Lock Feature—On connectors open one end and open both ends

Daughter PC Board—.054-.070 [1.37-1.78] thick

Performance Specifications—page 73

Dust Cover—page 79

PC Board Hole Layout and Edge Patterns—pages 81, 82

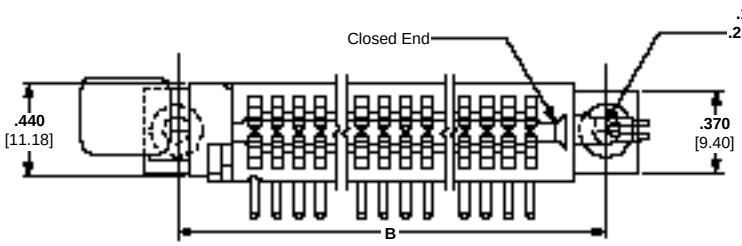
Special Application—page 82, 96

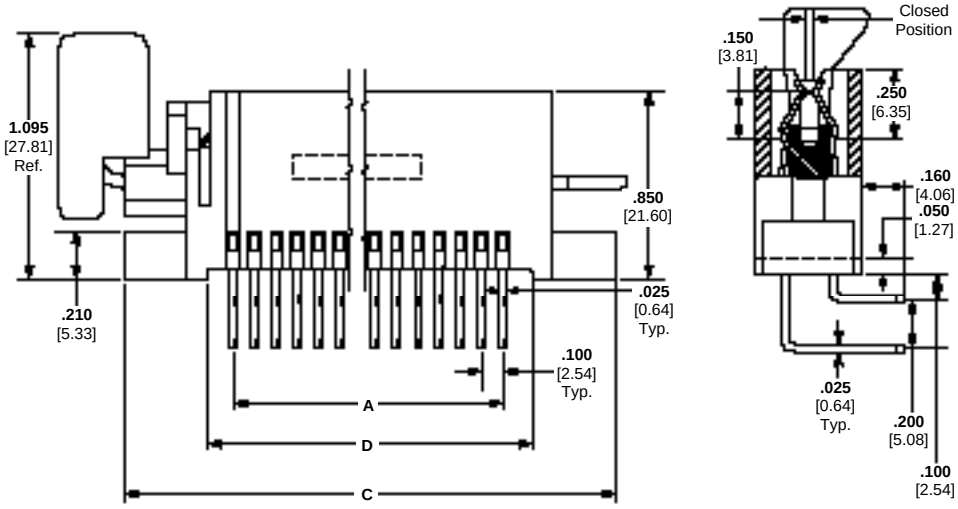
Technical Documents:

(pages 186, 187):

Product Specification 108-9048

Instruction Sheet 408-7911





Bend Right Shown

No. of Dual Positions	Dimensions				Bend Right	Part Numbers (Open End[1])
	A	B	C	D		
25	**2.400** 60.96	**3.100** 78.74	**3.400** 86.36	**2.800** 71.12	R	531395-2[3]
36	**3.500** 88.90	**4.200** 106.68	**4.500** 114.30	**3.700** 93.98	R	531396-4
50	**4.900** 124.56	**5.600** 142.24	**5.900** 149.86	**5.100** 129.54	L	1-531396-8
65	**6.400** 162.56	**7.100** 180.34	**7.400** 187.96	**6.600** 167.64	R	1-531396-0

[1]Recognized under the Component Program of Underwriters Laboratories Inc.

Notes: 1. Connector with card slot open one end is shown.
2. Other connector sizes can be made available, consult Tyco Electronics.
3. Open both ends.

Catalog 1654080
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Japan: 81-44-844-8013
UK: 44-141-810-8967

Rotary Cam ZIF Connectors, .100 x .200 [2.54 x 5.08] Centerline (Continued)

Vertical Connector, Wrap-Type Post Terminals

Material and Finish:

Housing—Glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated .000030 [0.00076] gold per MIL-G-45204 in contact area; .000100 [0.00254] tin-lead per MIL-P-81728 on post with entire contact underplated .000050 [0.00127] nickel per QQ-N-290

Related Product Data:

Board Lock Feature—On connectors open one end and open both ends

Daughter PC Board—.054-.070 [1.37-1.78] thick

Performance Specifications—page 73

Dust Cover—page 79

PC Board Hole Layout and Edge Patterns—pages 81, 82

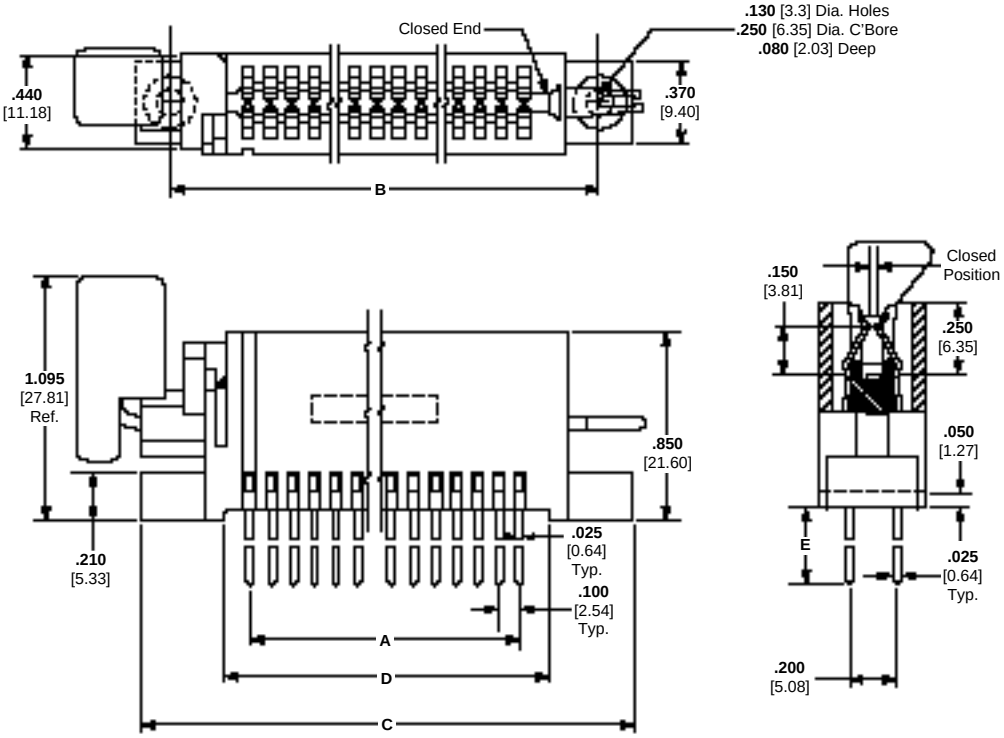
Special Application—pages 82, 96

Technical Documents:

(pages 186, 187):

Product Specification 108-9048

Instruction Sheet 408-7911



No. of Dual Positions	Dimensions					Part Numbers	
	A	B	C	D	E*	Open One End[1]	Open Both Ends[1]
25	**2.400** 60.96	**3.100** 78.74	**3.400** 86.36	**2.600** 66.04	**.380**	1-531414-2	—
36	**3.500** 88.90	**4.200** 106.68	**4.500** 114.30	**3.700** 93.98	**.580**	531414-4	531415-4
					.380	1-531414-4	—
40	**3.900** 99.06	**4.600** 116.84	**4.900** 124.46	**4.100** 104.14	**.580**	531414-5	—
42	**4.100** 104.14	**4.800** 121.92	**5.100** 129.54	**4.300** 109.22	**.380**	1-531414-6	—
50	**4.900** 124.46	**5.600** 142.24	**5.900** 149.86	**5.100** 129.54	**.580**	2-531414-4	531415-8
60	**5.900** 149.86	**6.600** 167.64	**6.900** 175.26	**6.100** 154.94	**.580**	531414-9	—
65	**6.400** 162.56	**7.100** 180.34	**7.400** 187.96	**6.600** 167.64	**.580**	1-531414-0	—

*Metric equivalents in millimeters for post lengths **E** are **.580** = [14.73] (3-high wrap-type); **.380** = [9.65] (2-high wrap-type).

[1]Recognized under the Component Program of Underwriters Laboratories Inc.

Notes: 1. Connector with card slot open one end is shown for illustration purposes.
2. Other connector sizes can be made available, consult Tyco Electronics.

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Japan: 81-44-844-8013
UK: 44-141-810-8967

Rotary Cam ZIF Connectors, .125 x .250 [3.18 x 6.35] Centerline

Vertical Connector, Solder Post Terminals

Material and Finish:

Housing—Glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated .000030 [0.00076] gold per MIL-G-45204 in contact area; .000100 [0.00254] tin-lead per MIL-P-81728 on post with entire contact underplated .000050 [0.00127] nickel per QQ-N-290

Related Product Data:

Board Lock Feature—On connectors open one end and open both ends

Daughter PC Board—.054-.070 [1.37-1.78] thick

Performance Specifications—page 73

Dust Cover—page 79

PC Board Hole Layout and Edge Patterns—pages 81, 82

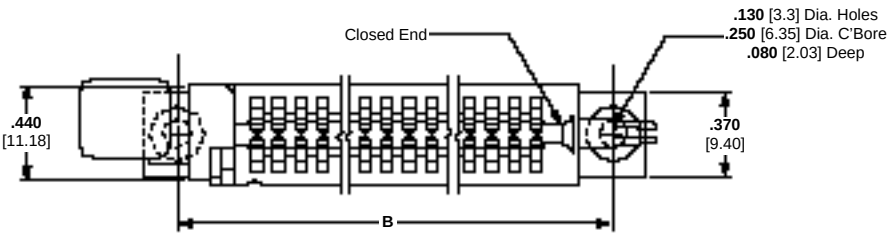
Special Application—pages 82, 96

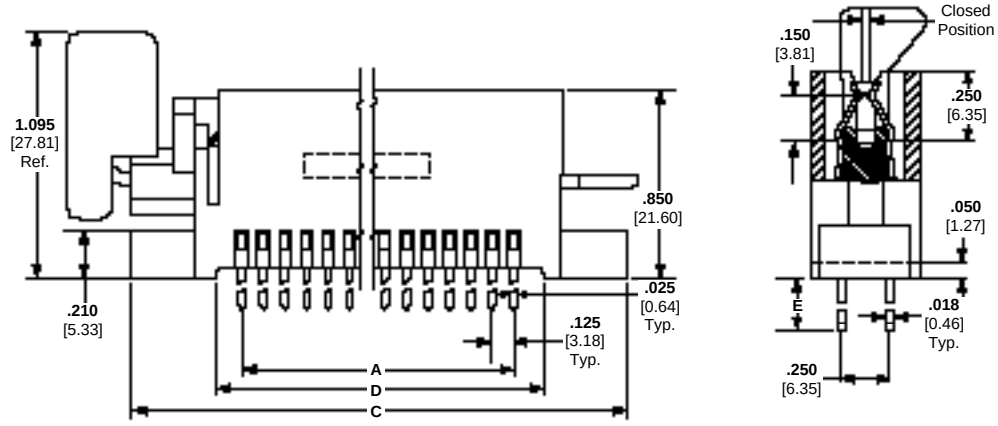
Technical Documents:

(pages 186,187):

Product Specification 108-9048

Instruction Sheet 408-7911





No. of Dual Positions	Dimensions					Part Numbers	
	A	B	C	D	E*	Open One End[1]	Open Both Ends[1]
28	**3.375** 85.73	**4.125** 104.76	**4.425** 112.40	**3.625** 92.08	**.125**	—	531024-3
30	**3.625** 92.08	**4.375** 111.13	**4.675** 118.75	**3.875** 98.43	**.125**	531023-4	—
40	**4.875** 123.83	**5.625** 142.88	**5.925** 150.50	**5.125** 130.18	**.160**	1-531023-4	1-531024-4

*Metric equivalents in millimeters for post lengths **E** are **.125** = [3.18]; **.160** = [4.06].

[1]Recognized under the Component Program of Underwriters Laboratories Inc.

Notes: 1. Connector with card slot open one end is shown for illustration purposes.
2. Other connector sizes can be made available, consult Tyco Electronics.

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Japan: 81-44-844-8013
UK: 44-141-810-8967

Rotary Cam ZIF Connectors, .156 x .200 [3.96 x 5.08] Centerline

Vertical Connector, Solder Post Terminals

Material and Finish:

Housing—Glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated .000030 [0.00076] gold per MIL-G-45204 in contact area; .000100 [0.00254] tin-lead per MIL-P-81728 on post with entire contact underplated .000050 [0.00127] nickel per QQ-N-290

Related Product Data:

Board Lock Feature—On connectors open one end and open both ends

Daughter PC Board—.054-.070 [1.37-1.78] thick

Performance Specifications—page 73

Dust Cover—page 79

PC Board Hole Layout and Edge Patterns—pages 81, 82

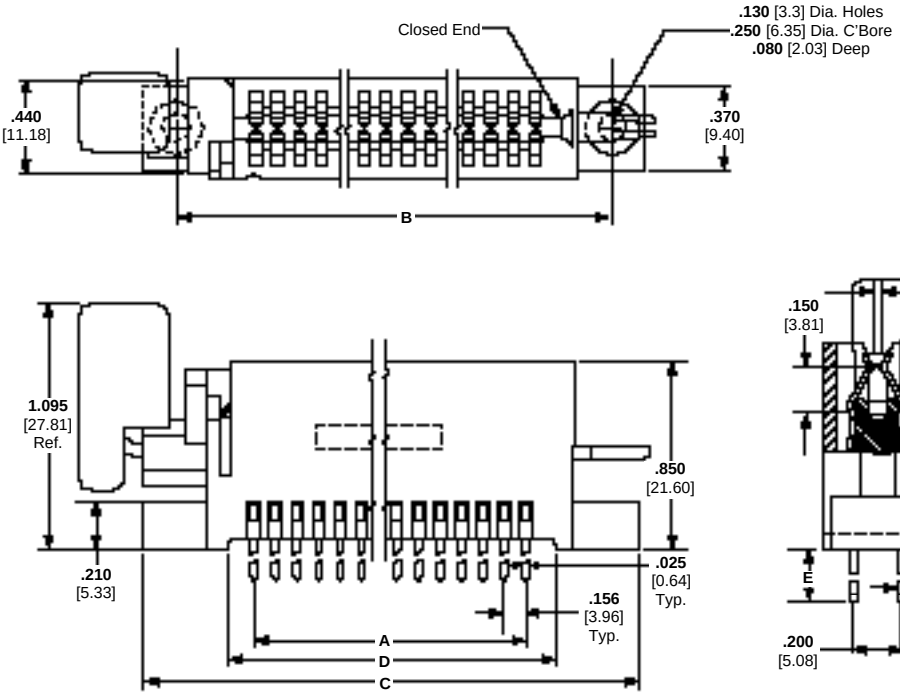
Special Application—pages 82, 96

Technical Documents:

(pages 186, 187):

Product Specification 108-9048

Instruction Sheet 408-7911



No. of Dual Positions	Dimensions					Part Numbers		
	A	B	C	D	E*	Open One End[1]	Open Both Ends[1]	Closed Both Ends
22	**3.276** 83.21	**4.088** 103.83	**4.388** 111.46	**3.588** 91.14	**.125**	531025-3	—	—
					.160	531025-9	—	531007-9
36	**5.460** 138.68	**6.272** 159.31	**6.572** 166.93	**5.772** 146.61	**.160**	—	1-531026-1	—
43	**6.552** 166.42	**7.364** 187.05	**7.664** 194.67	**6.864** 174.35	**.125**	531025-6	—	—

*Metric equivalents in millimeters for post lengths **E** are **.125** = [3.18]; **.160** = [4.06].

[1]Recognized under the Component Program of Underwriters Laboratories Inc.

Notes: 1. Connector with card slot open one end is shown for illustration purposes.
2. Other connector sizes can be made available, consult Tyco Electronics.

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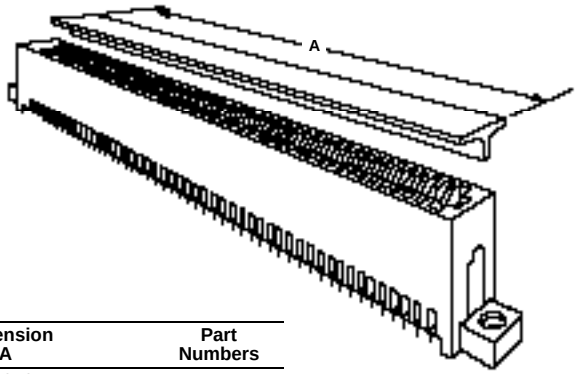
Accessories

Dust Covers

Material: Rigid vinyl, black



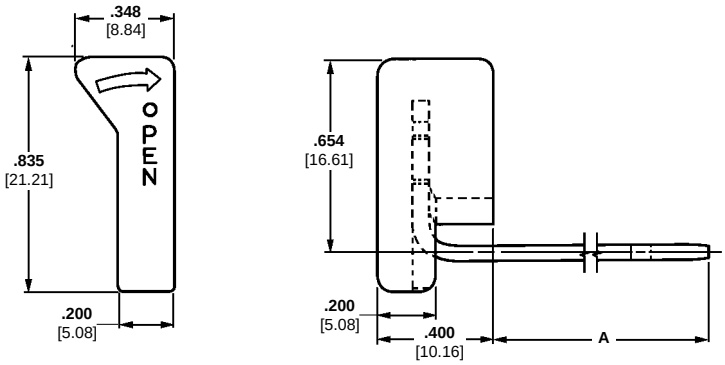
Dimension A	Part Numbers
11.050 280.67	531863-2
48.000 1219.20	531863-1

Note: Other lengths can be made available upon request, consult Tyco Electronics.

Cam Rods with Boot

Material:

Cam Rod—Stainless steel
Boot—Glass-filled polyester, yellow



Dimension A	Part Numbers
3.185 80.90	650083-1
3.705 94.11	650083-2
4.470 113.54	650083-3
5.285 134.24	650083-4
5.900 149.86	650083-6
5.975 151.77	532563-7

Dimension A	Part Numbers
6.385 162.18	650083-7
6.985 177.42	650083-8
7.485 190.12	650083-9
7.725 196.22	1-532563-0
8.320 211.34	1-650083-7

Note: Other lengths can be made available upon request, consult Tyco Electronics.

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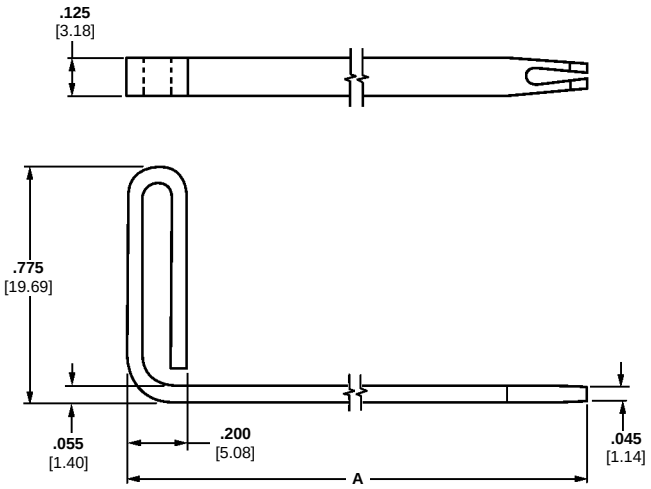
UK: 44-141-810-8967

Accessories (Continued)

Cam Rods without Boot

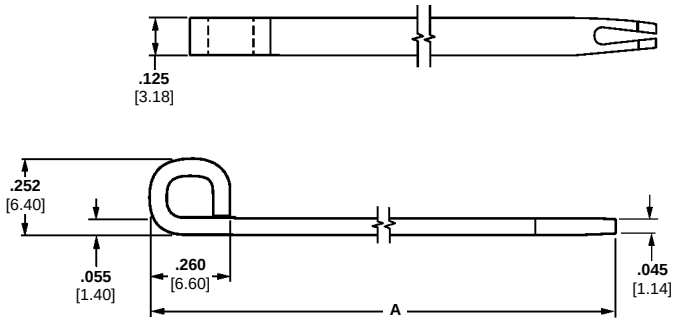
Material: Stainless steel



Dimension A	Part Numbers
2.200 55.88	2-531004-8
2.700 68.58	2-531004-9
3.300 83.82	3-531004-0
4.750 120.65	531004-4
5.000 127.00	1-531004-4
5.500 139.70	531004-6

Dimension A	Part Numbers
6.000 152.40	531004-7
6.250 158.75	1-531004-6
6.750 171.45	1-531004-7
8.250 209.55	3-531004-2
12.500 317.50	2-531004-0

Note: Other lengths can be made available upon request, consult Tyco Electronics.



Dimension A	Part Numbers
3.380 85.85	645293-3
4.50 114.30	645293-8
5.200 132.08	645293-6
6.90 175.30	645293-7
13.120 333.25	645293-5

Note: Other lengths can be made available upon request, consult Tyco Electronics.

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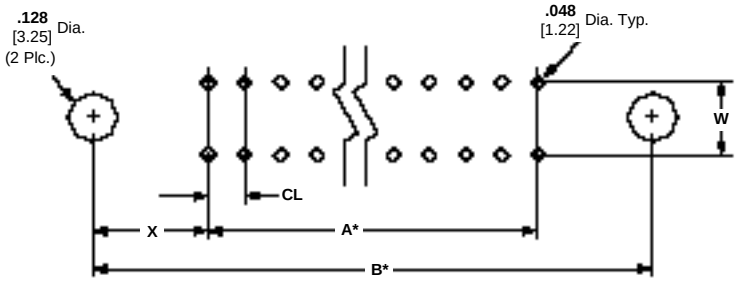
Recommended PC Board Hole Layouts

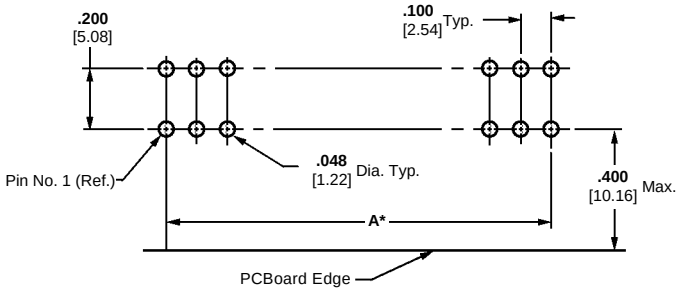
Mother Board Hole Layout, Vertical Through-Board Connectors



*Refer to individual connector specifications.

CL	W	X
.100 2.54	**.200** 5.08	**.350** 8.89
.125 2.18	**.250** 6.35	**.375** 9.53
.156 3.96	**.200** 5.08	**.406** 10.31

Mother Board Hole Layout, Right-Angle Through-Board Connectors



*Refer to individual connector specifications.

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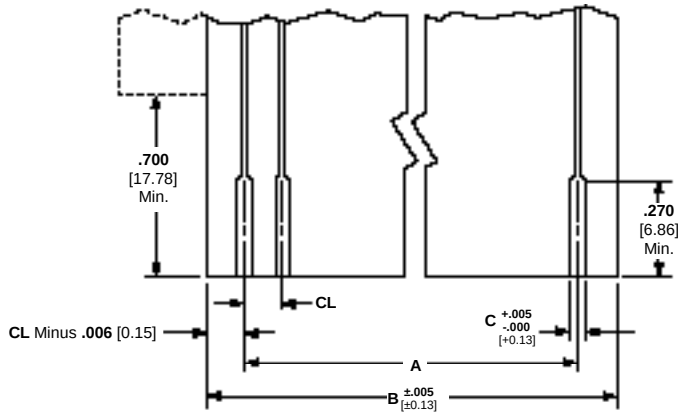
Recommended PC Board Edge Pattern

Daughter Board Edge Pattern



No. of Dual Positions	CL = .100 [2.54] C = .050 [1.27]		CL = .125 [3.18] C = .078 [1.98]		CL = .156 [3.96] C = .094 [2.39]	
	A	B	A	B	A	B
22	**2.100** 53.34	**2.288** 58.12	—	—	**3.267** 83.21	**3.576** 90.83
25	**2.400** 60.96	**2.588** 65.74	—	—	—	—
28	**2.700** 68.58	**2.888** 73.36	**3.375** 85.73	**3.613** 91.77	—	—
30	—	—	**3.625** 92.08	**3.863** 98.12	—	—
31	**3.000** 76.20	**3.188** 80.98	—	—	—	—
36	**3.500** 88.90	**3.688** 93.68	—	—	**5.460** 138.68	**5.760** 146.30
40	**3.900** 99.06	**4.088** 103.84	**4.875** 123.83	**5.113** 129.87	—	—
43	**4.200** 106.68	**4.388** 111.46	—	—	**6.552** 166.42	**6.852** 174.04
50	**4.900** 124.46	**5.088** 129.24	—	—	—	—
60	**5.900** 149.86	**6.088** 154.64	—	—	—	—
65	**6.400** 162.56	**6.588** 167.34	—	—	—	—

Special Application

Tandem Application

Note: Contact Tyco Electronics for information concerning special tandem connectors.

Catalog 1654080
Issued 7-03

www.tycoelectronics.com

Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

USA: 1-800-522-6752
Canada: 1-905-470-4425
Mexico: 01-800-733-8926
C. America: 52-55-5-729-0425

South America: 55-11-3611-1514
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Linear ZIF Connectors

Product Facts

- **Minimizes force needed to install and remove printed circuit boards**
- **Available in lever and bell crank styles**
- **Lever styles allow side and top card entry**
- **Wiping action contacts enhance electrical properties**
- **Contacts on .100 x .100 [2.54 x 2.54] or .125 x .125 [3.18 x 3.18] centers**
- **.025 [0.64] square posts**
- **Accepts PC boards from .054 to .070 [1.37 to 1.78] in thickness**
- **Normally closed design leaves springs in relaxed position**
- **50 to 175 dual positions available on .100 [2.54] centerline connectors and 40 to 140 dual positions available on .125 [3.18] centerline connectors**

Performance Specifications

Current vs. Temperature Rise*:
3 amperes at 30°C

Operating Temperature:
–65°C to +85°C

Contact Resistance:
16 milliohms max.

Durability: Tested to 250 cycles (board-to-contact actuation)

***Consult Tyco Electronicsengineering when paralleling contacts for power applications.**

AMP Linear Zero Insertion Force (ZIF) PC Board Edge Connectors are available in both lever and bell crank actuated styles and can be provided as panel assemblies, separate housings and contacts or as preassembled with solder post terminals.

Panel assemblies include a housing with ACTION PIN press-fit solderless contacts mounted on an epoxy board for rack application. Separate housing assemblies and ACTION PIN contacts allow customer assembly. These can be mounted as close as .625 [15.88]. More design latitude for high density application is provided by the side entry lever-type connector, permitting use of all sides of the PC board for edge-type I/O connections (see page 133). Where solder applications are required, Tyco Electronics has a line of preassembled connectors with tin-plated solder terminals. All these configurations are available in a broad range of sizes.

With ZIF style connectors, intermittencies can occur if a contact comes to rest on a piece of foreign matter (dust and dirt particles) found on PC boards. To decrease the probability of this happening, all connectors have been designed to include a wiping contact which produces a wiping action. This action, produced by the geometry and bending movements of the beam, pushes aside debris and allows for good electrical connection by cleaning the actual point of contact.

In addition, all connectors have removable wings which make it possible to repair or replace damaged cam rails, handles, contacts and housing modules without removing the entire housing assembly from the board.

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UK: 44-141-810-8967

Linear ZIF Connectors, .100 x .100 [2.54 x 2.54] Centerline

Housing with Solder Posts

Lever Style, Side Entry

Material and Finish:

Housing—Glass-filled polyester, black

Contacts—Copper alloy 725, plated .000015 [0.00038] min. gold per MIL-G-45204 in contact area; .000100 [0.00254] min. tin-lead on post with entire contact underplated .000050 [0.00127] min. nickel per QQ-N-290

Related Product Data:

Daughter PC Board—.054-.070 [1.37-1.78] thick

Performance Specifications—page 83

PC Board Hole Layout and Edge Pattern—page 88

Special Application—page 96

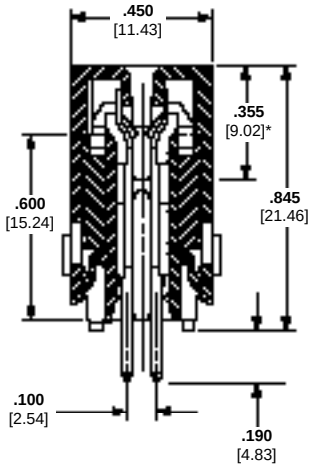
Technical Documents:

(pages 186, 187):

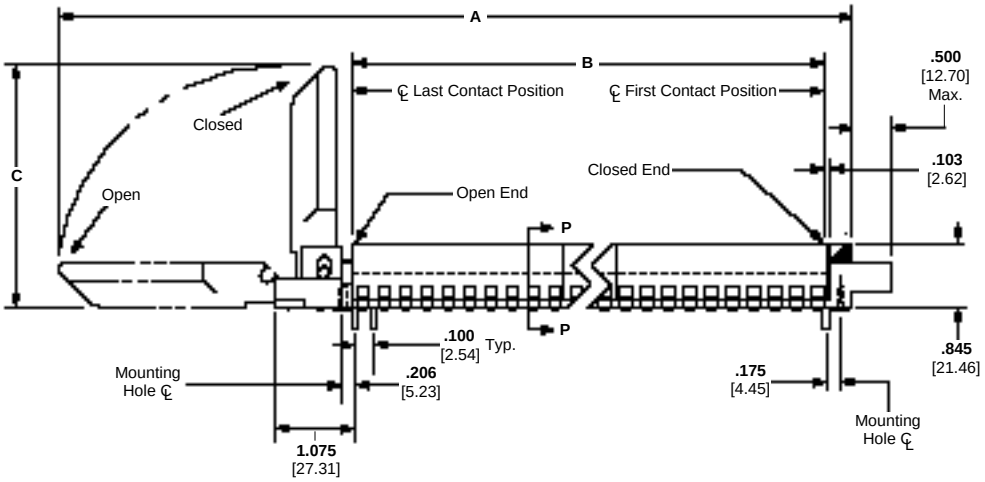
Product Specification 108-14015

Application Specification 114-26003

Instruction Sheets 408-2995, 408-2999, 408-6915



Section P-P



*Card slot depth.

No. of Dual Positions	Dimensions A	Dimensions B	Dimensions C	Part Number
35	**6.113** 155.27	**3.400** 86.36	**2.000** 50.80	645135-2
80	**11.613** 294.97	**7.900** 200.66	**3.000** 76.20	1-645135-1
100	**13.613** 345.77	**9.900** 251.46	**3.000** 76.20	1-645135-5

Note: Other connector sizes can be made available, consult Tyco Electronics.

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Japan: 81-44-844-8013
UK: 44-141-810-8967

Linear ZIF Connectors, .100 x .100 [2.54 x 2.54] Centerline (Continued)

Panel Assembly

Lever Style, Side Entry

Material and Finish:

Housing—Glass-filled polyester, black

Contacts—Copper alloy 725, plated .000015 [0.00038] gold per MIL-G-45204 in contact area; .000001 [0.00003] min. gold flash per MIL-G-45204 on post with entire contact underplated .000050 [0.00127] nickel per QQ-N-290

Related Product Data:

Daughter PC Board—.054-.070 [1.37-1.78] thick

Performance Specifications—page 83

PC Board Hole Layout and Edge Pattern—page 88

ACTION PIN Contacts—pages 88, 94

Tooling—page 95

Special Application—page 96

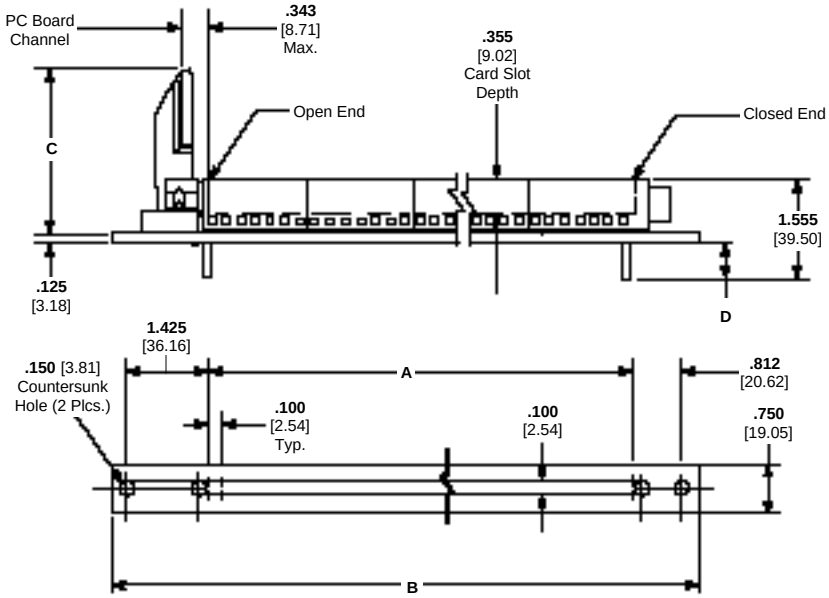
Technical Documents:

(pages 186, 187):

Product Specification 108-14015

Application Specification 114-26003

Instruction Sheets 408-2995, 408-2999, 408-6915



No. of Dual Positions	Dimensions				Part Numbers
	A	B	C	D	
75	**7.400** 251.46	**10.125** 320.68	**3.000** 76.20	**.615** 15.62	1-645145-0
100	**9.900** 251.46	**12.625** 320.68	**3.000** 76.20	**.615** 15.62	1-645145-5
130	**12.900** 251.46	**15.625** 320.68	**3.000** 76.20	**.615** 15.62	2-645145-1
140	**13.900** 353.06	**16.625** 422.28	**3.000** 76.20	**.615** 15.62	2-645145-3
150	**14.900** 251.46	**17.625** 320.68	**3.000** 76.20	**.615** 15.62	2-645145-5
160	**15.900** 403.86	**18.625** 473.07	**3.000** 76.20	**.615** 15.62	2-645145-7
160	**15.900** 403.86	**18.625** 473.07	**3.000** 76.20	**.455** 11.56	147400-1

Note: Other connector sizes can be made available, consult Tyco Electronics.

Catalog 1654080
Issued 7-03

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Japan: 81-44-844-8013
UK: 44-141-810-8967

Linear ZIF Connectors, .100 x .100 [2.54 x 2.54] Centerline (Continued)

Panel Assembly

Material and Finish:

Housing—Glass-filled polyester, black

Contacts—Copper alloy 725, plated .000015 [0.00038] gold per MIL-G-45204 in contact area; .000001 [0.00003] min. gold flash per MIL-G-45204 on post with entire contact under-plated .000050 [0.00127] nickel per QQ-N-290

Related Product Data:

Daughter PC Board—.054-.070 [1.37-1.78] thick

Performance Specifications—page 83

PC Board Hole Layout and Edge Pattern—page 88

ACTION PIN Contacts—pages 88, 94

Tooling—page 95

Technical Documents:

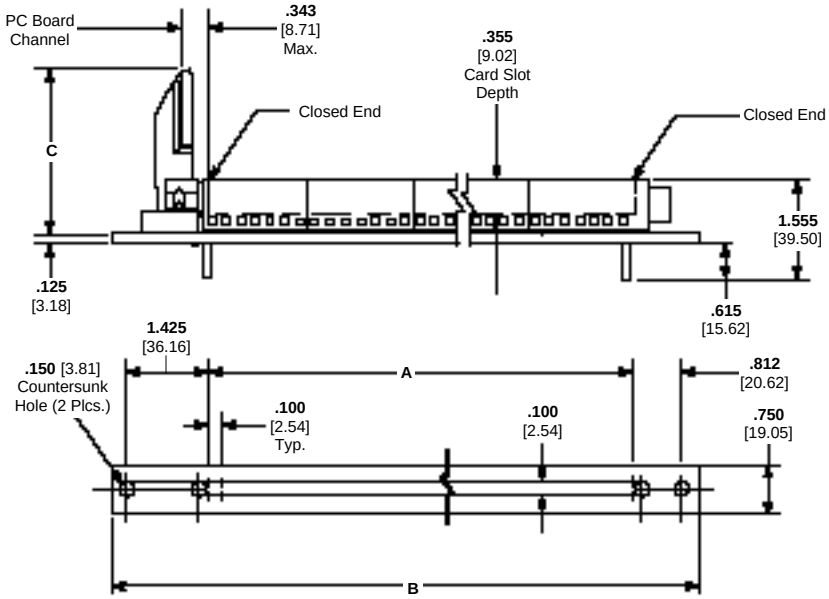
(pages 186, 187):

Product Specifications
108-14015, 108-26003

Application Specification
114-26003

Instruction Sheets 408-2995, 408-2999, 408-6915

Lever Style, Top Entry



No. of Dual Positions	Dimensions			Part Numbers
	A	B	C	
110	**10.900** 276.86	**13.625** 346.08	**3.000** 76.20	1-645147-7
120	**11.900** 302.26	**14.625** 371.48	**3.000** 76.20	1-645147-9

Note: Other connector sizes can be made available, consult Tyco Electronics.

Catalog 1654080
Issued 7-03

www.tycoelectronics.com

Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

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Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Linear ZIF Connectors, .100 x .100 [2.54 x 2.54] Centerline (Continued)

Housing

Material: Glass-filled polyester, black

Related Product Data:

Daughter PC Board—.054-.070 [1.37-1.78] thick

Mounting Screws—Customer supplies, must be applied before opening connector

Performance Specifications—page 83

PC Board Hole Layout and Edge Pattern—page 88

ACTION PIN Contacts—pages 88, 94

Tooling—page 95

Special Application—page 96

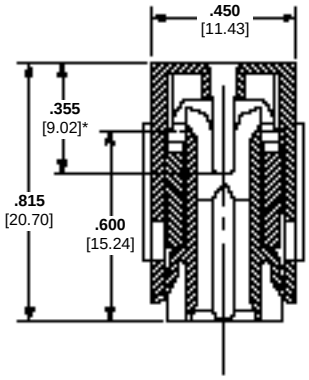
Technical Documents:

(pages 186, 187):

Product Specifications
108-14015, 108-26003

Application Specification
108-26003

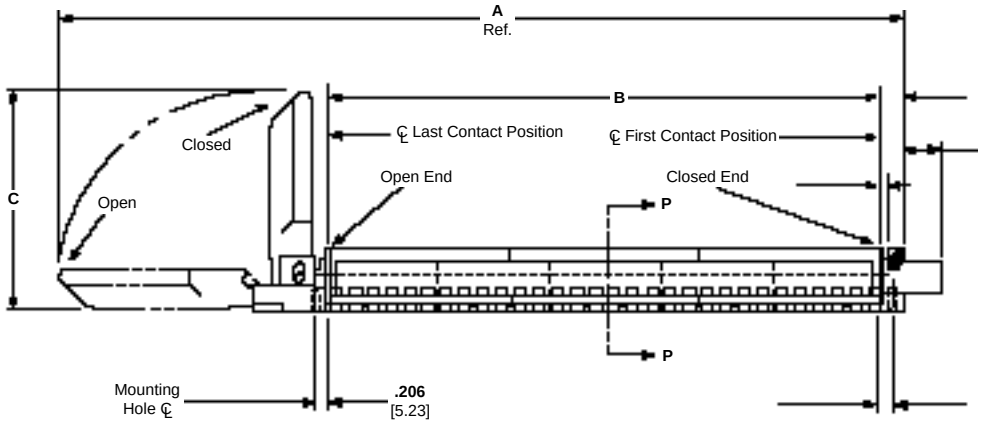
Instruction Sheets 408-2995, 408-2999, 408-6915



Section P-P

*Card slot depth.

Lever Style, Side Entry



No. of Dual Positions	Dimensions A	Dimensions B	Dimensions C	Part Numbers
50	**7.613** 193.37	**4.900** 124.46	**2.000** 50.80	645115-5
75	**11.113** 282.27	**7.400** 187.96	**3.000** 76.20	1-645115-0
80	**11.613** 294.97	**7.900** 200.66	**3.000** 76.20	1-645115-1
100	**13.613** 345.77	**9.900** 251.46	**3.000** 76.20	1-645115-5
110	**14.613** 371.17	**10.900** 276.86	**3.000** 76.20	1-645115-7 3-645115-2
115	**15.113** 383.87	**11.400** 289.56	**3.000** 76.20	1-645115-8
125	**16.113** 409.27	**12.400** 314.96	**3.000** 76.20	2-645115-0
130	**16.613** 421.97	**12.900** 327.66	**3.000** 76.20	2-645115-1
140	**17.613** 447.37	**13.900** 353.06	**3.000** 76.20	2-645115-3
160	**19.613** 498.17	**15.900** 403.86	**3.000** 76.20	3-645115-3
175	**21.113** 536.27	**17.400** 441.96	**3.000** 76.20	3-645115-0

Note: Other connector sizes can be made available, consult Tyco Electronics.

Catalog 1654080
Issued 7-03

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Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Linear ZIF Connectors, .100 x .100 [2.54 x 2.54] Centerline (Continued)

ACTION PIN Contacts with Wiping Feature, .100 [2.54] Centerline

Material and Finish:

Copper alloy 725, plated .000015 [0.00038] gold per MIL-G-45204 in contact area; .000001 [0.00003] min. gold flash per MIL-G-45204 on post with entire contact underplated .000050 [0.00127] nickel per QQ-N-290

Related Product Data:

Performance Specifications—page 83

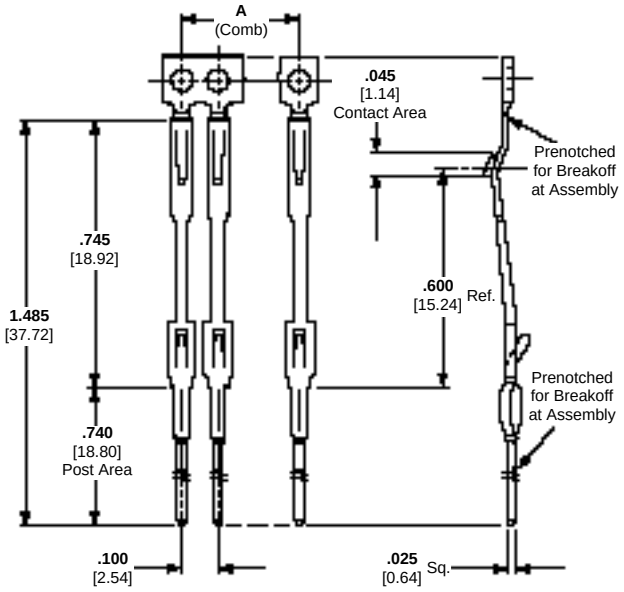
ACTION PIN Contact Description and Application Specification—page 94

Tooling—page 95

Technical Documents:

(pages 186, 187):

Instruction Sheet 408-2665



Contact Combs

Number of Contacts Per Comb*	Dimension A	Part Number
55	**5.400** 137.16	4-119311-1

*At least two (2) contact combs required per housing.

Note: Other sizes can be made available, consult Tyco Electronics.

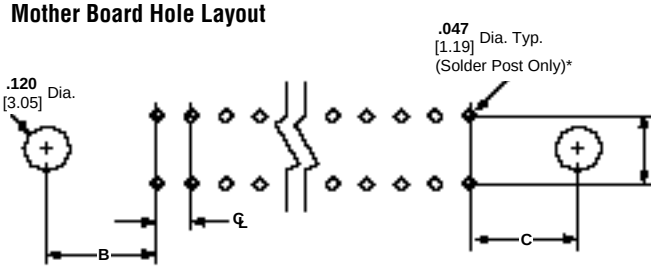
Reeled Contacts

Number of Contacts Per Reel	Part Number
35,000	119196-6

Note: Other plating combinations and thicknesses can be made available, consult Tyco Electronics.

Recommended PC Board Hole Layout and Edge Pattern, .100 [2.54] Centerline

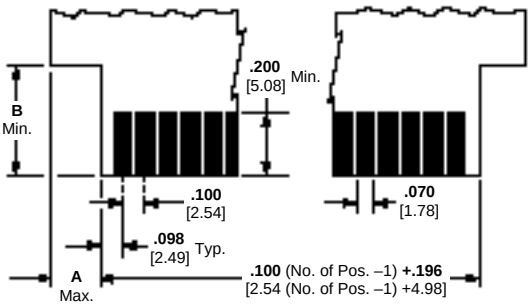
Mother Board Hole Layout



*For ACTION PIN post hole diameter, see page 94.

Connector Style	Dimensions			
	℄	A	B	C
Lever	**.100** 2.54	**.100** 2.54	**.206** 5.23	**.175** 4.45

Daughter Board Edge Pattern



Connector Style	Entry Style	Dimensions	
		A	B
Lever	Side	**.240** 6.10	—
	Top	**.240** 6.10	**.320** 8.13

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UK: 44-141-810-8967

Linear ZIF Connectors, .125 x .125 [3.18 x 3.18] Centerline

Panel Assembly

Lever Style, Side Entry

Material and Finish:

Housing—Glass-filled polyester, black

Contacts—Copper alloy 725, plated .000015 [0.00038] gold per MIL-G-45204 in contact area; .000001 [0.00003] min. gold flash per MIL-G-45204 on post with entire contact underplated .000050 [0.00127] nickel per QQ-N-290

Related Product Data:

Daughter PC Board—.054-.070 [1.37-1.78] thick

Performance Specifications—page 83

PC Board Hole Layout and Edge Pattern—page 93

ACTION PIN Contacts—pages 93, 94

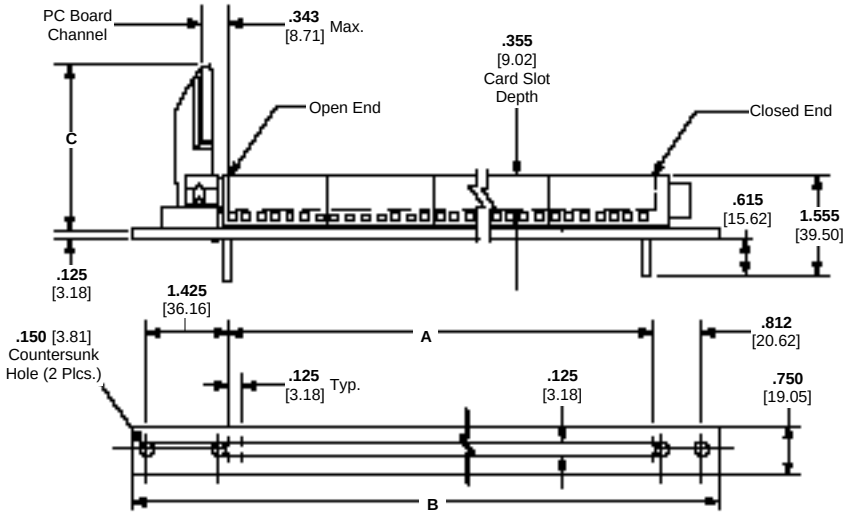
Tooling—page 95

Special Application—page 96

Technical Documents:

(pages 186, 187):

Instruction Sheets 408-2995, 408-6915, 408-6916



No. of Dual Positions	Dimensions A	Dimensions B	Dimensions C	Part Numbers
40	**4.875** 123.83	**7.625** 193.68	**2.000** 50.80	645146-5
56	**6.875** 174.63	**9.625** 244.48	**3.000** 76.20	645146-9
60	**7.375** 187.32	**10.125** 257.17	**3.000** 76.20	1-645146-0
72	**8.875** 225.43	**11.625** 295.28	**3.000** 76.20	1-645146-3
84	**10.375** 250.83	**13.125** 320.68	**3.000** 76.20	1-645146-6
124	**15.375** 390.53	**18.125** 460.38	**3.000** 76.20	2-645146-6

Note: Other connector sizes can be made available, consult Tyco Electronics.

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Japan: 81-44-844-8013
UK: 44-141-810-8967

Linear ZIF Connectors, .125 x .125 [3.18 x 3.18] Centerline (Continued)

Panel Assembly

Bell Crank Style, Top Entry

Material and Finish:

Housing—Glass-filled polyester, black

Contacts—Copper alloy 725, plated .000015 [0.00038] gold per MIL-G-45204 in contact area; .000001 [0.00003] min. gold flash per MIL-G-45204 on post with entire contact underplated .000050 [0.00127] nickel per QQ-N-290

Related Product Data:

Daughter PC Board—.054-.070 [1.37-1.78] thick

Performance Specifications—page 83

PC Board Hole Layout and Edge Pattern—page 93

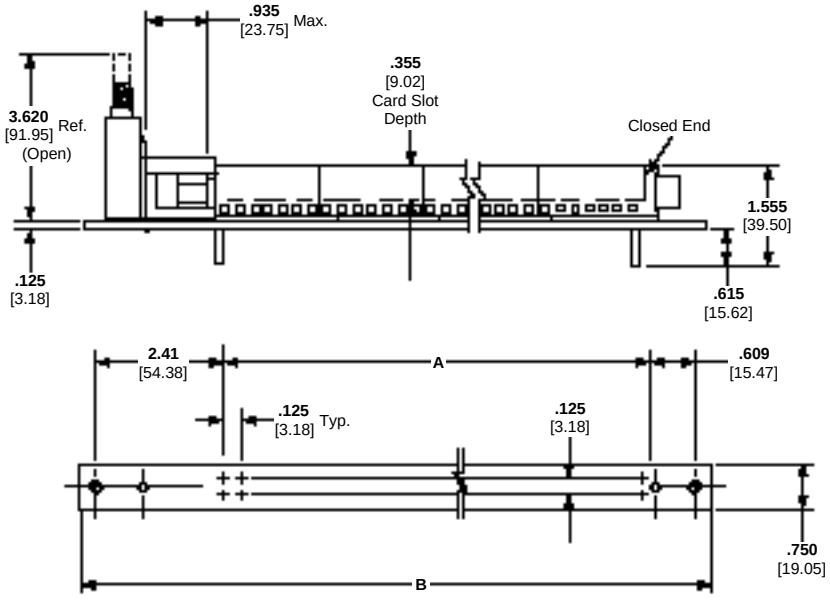
ACTION PIN Contacts—pages 93, 94

Tooling—page 95

Technical Documents:

(pages 186, 187):

Instruction Sheets 408-2995, 408-6915, 408-6916



No. of Dual Positions	Dimensions A	Dimensions B	Part Numbers
60	**7.375** 187.33	**10.625** 269.88	1-645149-0
80	**9.875** 250.82	**13.125** 333.38	1-645149-5
112	**13.875** 352.43	**17.125** 434.98	2-645149-3
140	**17.375** 441.33	**20.625** 523.88	3-645149-0

Note: Other connector sizes can be made available, consult Tyco Electronics.

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UK: 44-141-810-8967

Linear ZIF Connectors, .125 x .125 [3.18 x 3.18] Centerline (Continued)

Housing

Material: Glass-filled polyester, black

Related Product Data:

Daughter PC Board—.054-.070 [1.37-1.78] thick

Mounting Screws—Customer supplied, must be applied before opening connector

Performance Specifications—page 83

PC Board Hole Layout and Edge Pattern—page 93

ACTION PIN Contacts—pages 93, 94

Tooling—page 95

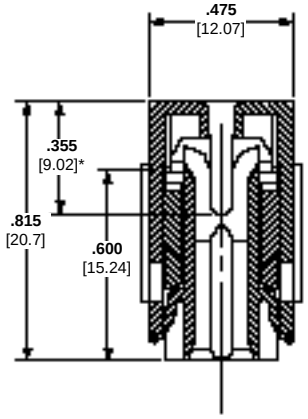
Special Application—page 96

Technical Documents:

(pages 186, 187):

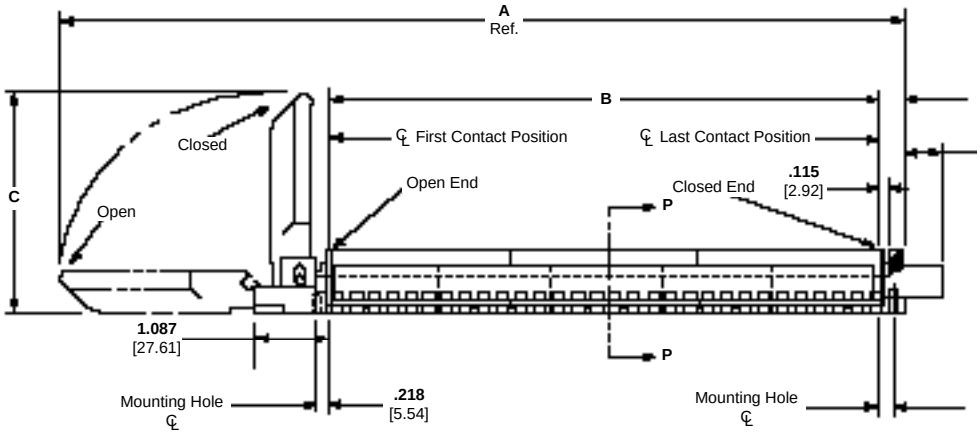
Instruction Sheets 408-2995, 408-6915, 408-6916

Lever Style, Side Entry



Section P-P

*Card slot depth.



No. of Dual Positions	Dimensions			Part Number
	A	B	C	
84	**14.112** 358.44	**10.375** 263.52	**3.000** 76.20	1-645116-6
100	**16.112** 409.24	**12.375** 314.33	**3.000** 76.20	2-645116-0
112	**17.612** 447.34	**15.775** 400.68	**3.000** 76.20	2-645116-3
124	**19.112** 485.44	**17.275** 438.78	**3.000** 76.20	2-645116-6

Note: Other connector sizes can be made available, consult Tyco Electronics.

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UK: 44-141-810-8967

Linear ZIF Connectors, .125 x .125 [3.18 x 3.18] Centerline (Continued)

Housing

Material: Glass-filled polyester, black

Related Product Data:

Daughter PC Board—.054-.070 [1.37-1.78] thick

Mounting Screws—Customer supplied, must be applied before opening connector

Performance Specifications—page 83

PC Board Hole Layout and Edge Pattern—page 93

ACTION PIN Contacts—pages 93, 94

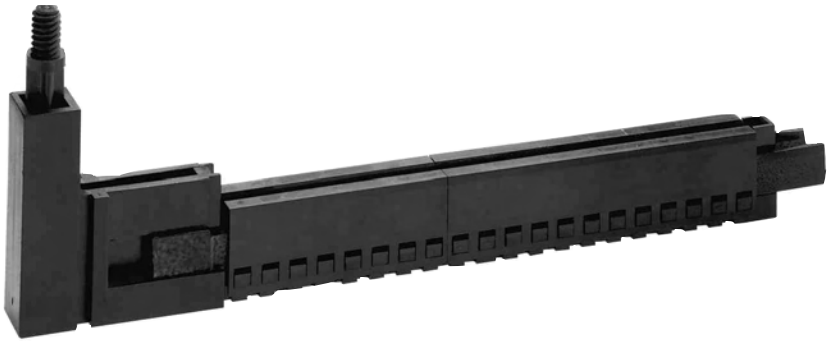
Tooling—page 95

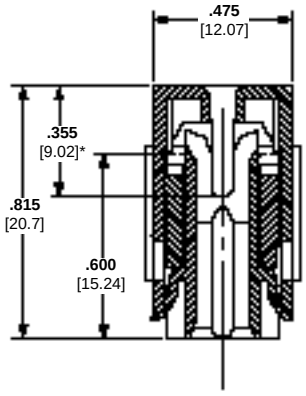
Technical Documents:

(pages 186, 187):

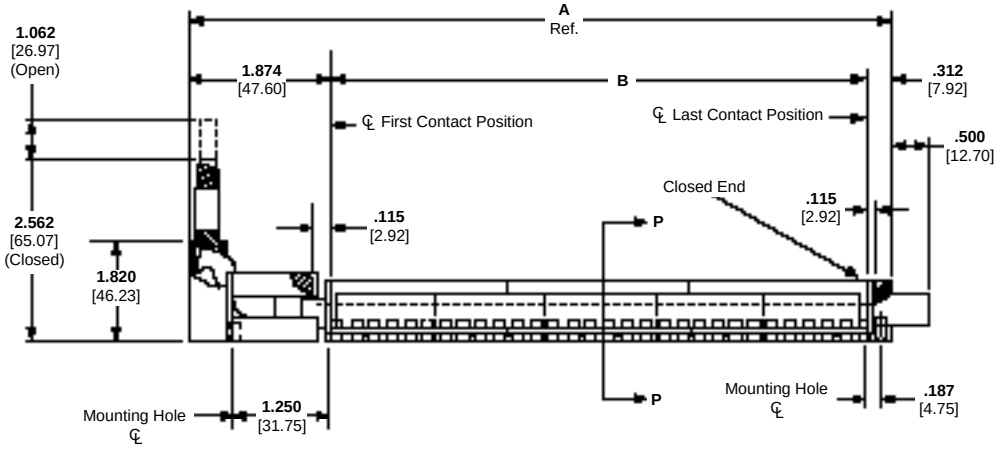
Instruction Sheets 408-2995, 408-6915, 408-6916

Bell Crank Style, Top Entry





Section P-P



*Card slot depth.

No. of Dual Positions	Dimensions A	Dimensions B	Part Numbers
52	**8.562** 217.47	**6.375** 161.93	645142-8
60	**9.562** 242.87	**7.375** 187.32	1-645142-0
80	**13.125** 333.37	**9.875** 250.82	1-645142-5
112	**16.062** 407.97	**13.875** 352.43	2-645142-3

Note: Other connector sizes can be made available, consult Tyco Electronics.

Catalog 1654080
Issued 7-03

www.tycoelectronics.com

Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

USA: 1-800-522-6752
Canada: 1-905-470-4425
Mexico: 01-800-733-8926
C. America: 52-55-5-729-0425

South America: 55-11-3611-1514
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Linear ZIF Connectors, .125 x .125 [3.18 x 3.18] Centerline (Continued)

ACTION PIN Contacts with Wiping Feature, .125 [3.18] Centerline

Material and Finish:

Copper alloy 725, plated .000015 [0.00038] gold per MIL-G-45204 in contact area; .000001 [0.00003] min. gold flash per MIL-G-45204 on post with entire contact underplated .000050 [0.00127] nickel per QQ-N-290

Related Product Data:

Performance Specifications—page 83

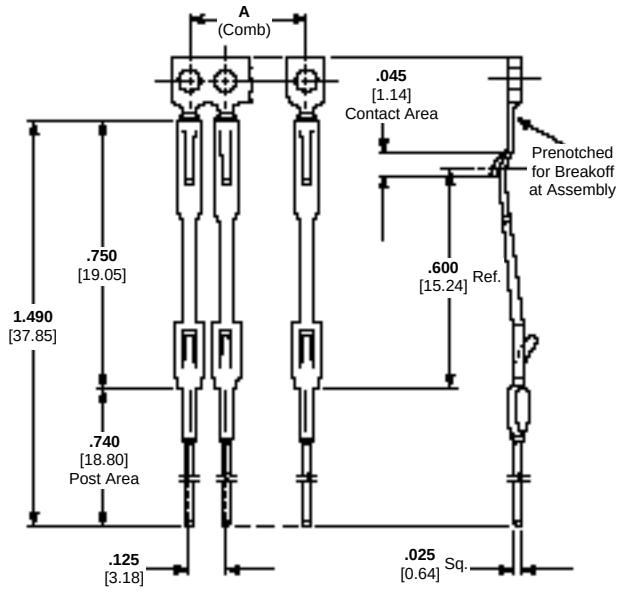
ACTION PIN Contact Description and Application Specification—page 94

Tooling—page 95

Technical Documents:

(pages 186, 187):

Instruction Sheet 408-2665



Contact Combs

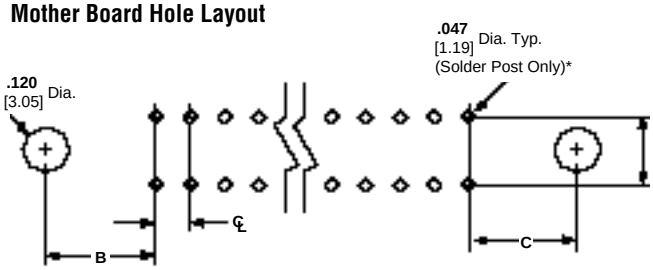
Number of Contacts Per Comb*	Dimension A	Part Number
56	**6.875** 174.63	1-119950-2

*At least two (2) contact combs required per housing.

Note: Other sizes can be made available, consult Tyco Electronics.

Recommended PC Board Hole Layout and Edge Pattern, .125 [3.18] Centerline

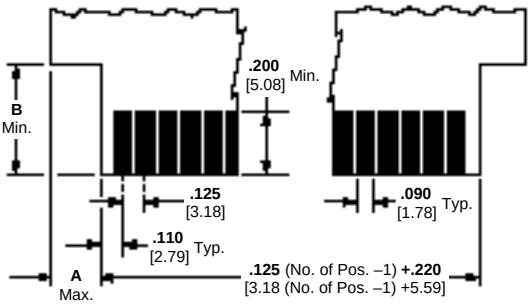
Mother Board Hole Layout



*For ACTION PIN post hole diameter, see page 94.

Connector Style	Dimensions			
	℄	A	B	C
Lever	**.125** 3.18	**.125** 3.18	**.218** 5.54	**.187** 4.75
Bell-Crank	**.125** 3.18	**.125** 3.18	**1.250** 31.75	**.187** 4.75

Daughter Board Edge Pattern



Connector Style	Entry Style	Dimensions	
		A	B
Lever	Side	**.240** 6.10	—
	Top	**.240** 6.10	**.320** 8.13
Bell-Crank	Top	**.775** 19.68	**.600** 15.24

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UK: 44-141-810-8967

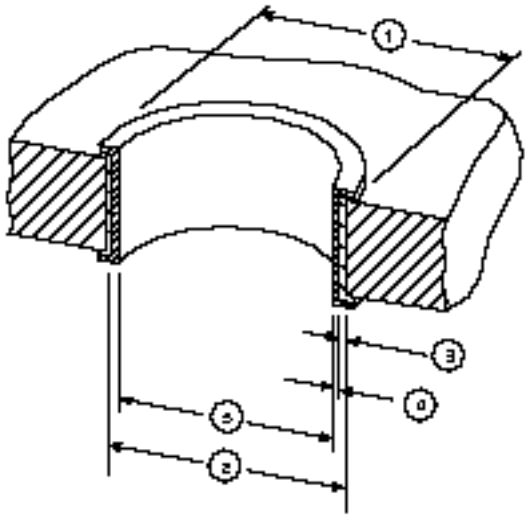
Linear ZIF Connectors (Continued)

AMP ACTION PIN Press-Fit Contacts

ACTION PIN contacts provide a reliable press-fit connection. Localized pressure in the interface area entails oxide break-through and helps prevent corrosion in the harshest environments to provide a reliable connection virtually every time. Also, radial and axial distortion are controlled to meet today's standards for multilayer board applications.

PC Board Thickness

ACTION PIN contacts are designed for use in a variety of PC board thicknesses. However, certain ACTION PIN contacts are to be used in specific ranges of board thicknesses. To promote optimum performance, the recommended board thicknesses provided with the connector being used must be followed.



① Annular Ring (See Note)

② Drilled Hole

③ Copper Thickness

④ Tin-Lead Thickness

⑤ Plated Through-Hole

ACTION PIN Contact/PC Board Applications

Connector Type	ACTION PIN Contact Material Thickness	Drilled Hole Diameter②	Plating Thicknesses		Plated Through-Hole Diameter⑤	Radial Hole Distortion	
			Copper③*	Tin-Lead④		Average	Maximum
Linear ZIF	**.025** 0.64	**.0453**$^{\pm.001}$ 1.151$^{\pm0.03}$	**.001-.003** 0.03-0.08	**.0003** 0.008 Min.	**.037-.043** 0.94-1.09	Not Specified	Not Specified

*Maximum hardness of copper layer is 150 Knoop.

Note: Recommended annular ring diameter is hole diameter plus **.020** [0.51].

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Linear ZIF Connectors (Continued)

Tooling

Assembly tooling is not required except when using connectors with ACTION PIN contacts. ACTION PIN contact assembly requires an arbor-style bench tool with a capacity of 40 lb [178 N] per contact, a support fixture, contact applicator, carrier removal tool and housing assembly tool.

Typical procedure is to place a PC board on the support fixture, insert contact combs into the printed circuit board with the contact applicator and seat with the arbor tool. Next, remove the carrier strip from the contact combs with the carrier break-off tool. Place the housing over the contacts with the housing assembly tool, and repeat the entire process until the board is complete.

.100 x .100 [2.54 x 2.54] Centerline Connectors

No. of Dual Positions	T-Bar Applicator	Carrier Removal Tool	Housing Assembly Tool	Housing Removal Tool	Wing Removal/ Replacement Tool	Housing Insertion Tool	Contact Replacement Tools	
							With Housing	Without Housing
50	266267-4	265924-4	313136-1	313256-1	266233-1	266264-1	266235-1	3-265871-2
80	266267-3	265924-4	313136-2					
100	266267-4	265924-4	313136-3					
110	266267-5	265924-4						
115	266267-5	265924-4						
120	266267-5	265924-4	313136-4					
125	266267-4	265924-4						
140	266267-4	265924-4						
175	266267-5	265924-4	313136-5					

.125 x .125 [3.18 x 3.18] Centerline Connectors

No. of Dual Positions	T-Bar Applicator	Carrier Removal Tool	Housing Assembly Tool	Housing Removal Tool	Wing Removal/ Replacement Tool	Housing Insertion Tool	Contact Replacement Tools	
							With Housing	Without Housing
40	313139-1	265924-4	313136-1	313256-1	266233-1	266264-1	266235-1	3-265871-2
52	313139-2	265924-6	313136-2					
56	313139-2	265924-6						
60	313139-2	265924-7						
72	313139-3	265924-4	313136-3					
84	313139-2	265924-5						
112	313139-2	265924-7	313136-4					
124	313139-2	265924-5	313136-5					
140	313139-2	265924-5						

Catalog 1654080
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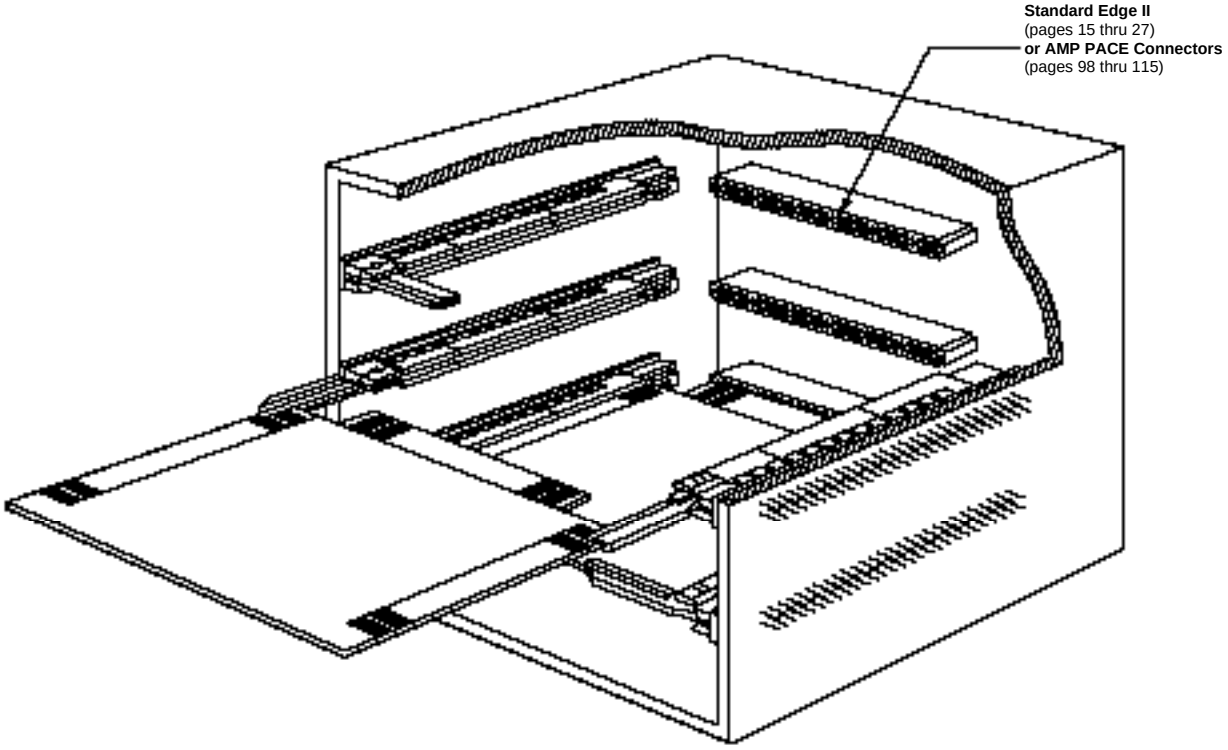
UK: 44-141-810-8967

Linear ZIF Connectors (Continued)

Special Application

Use Linear and Rotary ZIF Connectors as Card Guides to access more sides of the Daughter Board.



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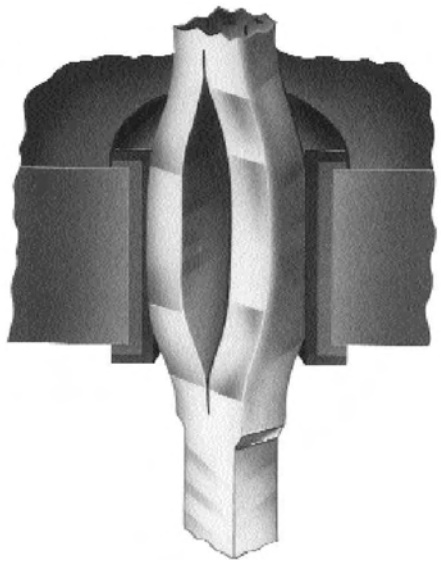
Japan: 81-44-844-8013
UK: 44-141-810-8967

ACTION PIN Press-Fit Contacts



The Reliable Plated Through-Hole Interconnect

Solderless interconnections have been popular in electrical and electronic application with world-wide success for decades. They provide reliable electrical and mechanical stability and offer applied-cost savings across the board. For PC board applications, ACTION PIN contacts from Tyco Electronics provide these features:

- Large gas-tight contact zone
- Reliability due to stored energy in compliant pin contacts
- No damage to plated through-holes during installation
- Especially suited for multilayer PC boards
- Less costly board manufacturing due to larger hole tolerances compared to use of solid pins
- Application can be made by end-user
- Repairability—contact can be replaced in the same pin location (two repairs)
- Installation with no heat cycling of board
- Permits mass insertion by minimizing forces needed to insert pins as compared to solid pin press-fit application
- Significant applied-cost savings in many applications

Since ACTION PIN contacts do not have to be soldered, issues associated with solder are eliminated, such as:

- Faulty solder joints
- Solder fumes; contaminant's are deposited on the contacts
- Solder spots; short circuits between printed circuits
- Flux residuals
- Thermal strain on printed circuit boards and components
- Degasing of plated through-holes

Solderless press-fit interconnections using the ACTION PIN contact are primarily integrated in, but not limited to, backplanes.

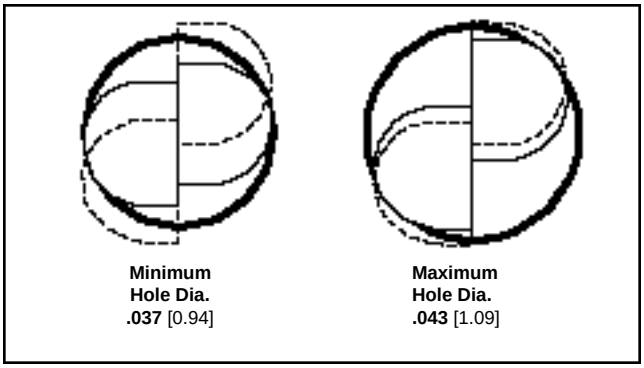
Solderless press-fit interconnections are used in racks, especially where connectors must be fixed on the solder side of the PC board and/or component side. In these applications, the holes for ACTION PIN contact connectors are covered during the soldering process and press-fitting is performed after soldering.

Other applications for ACTION PIN contact interconnections include PC boards that incorporate components using surface mount technology (SMT). Here, too, press-fit interconnections can be applied after soldering, thus eliminating complications associated with connectors suitable for surface mounting.

Principle of the Tyco Electronics Compliant ACTION PIN Contact

When an ACTION PIN contact is inserted into a plated through-hole, two spring members are compressed, exerting force against the hole for gas-tight connection. The diameter of the hole is smaller than the diagonal size of the pin (see cross-section illustration below).

The beam characteristics of the pin are designed so that a plastic, as well as an elastic, deformation takes place during insertion. The two spring members compress to different degrees to accommodate hole tolerances. The compliant pin also reduces strain on the board. With a rigid pin, the elastic strain energy is stored entirely in the board, leading to damage of the plated through-holes. With the ACTION PIN contact, the residual force of the elastic deformation maintains stored energy to produce a tight contact zone between the pin and the plated through-hole. This provides long term electrical and mechanical reliability of the interconnection.



Cross-Section Area from Tyco Electronics ACTION PIN Press-Fit Contact in Printed Circuit Board Holes from Tyco Electronics.

Note: ACTION PIN contact mounting hole specifications are presented in each product section, where applicable.

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UK: 44-141-810-8967

AMP PACE Connectors

AMP PACE (Pre-Assembled Card Edge) Connectors are the latest innovation in the evolution of backplane architecture. Designed to shorten manufacturing time and reduce applied costs, these one-step, pre-assembled connectors are ready for mounting and mass insertion. In addition, design features such as removable housings and contacts, that are replaceable through the top of the connector housing, for maximum flexibility in your backplane packaging.

At the heart of the AMP PACE Connector is AMP's proven and reliable ACTION PIN Contact. This unique contact has superior electrical and physical characteristics that are top of the line in the industry.

AMP PACE Connectors are available with post centerline spacings of:
.100 x .100 [2.54 x 2.54]
.100 x .200 [2.54 x 5.08]
.125 x .125 [3.18 x 3.18]
.125 x .250 [3.18 x 6.35]
.156 x .200 [3.96 x 5.08]

Important:
Application tooling is absolutely necessary to insert connectors into PC boards. See page 115 for application tooling.

Performance Specifications

Electrical Characteristics

Contact Resistance: ACTION PIN Contact Interface—5 milliohm
Spring Contact to Test Board—11.5 milliohms

Total Circuit Resistance:
12 milliohms

Continuous Current Rating*:
3 amperes

Insulation Resistance:
5,000 milliohms

Dielectric Withstanding Voltage:
.100 [2.54] Centerline Spacing—
1,000 VAC at sea level;
350 VAC at 50,000 ft. [15,240 m];
275 VAC at 70,000 ft. [21,336 m]
.125 [3.18] Centerline Spacing—
1,500 VAC at sea level;
500 VAC at 50,000 ft. [15,240 m];
235 VAC at 70,000 ft. [21,336 m]

Physical Characteristics

Card Insertion Force (Max.):
16 oz [4.45 N] per contact pair
ACTION PIN Contact Post

Card Extraction Force (Min.):
1 oz [.278 N] per contact pair
ACTION PIN Contact Post

Retention (in PC board):
.100 x .100 [2.54 x 2.54]—
7.5 lb. [33.4 N] min.

Operating Temperature:
–55°C to +85°C

Durability: Tested to 100 cycles (100 insertions and withdrawals at a rate not exceeding 10 cycles per minute)

Salt Spray: MIL-STD-1344, Method 1001

Physical Shock: MIL-STD-1344, Method 2004

Thermal Shock: MIL-STD-1344, Method 1003, Cond. A

Humidity: MIL-STD-1344, Method 1002, Type II

Vibration: MIL-STD-1344, Method 2005

Recognized under the Component Program of Underwriters Laboratories Inc., File No. E28476

Certified by Canadian Standards Association, File No. LR7189

***Consult Tyco Electronics engineering when paralleling contacts for power applications.**

Catalog 1654080
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AMP PACE Connectors (Continued)

Product Facts

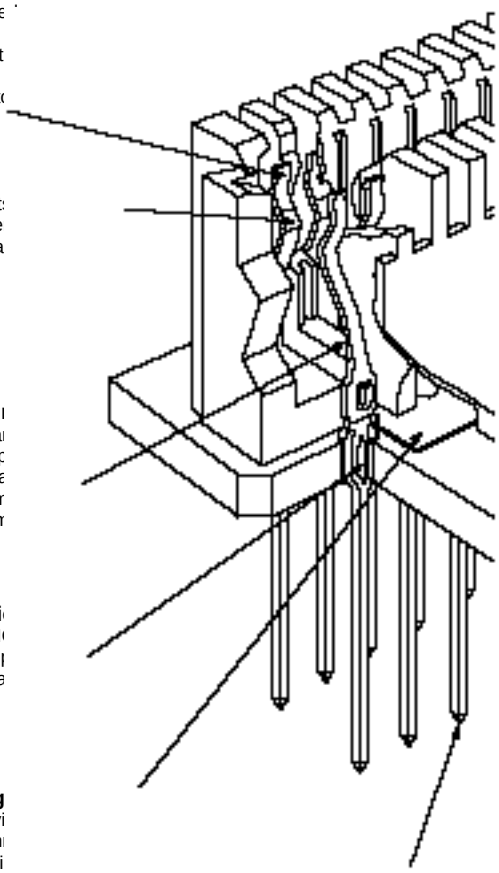
Repairability—
(See below for details)
Individual contacts can be remove
without removing the housing;
housings can be removed without
removing posts. **Important:** APC
must be inserted into the connect
when removing the contact.

Precision Plated
Selective plating put
it is needed for supe
contact at a reasona

Beam Contact Desig
The contact's unique bea
accommodates and comp
for daughter board warp a
stress providing long-term
performance (100 gram n
normal force).

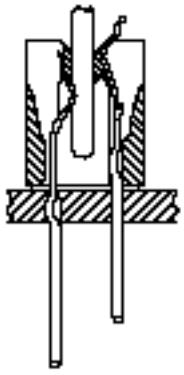
Gas-Tight Connecti
Spring sections of ACTI
Contacts compress in o
directions, maintaining a
fit with the PC board.

Contact Tip Alig
Polyester strip provi
and stable pin align
damage-free entry i
PC board.

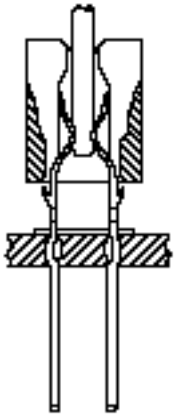


Precision Plated Post—
Gold plating can be applied to the entire post, or just the post tip for improved pluggability.

Repairability Details



Remove and replace contacts without removing housing. (See page 115 for Contact Replacement Tools.)



Remove and replace housing without removing contacts.

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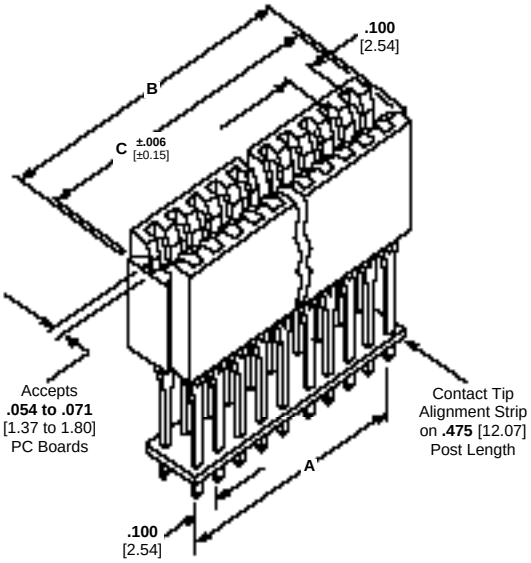
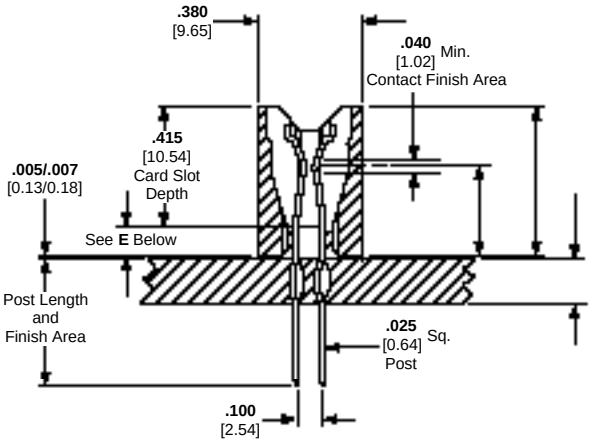
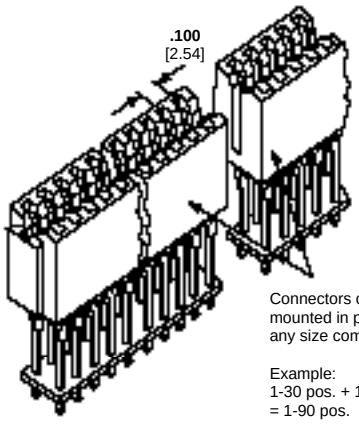
AMP PACE Connectors, .100 x .100 [2.54 x 2.54] Centerline

Standard Housing



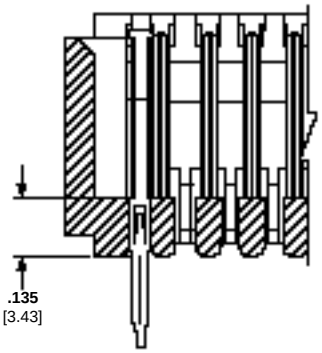


Typical Closed End/ Open End Housing



Connectors can be mounted in pairs using any size combinations.

Example:
1-30 pos. + 1-60 pos.
= 1-90 pos.



Detail E

Keying Plugs

Intercontact (Plastic)
Part No. 118982-1

On-Contact (Plastic)
Part No. 119802-2

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UK: 44-141-810-8967

AMP PACE Connectors, .100 x .100 [2.54 x 2.54] Centerline (Continued)

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated gold .000030 [0.00076] min. thk. over .000050 [0.00127] min. thk. nickel in contact area, .000100 [0.00254] min. tin-lead on posts, with entire contact underplated .000050 [0.00127] min. nickel

Contact Tip Alignment Strip—Clear polyester, type D

Note: Full palladium-nickel plated posts and other platings and plating thicknesses can be made available.

Related Product Data:

Performance Specifications—page 98

Accessories—page 112

PC Board Edge Pattern—page 113

ACTION PIN Contact Mounting Hole Specifications—page 114

Application Tooling—page 115

Contact Replacement Tools—page 115

Special Application—page 96

Technical Documents:

(pages 186, 187):

Product Specifications
108-14019, 108-26003

Application Specification
114-26002

Instruction Sheets 408-2978, 408-2979, 408-6881, 408-9091, 408-9188

No. of Dual Positions	Dimensions			Post Length	Closed/Closed		Closed/Open
	A	B	C		Standard	Scoop	Standard
15	**1.400** 35.56	**1.734** 44.04	**1.604** 40.74	**.180** 4.57	119734-1	119736-1	—
				.475 12.07	119237-1	—	—
20	**1.900** 48.26	**2.234** 56.74	**2.104** 53.44	**.180** 4.57	119734-6	—	—
25	**2.400** 60.96	**2.734** 69.44	**2.604** 66.14	**.180** 4.57	1-119734-1	—	—
28	**2.700** 68.58	**3.034** 77.06	**2.904** 73.76	**.180** 4.57	1-119734-4	—	—
31	**3.000** 76.20	**3.334** 84.68	**3.204** 81.38	**.475** 12.07	1-119237-7	—	—
35	**3.400** 83.36	**3.734** 94.84	**3.604** 91.54	**.180** 4.57	2-119734-1	—	119831-6
				.475 12.07	—	—	119413-6
40	**3.900** 99.06	**4.234** 107.54	**4.104** 104.24	**.180** 4.57	2-119734-6	2-119736-6	—
48	**4.700** 119.38	**5.034** 127.86	**4.904** 124.56	**.475** 12.07	3-119237-4	—	—
50	**4.900** 124.46	**5.234** 132.94	**5.104** 129.64	**.180** 4.57	3-119734-6	—	—
60	**5.900** 149.86	**6.234** 158.34	**6.104** 155.04	**.180** 4.57	4-119734-6	4-119736-6	—

Note: Other connector sizes and connectors with card scoops can be made available, consult Tyco Electronics.

Catalog 1654080
Issued 7-03

www.tycoelectronics.com

Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

USA: 1-800-522-6752
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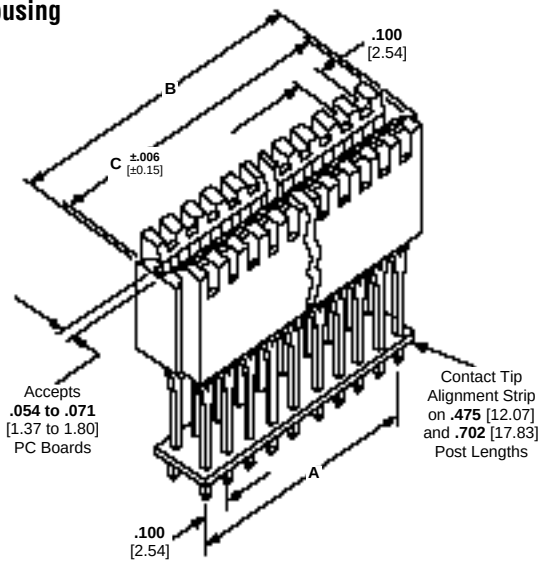
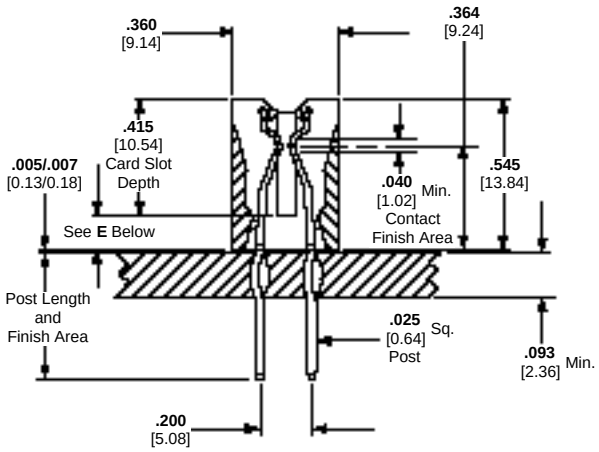
South America: 55-11-3611-1514
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

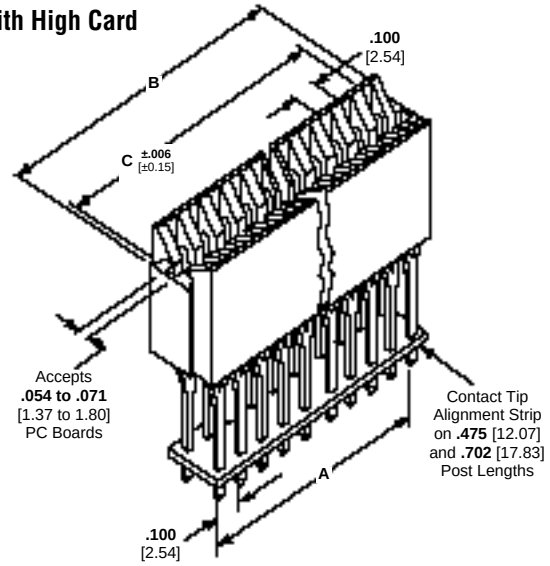
AMP PACE Connectors, .100 x .200 [2.54 x 5.08] Centerline

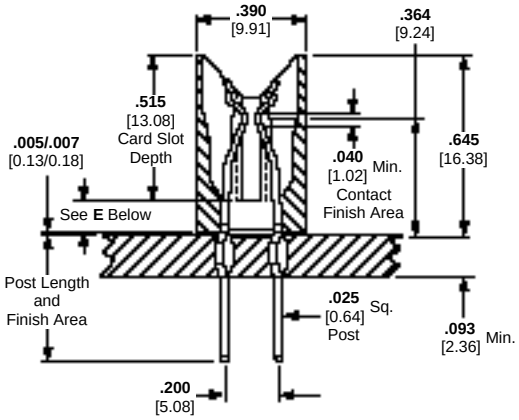
Standard Housing

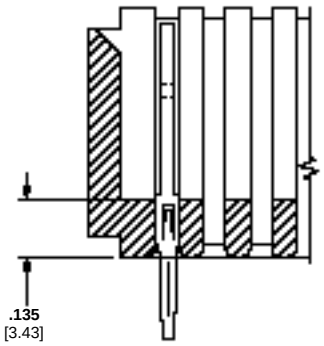




Housing with High Card Scoops







Detail E

Keying Plugs

Intercontact (Plastic)
Part No. 118982-1

On-Contact (Plastic)
Part No. 119802-2

Catalog 1654080
Issued 7-03

www.tycoelectronics.com

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Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

AMP PACE Connectors, .100 x .200 [2.54 x 5.08] Centerline (Continued)

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated gold .000030 [0.00076] min. thk. over .000050 [0.00127] min. thk. nickel in contact area, .000100 [0.00254] min. tin-lead on posts, with entire contact underplated .000050 [0.00127] min. nickel

Contact Tip Alignment Strip—Clear polyester, type D

Note: Full palladium-nickel plated posts and other platings and plating thicknesses can be made available.

Related Product Data:

Performance Specifications—page 98

Accessories—page 112

PC Board Edge Pattern—page 113

ACTION PIN Contact Mounting Hole Specifications—page 114

Application Tooling—page 115

Contact Replacement Tools—page 115

Special Application—page 96

Technical Documents:

(pages 186, 187):

Product Specifications
108-14019, 108-26003

Application Specification
114-26002

Instruction Sheets 408-2933, 408-2978, 408-2979, 408-9058, 408-9067, 408-9091, 408-9186

No. of Dual Positions	Dimensions			Post Length	Closed End/Closed End	
	A	B	C		Standard	High Scoop
10	**.900** 22.86	**1.234** 31.34	**1.104** 28.04	**.180** 4.57	—	650297-1
15	**1.400** 35.56	**1.734** 44.04	**1.604** 40.74	**.180** 4.57	119738-1	119791-1
18	**1.700** 43.18	**2.034** 51.66	**1.904** 48.36	**.180** 4.57	119738-4	—
20	**1.900** 48.26	**2.234** 56.74	**2.104** 53.44	**.180** 4.57	119738-6	—
22	**2.100** 53.34	**2.434** 61.82	**2.304** 58.52	**.180** 4.57	119738-8	—
				.475 12.07	119216-8	650123-8
24	**2.300** 58.42	**2.634** 66.90	**2.504** 63.60	**.180** 4.57	1-119738-0	—
25	**2.400** 60.96	**2.734** 69.44	**2.604** 66.14	**.180** 4.57	1-119738-1	—
				.702 17.83	1-119163-1	—
28	**2.700** 68.58	**3.034** 77.06	**2.904** 73.76	**.180** 4.57	1-119738-4	—
				.475 12.07	1-119216-4	—
30	**2.900** 73.66	**3.234** 82.14	**3.104** 78.84	**.180** 4.57	1-119738-6	1-119791-6
				.475 12.07	1-119216-6	—
				.702 17.83	1-119163-6	—
31	**3.000** 76.20	**3.334** 84.68	**3.204** 81.38	**.180** 4.57	1-119738-7	—
32	**3.100** 78.74	**3.434** 87.22	**3.304** 83.92	**.180** 4.57	1-650122-8	—
34	**3.300** 83.82	**3.634** 92.30	**3.504** 88.90	**.180** 4.57	—	2-119791-0
				.475 12.06	2-119216-0	—
35	**3.400** 86.36	**3.734** 94.84	**3.604** 91.54	**.475** 12.06	2-119216-1	—
36	**3.500** 88.90	**3.834** 97.38	**3.704** 94.08	**.180** 4.57	2-119738-2	—
				.475 12.06	2-119216-2	—
37	**3.600** 91.44	**3.934** 99.92	**3.804** 96.62	**.180** 4.57	2-650122-3	—
40	**3.900** 99.06	**4.234** 107.54	**4.104** 104.24	**.180** 4.57	2-119738-6	—
				.475 12.06	2-119216-6	—
43	**4.200** 106.68	**4.534** 115.16	**4.404** 111.86	**.180** 4.57	2-650122-9	—
44	**4.300** 109.22	**4.634** 117.70	**4.504** 114.40	**.475** 12.07	3-119216-0	—
50	**4.900** 124.46	**5.234** 132.94	**5.104** 129.64	**.180** 4.57	3-119738-6	3-119791-6
				.475 12.07	3-119216-6	—
				.702 17.83	—	3-119726-6
55	**5.400** 137.16	**5.734** 145.54	**5.604** 142.34	**.180** 4.57	4-119738-1	4-650124-1
60	**5.900** 149.86	**6.234** 158.34	**6.104** 155.04	**.180** 4.57	4-119738-6	—
				.702 17.83	119677-1	—

Note: Other connector sizes can be made available, consult Tyco Electronics.

Catalog 1654080
Issued 7-03

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Japan: 81-44-844-8013
UK: 44-141-810-8967

AMP PACE Connectors, .125 x .125 [3.18 x 3.18] Centerline

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated gold .000030 [0.00076] min. thk. over .000050 [0.00127] min. thk. palladium-nickel in contact area, .000100 [0.00254] min. tin-lead on posts, with entire contact underplated .000050 [0.00127] min. nickel

Contact Tip Alignment Strip—Clear polyester, type D

Note: Full palladium-nickel plated posts and other platings and plating thicknesses can be made available.

Related Product Data:

Performance Specifications—page 98

Accessories—page 112

PC Board Edge Pattern—page 113

ACTION PIN Contact Mounting Hole Specifications—page 114

Application Tooling—page 115

Contact Replacement Tools—page 115

Special Application—page 96

Technical Documents:

(pages 186, 187):

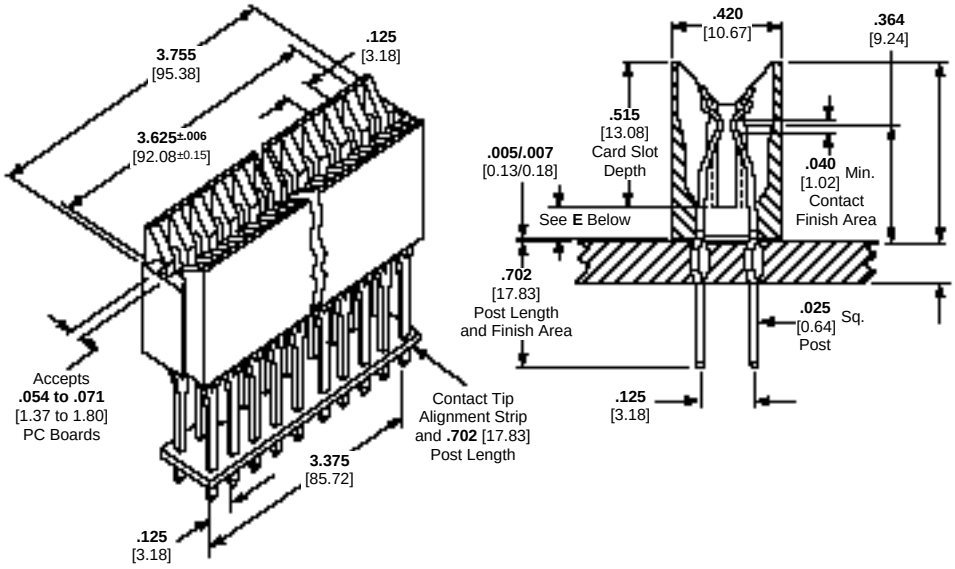
Product Specifications
108-14019, 108-26003

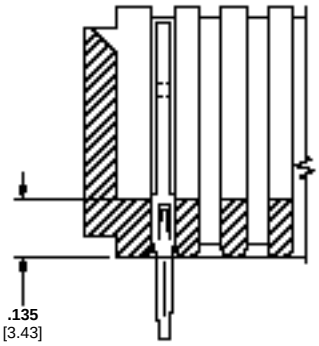
Application Specification
114-26002

Instruction Sheets 408-6727, 408-9186

Housing with High Card Scoops

28 Dual Positions
Part Number 1-119853-4





Detail E

Keying Plugs

Intercontact (Plastic)
Part No. 118982-1

On-Contact (Plastic)
Part No. 119802-2

Catalog 1654080
Issued 7-03

www.tycoelectronics.com

Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

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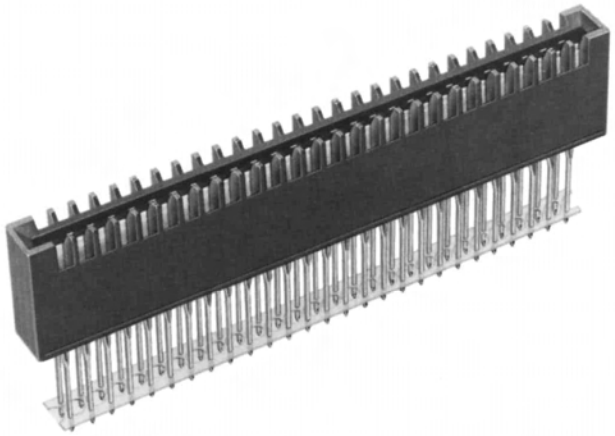
Japan: 81-44-844-8013
UK: 44-141-810-8967

AMP PACE Connector Specials, .125 x .125 [3.18 x 3.18] Centerline

27 Dual Positions

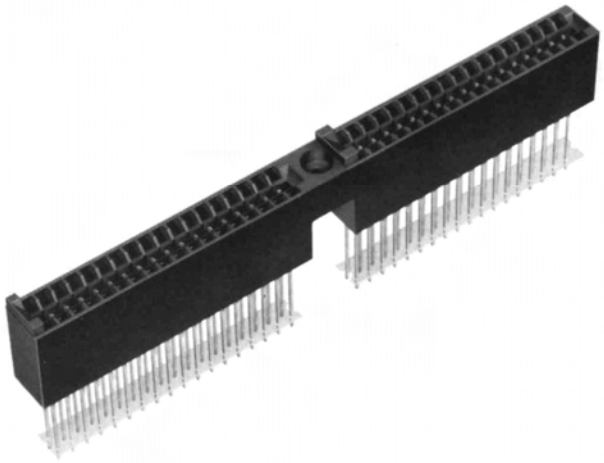
Tin-Lead Posts
.634 [16.10] Long
Part No. 645394-1



18 or 36 Dual Positions

Tin-Lead Posts
.740 [18.80] Long
Part No. 119552-2

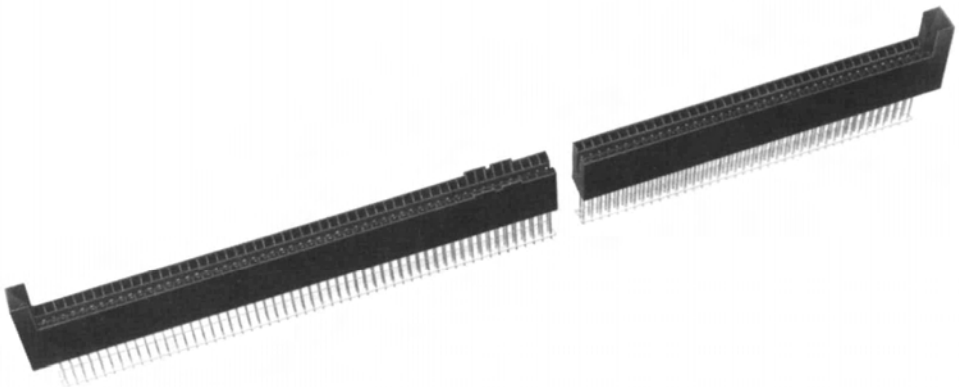
Tin-Lead Posts
.180 [4.57] Long
Part No. 119880-1



97 Dual Positions

(Two-piece Closed End/Open End with Partial Card Scoops and Card Guides)

Contact Tyco Electronics for specific Part Number information.



Catalog 1654080
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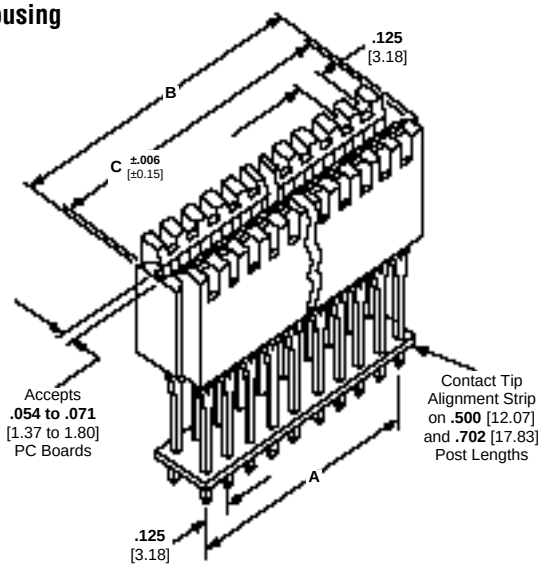
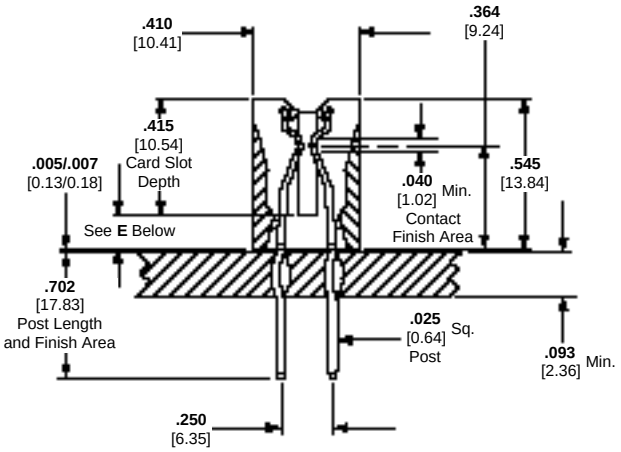
South America: 55-11-3611-1514
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

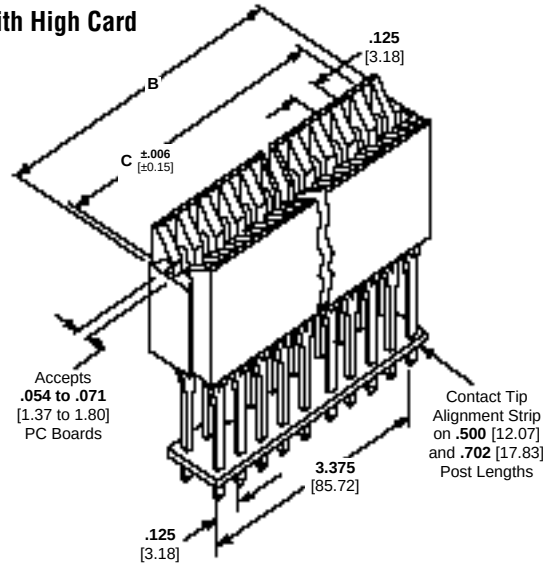
AMP PACE Connectors, .125 x .250 [3.18 x 6.35] Centerline

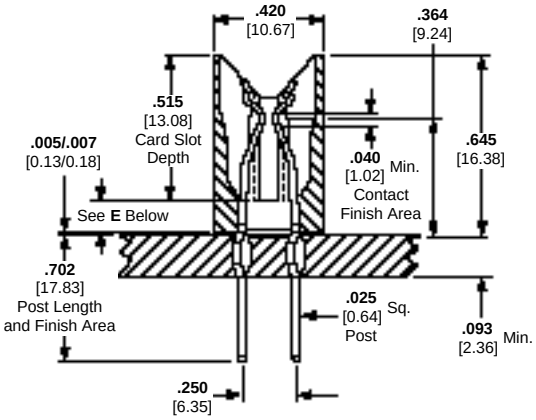
Standard Housing



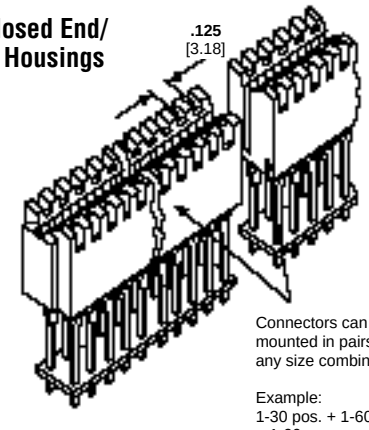


Housing with High Card Scoops



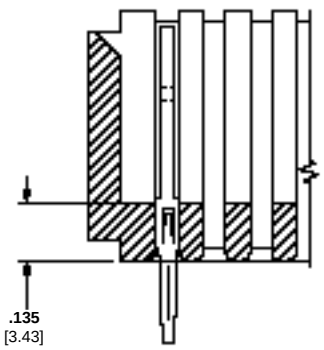


Typical Closed End/ Open End Housings



Connectors can be mounted in pairs using any size combinations.

Example:
1-30 pos. + 1-60 pos.
= 1-90 pos.



Detail E

Keying Plugs

Intercontact (Plastic)
Part No. 118982-1

On-Contact (Plastic)
Part No. 119802-2

Catalog 1654080
Issued 7-03

www.tycoelectronics.com

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Japan: 81-44-844-8013
UK: 44-141-810-8967

AMP PACE Connectors, .125 x .250 [3.18 x 6.35] Centerline (Continued)

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated gold .000030 [0.00076] min. thk. over .000050 [0.00127] min. thk. nickel in contact area, .000100 [0.00254] min. tin-lead on posts, with entire contact underplated .000050 [0.00127] min. nickel

Contact Tip Alignment Strip—Clear polyester, type D

Note: Full palladium-nickel plated posts and other platings and plating thicknesses can be made available.

Related Product Data:

Performance Specifications—page 98

Accessories—page 112

PC Board Edge Pattern—page 113

ACTION PIN Contact Mounting Hole Specifications—page 114

Application Tooling—page 115

Contact Replacement Tools—page 115

Special Application—page 96

Technical Documents:

(pages 186, 187):

Product Specifications
108-14019, 108-26003

Application Specification
114-26002

Instruction Sheets 408-2933, 408-2978, 408-2979, 408-9063, 408-9091, 408-9119, 408-9186

No. of Dual Positions	Dimensions A	Dimensions B	Dimensions C	Post Length	Closed End/Closed End Standard	Closed End/Closed End High Scoop	Closed End/Open End High Scoop
18	**2.125** 53.98	**2.373** 60.27	**2.505** 63.63	**.180** 4.57	119822-4	—	3-119840-2
22	**2.625** 66.68	**3.005** 76.33	**2.875** 73.02	**.180** 4.57	119822-8	—	—
				.500 12.70	119200-8	—	—
				.702 17.83	119202-8	—	—
25	**3.000** 76.20	**3.380** 85.85	**3.250** 82.55	**.180** 4.57	1-119822-1	—	—
27	**3.250** 82.55	**3.630** 92.20	**3.500** 88.90	**.702** 17.83	1-119202-3	—	—
28	**3.375** 85.72	**3.755** 95.38	**3.625** 92.08	**.180** 4.57	1-119822-4	—	—
				.500 12.70	1-119200-4	—	—
30	**3.625** 92.08	**4.005** 101.73	**3.875** 98.24	**.180** 4.57	1-119822-6	678034-1	—
				.500 12.70	—	1-119841-6	—
36	**4.375** 111.82	**4.755** 120.78	**4.625** 117.48	**.180** 4.57	2-119822-2	678034-2	—
				.500 12.70	—	2-119841-2	—
38	**4.625** 117.47	**4.873** 123.77	**5.005** 127.13	**.180** 4.57	2-119822-4	—	119840-9
40	**4.875** 123.83	**5.255** 133.48	**5.125** 130.18	**.180** 4.57	2-119822-6	—	—
				.702 17.83	2-119200-6	—	—
50	**6.125** 155.58	**6.505** 165.23	**6.375** 161.93	**.180** 4.57	3-119822-6	—	—
51	**6.250** 158.75	**6.630** 168.40	**6.500** 165.10	**.500** 12.70	3-119200-7	—	—
60	**7.375** 187.33	**7.755** 196.98	**7.625** 193.68	**.180** 4.57	4-119822-6	—	—

Note: Other connector sizes can be made available, consult Tyco Electronics.

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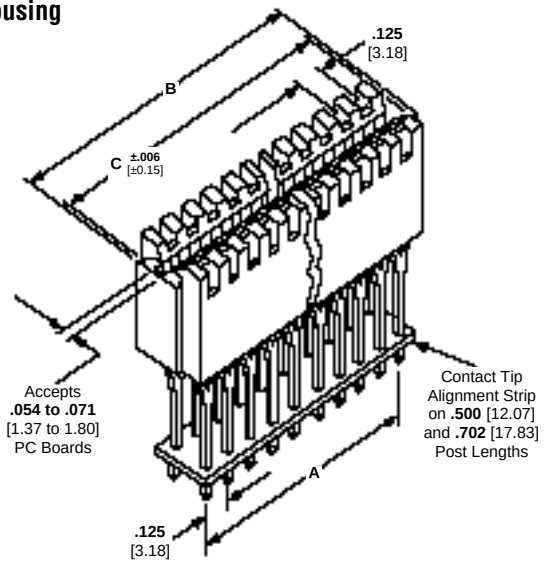
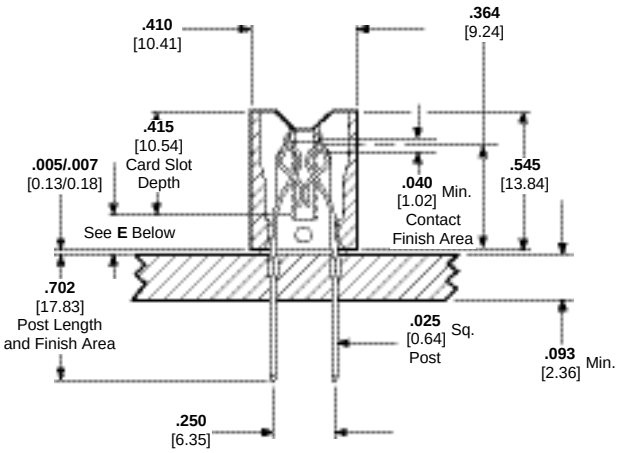
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

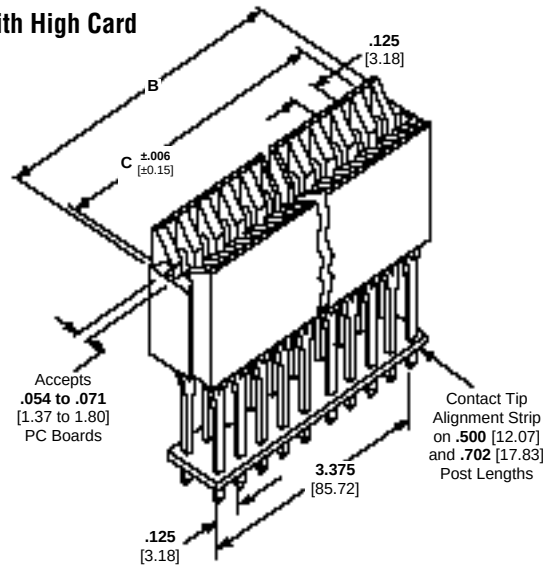
AMP PACE Connectors, .125 x .250 [3.18 x 6.35] Centerline w/ Make Before Break Contacts

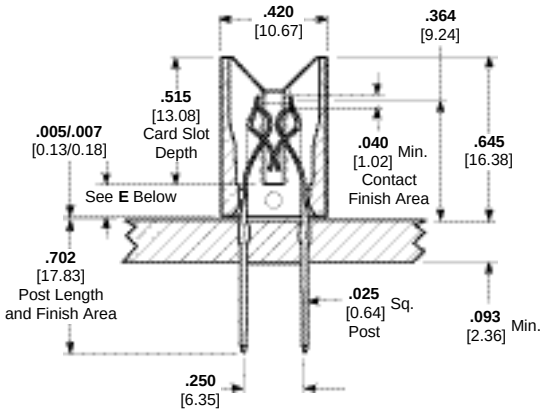
Standard Housing



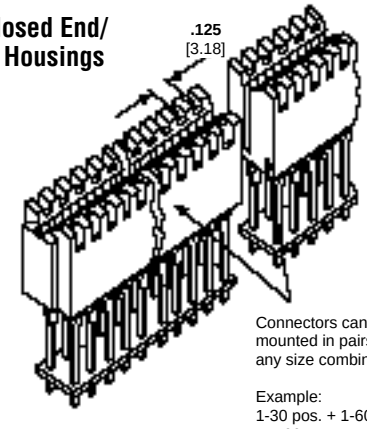


Housing with High Card Scoops



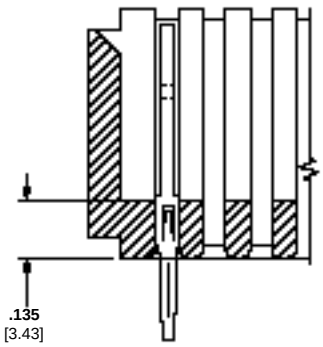


Typical Closed End/ Open End Housings



Connectors can be mounted in pairs using any size combinations.

Example:
1-30 pos. + 1-60 pos.
= 1-90 pos.



Detail E

Keying Plugs

Intercontact (Plastic)
Part No. 118982-1

On-Contact (Plastic)
Part No. 119802-2

Catalog 1654080
Issued 7-03

www.tycoelectronics.com

Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

USA: 1-800-522-6752
Canada: 1-905-470-4425
Mexico: 01-800-733-8926
C. America: 52-55-5-729-0425

South America: 55-11-3611-1514
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

AMP PACE Connectors, .125 x .250 [3.18 x 6.35] Centerline w/ Make Before Break Contacts (Continued)

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated gold .000030 [0.00076] min. thk. over .000050 [0.00127] min. thk. nickel in contact area, .000100 [0.00254] min. tin-lead on posts, with entire contact underplated .000050 [0.00127] min. nickel

Contact Tip Alignment Strip—Clear polyester, type D

Note: Full palladium-nickel plated posts and other platings and plating thicknesses can be made available.

Related Product Data:

Performance Specifications—page 98

Accessories—page 112

PC Board Edge Pattern—page 113

ACTION PIN Contact Mounting Hole Specifications—page 114

Application Tooling—page 115

Contact Replacement Tools—page 115

Special Application—page 96

Technical Documents:

(pages 186, 187):

Product Specifications
108-14019, 108-26003

Application Specification
114-26002

Instruction Sheets 408-2933, 408-2978, 408-2979, 408-9063, 408-9091, 408-9119, 408-9186

No. of Dual Positions	Dimensions			Post Length	Closed End/Closed End	Closed End/Open End
	A	B	C		Standard	High Scoop
18	**2.125** 53.98	**2.505** 63.63	**2.373** 60.27	**.180** 4.57	1571235-1	—
24	**2.875** 76.20	**3.123** 79.25	**3.058** 77.67	**.180** 4.57	—	650059-2

Note: Other connector sizes can be made available, consult Tyco Electronics.

Catalog 1654080
Issued 7-03

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Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

AMP PACE Connectors, .156 x .200 [3.96 x 5.08] Centerline

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated gold .000030 [0.00076] min. thk. over .000050 [0.00127] min. thk. nickel in contact area, .000100 [0.00254] min. tin-lead on posts, with entire contact underplated .000050 [0.00127] min. nickel

Contact Tip Alignment Strip—Clear polyester, type D

Note: Full palladium-nickel plated posts and other platings and plating thicknesses can be made available.

Related Product Data:

Performance Specifications—page 98

Accessories—page 112

PC Board Edge Pattern—page 113

ACTION PIN Contact Mounting Hole Specifications—page 114

Application Tooling—page 115

Contact Replacement Tools—page 115

Special Application—page 96

Technical Documents:

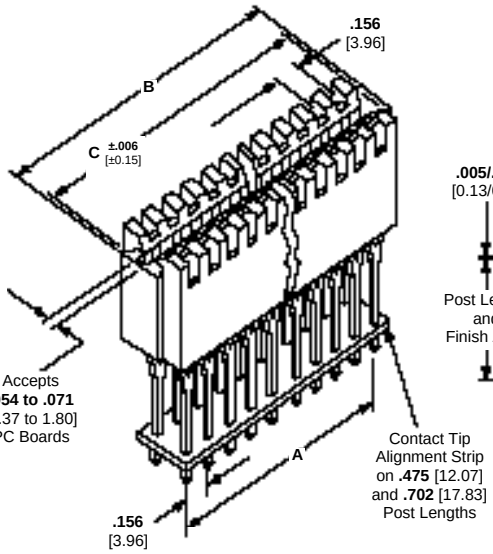
(pages 186, 187):

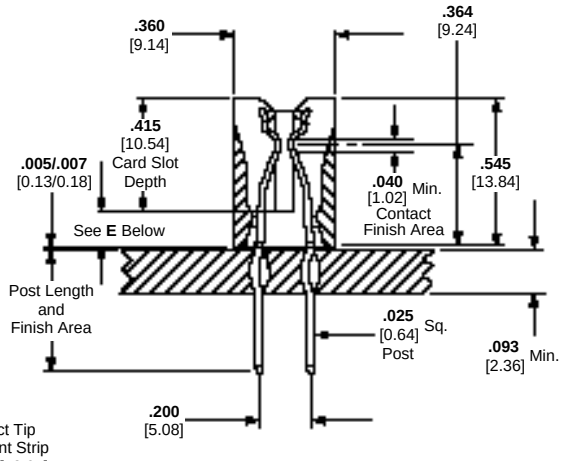
Product Specifications
108-14019, 108-26003

Application Specification
114-26002

Instruction Sheets 408-6726, 408-9186

Standard Housing

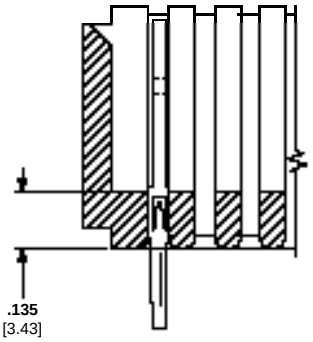




Keying Plugs

Intercontact (Plastic)
Part No. 118982-1

On-Contact (Plastic)
Part No. 119802-2



Detail E

No. of Dual Positions	Dimensions A	Dimensions B	Dimensions C	Post Length	Closed End/Closed End Standard
15	**2.184** 55.47	**2.626** 66.70	**2.495** 63.39	**.180** 4.57	119790-1
				.475 12.07	119254-1
				.702 17.83	119256-1
18	**2.652** 67.36	**3.094** 78.59	**2.964** 75.29	**.475** 12.07	119254-4
22	**3.276** 83.21	**3.718** 94.44	**3.588** 91.13	**.180** 4.57	119790-8
				.475 12.07	119254-8
				.702 17.83	119256-8
28	**4.212** 106.98	**4.654** 118.21	**4.524** 114.91	**.180** 4.57	1-119790-4
				.475 12.07	1-119254-4
				.702 17.83	1-119256-4
43	**6.552** 166.42	**6.994** 177.65	**6.864** 174.35	**.180** 4.57	2-119790-9
				.475 12.07	2-119254-9
				.702 17.83	2-119256-9

Note: Other connector sizes can be made available, consult Tyco Electronics.

Catalog 1654080
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UK: 44-141-810-8967

AMP PACE Connectors, .156 x .200 [3.96 x 5.08] Centerline w/Make Before Break Contacts

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated gold flash over .000030 [0.00076] min. thk. over .000050 [0.00127] min. thk. nickel in contact area, .000100 [0.00254] min. tin-lead on posts, with entire contact underplated .000050 [0.00127] min. nickel

Contact Tip Alignment Strip—Clear polyester, type D

Note: Full palladium-nickel plated posts and other platings and plating thicknesses can be made available.

Related Product Data:

Performance Specifications—page 98

Accessories—page 112

PC Board Edge Pattern—page 113

ACTION PIN Contact Mounting Hole Specifications—page 114

Application Tooling—page 115

Contact Replacement Tools—page 115

Special Application—page 96

Technical Documents:

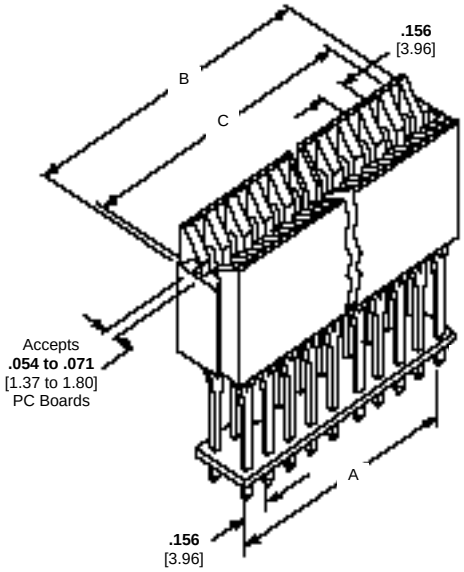
(pages 186, 187):

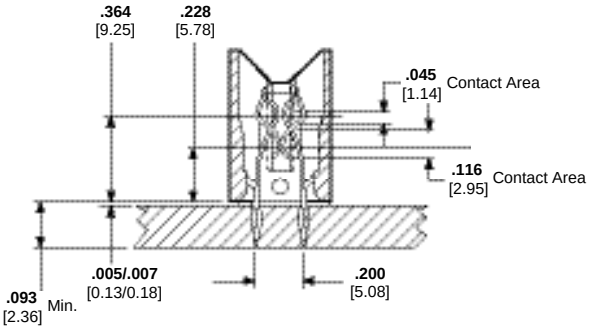
Product Specifications
108-14019, 108-26003

Application Specification
114-26002

Instruction Sheets 408-6726, 408-9186

Card Scoop Housing

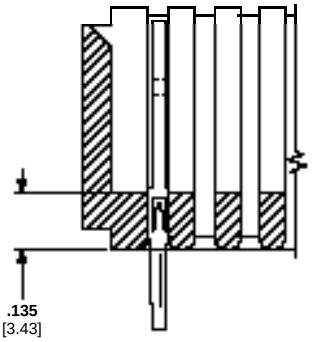




Keying Plugs

Intercontact (Plastic)
Part No. 118982-1

On-Contact (Plastic)
Part No. 119802-2



Detail E

No. of Dual Positions	Dimensions			Post Length	Closed End/Closed End
	A	B	C		Scoop
18	**2.652** 67.36	**3.094** 78.59	**2.964** 75.29	**.180** 4.57	678035-1

Note: Other connector sizes can be made available, consult Tyco Electronics.

Catalog 1654080
Issued 7-03

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UK: 44-141-810-8967

Accessories for AMP PACE Connectors

Connector Card Guide

Material: Black glass-filled polyester

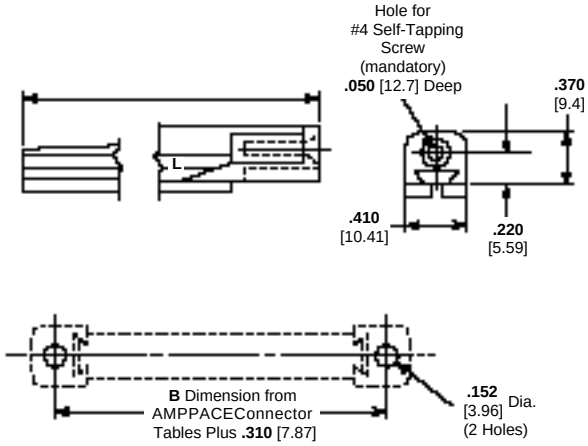
Related Product Data:

Mates with all standard housings (will not mate with some special housings)

Technical Documents:

(pages 186, 187):

Instruction Sheet 408-9091



L[1]	Part Numbers
2.500 63.50	117169-3
6.000 152.40	1-117169-3

[1]Other lengths up to **6.0** [152.4] can be made available. Consult Tyco Electronics for details.

Ground Module

Rating:

20 amperes per contact—Copper or aluminum bus

Material and Finish:

Housing—Black glass-reinforced thermoplastic

Contact—CA 195, 3/4 hard, plated .000050 [0.00127] gold in contact area (front face only); .000100 [0.00254] tin-lead on post, with entire contact underplated .000050 [0.00127] nickel

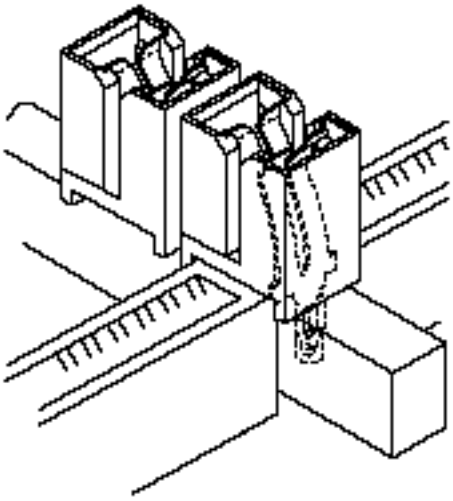
Related Product Data:

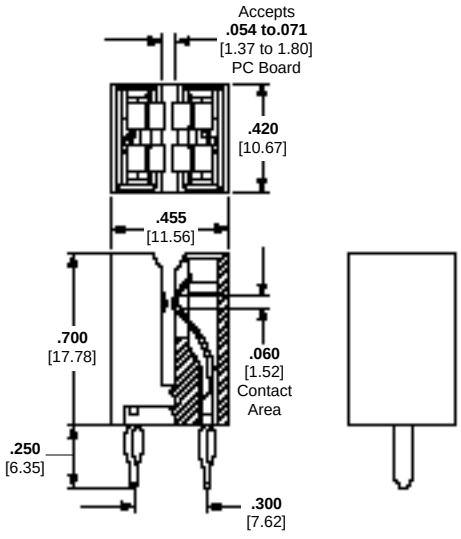
Mates with all standard housings (will not mate with some special housings)

Technical Documents:

(pages 186, 187):

Instruction Sheet 408-2978





Part No. 119341-1
Seating Tool 59881-1

Catalog 1654080
Issued 7-03

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Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

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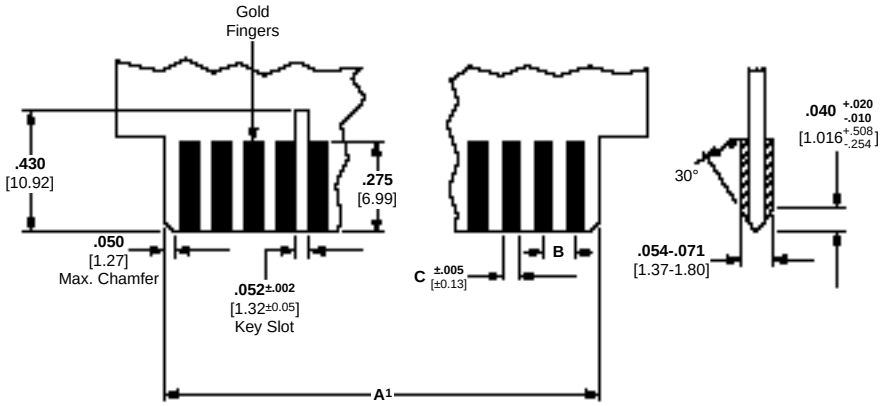
UK: 44-141-810-8967

PC Board Layout for AMP PACE Connectors

Recommended PC Board Edge Pattern



[1]A Max. = Minimum connector card slot -.001 [-0.03].
A Min. = Minimum connector card slot -.011 [-0.28].

Note: Finger pattern to be centered on daughter card.
Each finger can deviate .003 [0.08] from true position.

AMP PACE Connector Centerline Spacing	Dimensions	
	B	C
.100 x .100 2.54 x 2.54	**.100** 2.54	**.070** 1.78
.100 x .200 2.54 x 5.08	**.100** 2.54	**.070** 1.78
.125 x .125 3.18 x 3.18	**.125** 3.18	**.080** 2.03
.125 x .250 3.18 x 6.35	**.125** 3.18	**.080** 2.03
.156 x .200 3.96 x 5.08	**.156** 3.96	**.080** 2.03

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UK: 44-141-810-8967

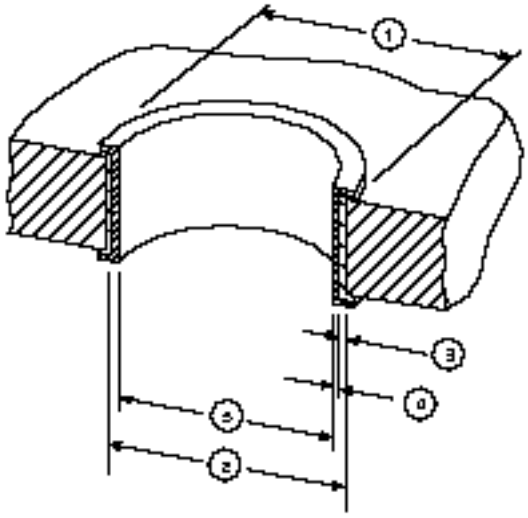
AMP PACE Connectors (Continued)

AMP ACTION PIN Press-Fit Contacts

ACTION PIN contacts provide a reliable press-fit connection. Localized pressure in the interface area entails oxide break-through and helps prevent corrosion in the harshest environments to provide a reliable connection virtually every time. Also, radial and axial distortion are controlled to meet today's standards for multilayer board applications.

PC Board Thickness

ACTION PIN contacts are designed for use in a variety of PC board thicknesses. However, certain ACTION PIN contacts are to be used in specific ranges of board thicknesses. To promote optimum performance, the recommended board thicknesses provided with the connector being used must be followed.



① Annular Ring (See Note)

② Drilled Hole

③ Copper Thickness

④ Tin-Lead Thickness

⑤ Plated Through-Hole

Mounting Hole Specifications

Connector		ACTION PIN Contact Material Thickness	Drilled Hole Diameter②	Plating Thicknesses		Plated Through-Hole Diameter⑤	Radial Hole Distortion	
Centerline	No. of Dual Positions			Copper③*	Tin-Lead④		Average	Maximum
.125 x .125 **3.18 x 3.18**	28, 97	**.025** 0.64	**.0453**$^{\pm.001}$ 1.151$^{\pm0.03}$	**.001-.003** 0.03-0.08	**.0003** 0.008 Min.	**.037-.043** 0.94-1.09	Not Specified	Not Specified
.156 x .200 **3.96 x 5.08**	15-43							
.125 x .125 **3.18 x 3.18**	27	**.025** 0.64	**.0465**$^{\pm.001}$ 1.181$^{\pm0.03}$	**.001-.003** 0.03-0.08	**.0003** 0.008 Min.	**.037-.043** 0.94-1.09	Not Specified	Not Specified
.100 x .100 **2.54 x 2.54**	15-60	**.025** 0.64	**.0453**$^{\pm.001}$ 1.151$^{\pm0.03}$	**.001-.003** 0.03-0.08	**.0003** 0.008 Min.	**.037-.043** 0.94-1.09	**.0015** 0.038	**.002** 0.05
.100 x .200 **2.54 x 5.08**	15-60							
.125 x .125 **3.18 x 3.18**	18, 36							
.125 x .250 **3.18 x 6.35**	18-60							

*Maximum hardness of copper layer is 150 Knoop.

Note: Recommended annular ring diameter is hole diameter plus **.020** [0.51].

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Application Tooling for AMP PACE Connectors

Modular Seating Tools

Available from Tyco Electronics is a complete series of AMP PACE Modular Seating Tools for installing AMP PACE Connectors on printed circuit boards and panels. These tools are modular in design in that housing tool holders may be added or subtracted to accommodate several different connector sizes. In addition, all tool parts are individually replaceable should the tool become damaged.

Modular seating tools are supplied in two basic designs: One which covers all connector centerlines except .100 x .100 [2.54 x 2.54] and one for the .100 x .100 [2.54 x 2.54] centerline connectors.

All seating tools have a common shut height of 1.5 inches [38]. This allows AMP PACE and other ACTION PIN products to be seated at the same time on AMP seating machines. See page 149 for a description of the AMP seating machines.

.100 x .100 [2.54 x 2.54] Centerline Spacing

.100 x .200 [2.54 x 5.08], .125 x .125 [3.18 x 3.18], .125 x .250 [3.18 x 6.35], .156 x .200 [3.96 x 5.08] Centerline Spacing

For Connectors without Scoops

No. of Dual Positions	Centerline			
	.100 x .100 [2.54 x 2.54]	.100 x .200 [2.54 x 5.08]	.125 x .250 [3.18 x 6.35]	.156 x .200 [3.96 x 5.08]
15	58200-1	58140-1	—	58143-1
18	—	58140-4	58142-4	—
20	58200-6	58140-6	—	—
22	—	58140-8	58142-8	58143-8
25	1-58200-1	1-58140-1	1-58142-1	—
28	1-58200-4	1-58140-4	1-58142-4	1-58143-4
30	1-58200-6	1-58140-6	1-58142-6	—
31	1-58200-7	—	—	—
32	—	1-58140-8	—	—
34	—	2-58140-0	—	—
35	2-58200-1	2-58140-1	—	—
36	—	2-58140-2	2-58142-2	—
37	—	2-58140-3	—	—
40	2-58200-6	2-58140-6	2-58142-6	—
43	—	2-58140-9	—	2-58143-9
44	—	3-58140-0	—	—
48	3-58200-4	—	—	—
50	3-58200-6	3-58140-6	3-58142-6	—
51	3-58200-7	—	3-58142-7	—
54	4-58200-0	—	—	—
55	4-58200-1	4-58140-1	—	—
56	—	—	4-58142-2	—
60	4-58200-6	4-58140-6	4-58142-6	—

For Connectors with Scoops

No. of Dual Positions	Centerline		
	.100 x .200 [2.54 x 5.08]	.125 x .125 [3.18 x 3.18]	.125 x .250 [3.18 x 6.35]
15	58150-1	—	—
18	—	—	58184-4
22	58150-8	—	—
28	—	1-58218-4	—
30	1-58150-6	—	—
38	—	—	2-58184-4
50	3-58150-6	—	3-58184-6
55	4-58150-1	—	—

Contact Replacement Tools

Replacement tools listed in the chart at the right are used to install replacement contacts in AMP PACE connector housings. Replacement Tool **1-265871-7** is used to remove all .025 [0.64] square posts from PC boards.

Centerline	Housing Style	
	Standard	Full Card Scoop
.100 x .100 2.54 x 2.54	266220-3	—
.100 x .200 2.54 x 5.08	266220-1	58210-1
.125 x .125 3.18 x 3.18	—	58210-4
.125 x .250 3.18 x 6.35	266220-2	58210-2
.156 x .200 3.96 x 5.08	266220-2	—

Note: Tooling availability is dependent upon part number activity. Consult Tyco Electronics for further information.

Catalog 1654080
Issued 7-03

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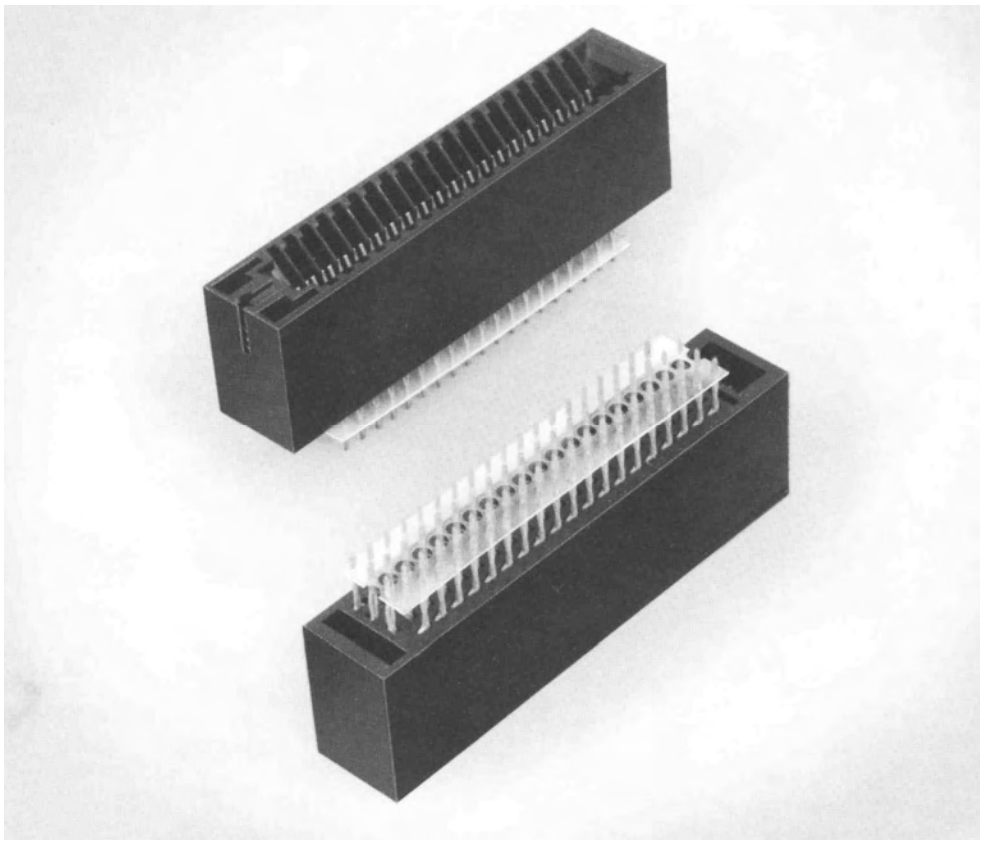
TELEDENSITY Connectors



Product Facts

- **High density - .0625 [1.586] contact centerlines**
- **Compliant ACTION PIN contacts press-fit into plated-through holes for solderless application**
- **Individually replaceable contacts**
- **Accommodates up to three levels of daughter card pads for sequencing**
- **.125 [3.18] square grid post arrangement**

Performance Specifications

Current Rating*:
3 amperes max.

Mating Force (Contact Pair):
1 lb. [4.4 N] max.

Durability (Mating Cycles):
100 min.

Termination Resistance:
12 milliohms max.

Dielectric Rating:
1200 VAC (rms)

Insulation Resistance:
5000 megohms max.

Operating Temperature:
–55°C to +85°C

The high performance AMP TELEDENSITY connector is a high density, card edge, telecommunications connector. It features compliant ACTION PIN contacts for solderless application to multi-layer printed circuit boards with plated-through or bare copper holes.

These connectors accept .054 to .072 [1.37 to 1.83] thick daughter cards. To satisfy the broadest range of application needs, the contacts are plated with 30 microinches of gold in the mating area and tin-lead on the posts. A plastic locating strip keeps posts positioned correctly for board insertion.

For high-density needs, TELEDENSITY connectors offer a .0625 [1.586] daughter card contact centerline spacing in 39-, 71-, or 99-dual positions. The connector's .330 [8.38] slot depth accommodates up to three levels of daughter card pads for sequencing, while a biasing wedge maintains proper pad alignment during card extraction. Posts are arranged in a .125 [3.18] square grid to ease circuit routing.

*Consult Tyco Electronics when paralleling contacts for power applications.

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Japan: 81-44-844-8013
UK: 44-141-810-8967

TELEDENSITY Connectors, .0625 [1.586] Centerline

Material and Finish:

Housing—Black polyester

Contacts—Copper alloy 725, plated .000030 [0.00076] gold in contact area, .000030 [0.00076] solder plate on post, with entire contact underplated .000100 [0.00254] nickel

Coil Spring—Stainless steel

Contact Tip Alignment Strip—Clear polyester

Related Product Data:

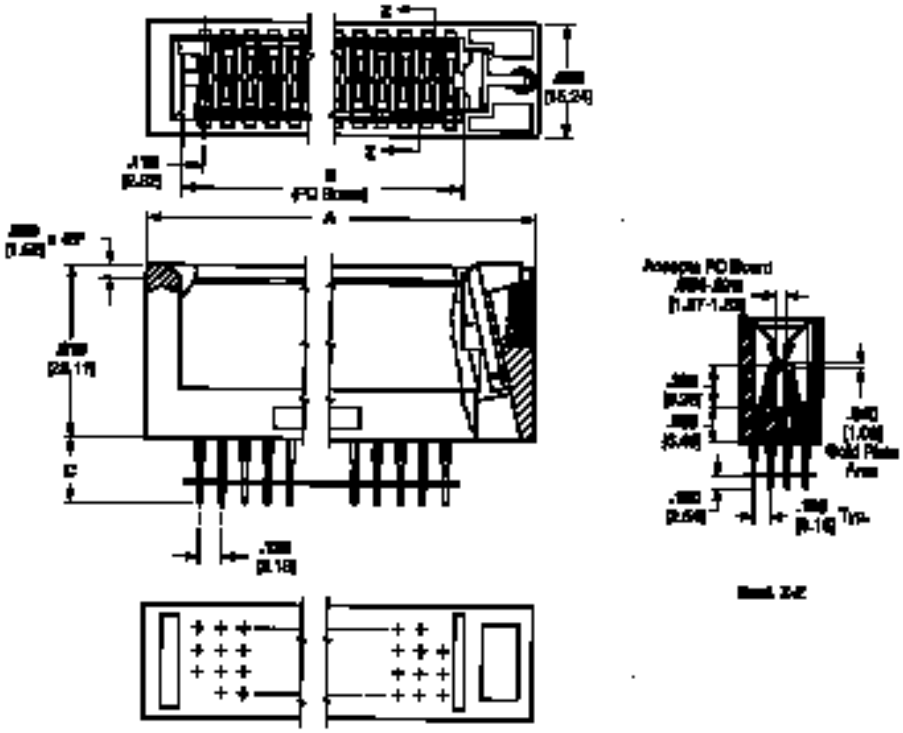
Performance Specifications—page 116

ACTION PIN Contact Mounting Hole Specifications—page 118

Technical Document—pages 186, 187

Product Specification—108-26003

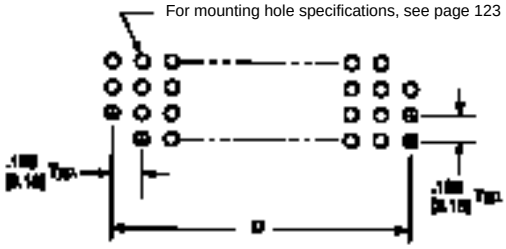
Instruction Sheet—408 6866



Number of Dual Positions	Dimensions A	B	C	D	Connector Part Numbers	Seating Tool Numbers**
39	**3.168** 80.47	**2.588-2.600** 65.74-66.04	**.634** 16.10 / **.350** 8.89	**2.375** 60.33	650148-1 / 650281-1*	58084-1
71	**5.168** 131.27	**4.588-4.600** 116.54-116.84	**.634** 16.10	**4.375** 111.13	650149-1	58084-3
99	**6.918** 175.72	**6.338-6.350** 160.99-161.29	**.634** 16.10	**6.125** 155.58	650150-1	58084-2

* Contacts in this connector are underplated .000150 [0.00381] nickel.
** See page 149 for a description of AMP seating machines.

Recommended PC Board Layout (Shown from post side)



Note: ACTION PIN posts require .093 [2.36] min. thick PC board.

Catalog 1654080
Issued 7-03

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Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

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C. America: 52-55-5-729-0425

South America: 55-11-3611-1514
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

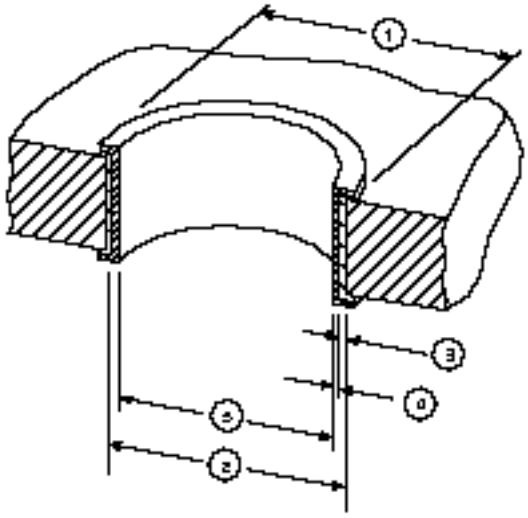
TELEDENSITY Connectors (Continued)

AMP ACTION PIN Press-Fit Contacts

ACTION PIN contacts provide a reliable press-fit connection. Localized pressure in the interface area entails oxide breakthrough and helps prevent corrosion in the harshest environments to provide a reliable connection virtually every time. Also, radial and axial distortion are controlled to meet today's standards for multilayer board applications.

PC Board Thickness

ACTION PIN contacts are designed for use in a variety of PC board thicknesses. However, certain ACTION PIN contacts are to be used in specific ranges of board thicknesses. To promote optimum performance, the recommended board thicknesses provided with the connector being used must be followed.



① Annular Ring (See Note)

② Drilled Hole

③ Copper Thickness

④ Tin-Lead Thickness

⑤ Plated Through-Hole

Mounting Hole Specifications

ACTION PIN Contact Material Thickness	Drilled Hole Diameter②	Plating Thicknesses		Plated-Through Hole Diameter⑤	Radial Hole Distortion	
		Copper③*	Tin-Lead④		Average	Maximum
.025 0.64	**.0453±.001** 1.151±0.03	**.001-.003** 0.03-0.08	**.0003** Min. 0.008 Min.	**.037-.043** 0.94-1.09	**.0015** 0.038	**.002** 0.05

*Maximum hardness of copper layer is 150 Knoop
Note: Recommended annular ring diameter is hole diameter plus **.020** [0.51]

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UK: 44-141-810-8967

ECONOMATE Connectors

Performance Specifications

Electrical Characteristics

Contact Resistance:
8 milliohms (max.)

Insulation Resistance:
2,000 megohms (min.)

Continuous Current Rating*:
3 amperes

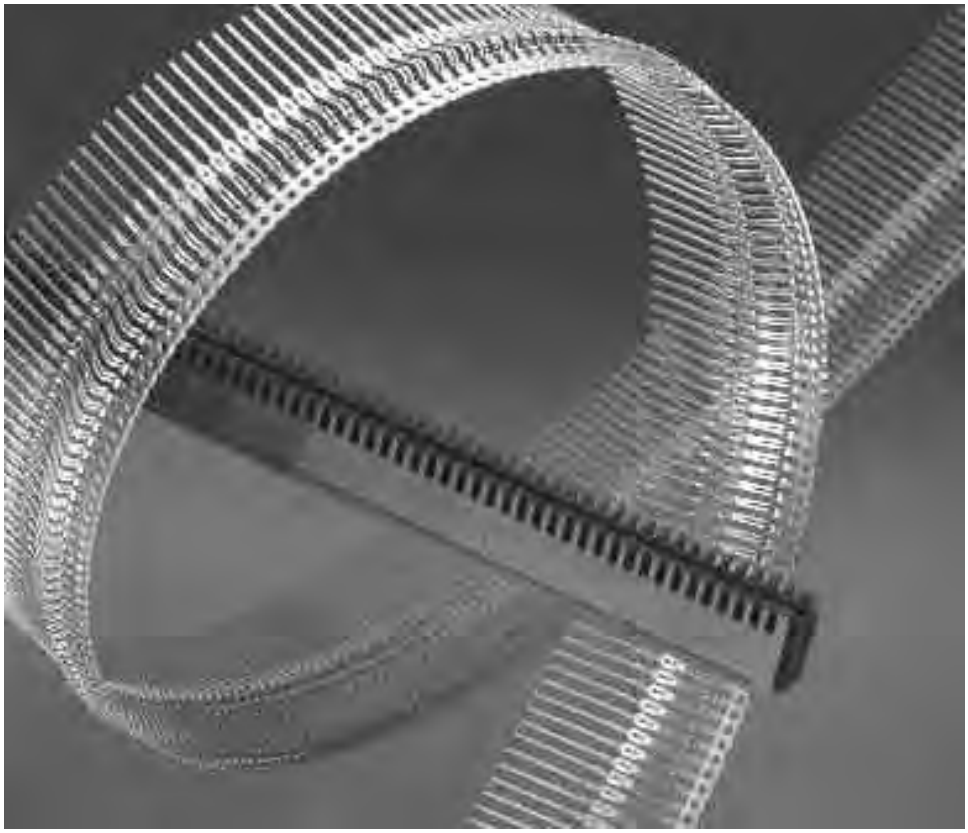
Physical Characteristics

Card Insertion Force:
16 oz [4.45 N] (max.) per contact pair

Card Extraction Force:
1 oz [0.28 N] (min.) per contact pair

Retention (in PC Board):
7 lb [31.1 N] (min.)

Operating Temperature:
–65°C to +125°C



AMP ECONOMATE Connectors provide a reliable and economical method for interconnecting backplane panels, using either two-sided or multilayer PC boards.

Connector housings are furnished unloaded and are available for post centerline spacings of: .100 x .200 [2.54 x 5.08] and .156 x .200 [3.96 x 5.08]. The housings are simply positioned onto the contacts, after the contacts have been inserted into the PC board and the carrier strip removed.

Contacts from Tyco Electronics feature the proven and reliable ACTION PIN contact design.These press-fit contacts employ two spring members that compress to exert force against the plated through-holes for a gas-tight connection. Gold plating of contacts promotes the electrical integrity of the connection.

Feed-through posts are also available for accepting wrap-type terminations. These posts also feature the ACTION PIN contact design and are supplied in strip form and stored on reels for insertion into PC boards.

Important:

Application tooling is absolutely necessary for installing contacts and housings onto PC boards. See page 126 for application tooling.

***Consult Tyco Electronicsengineering when paralleling contacts for power applications.**

Catalog 1654080
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www.tycoelectronics.com

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Japan: 81-44-844-8013
UK: 44-141-810-8967

ECONOMATE Connectors (Continued)

.100 x .200 [2.54 x 5.08] Centerline Spacing

Material and Finish:

Housing—Black glass-filled nylon

Contacts—Copper alloy 725, plated as follows:

Plating A—Selectively plated .000030 [0.00076] min. gold in contact area, .000001 [0.00003] min. gold on remainder of contact, with entire contact underplated .000050 [0.00127] min. nickel

Plating B—Duplex plated .000030 [0.00076] min. gold in contact area, .000100 [0.00254] min. tin-lead on posts, with entire contact underplated .000050 [0.00127] min. nickel

Plating C—Selectively plated .000100 [0.00254] min. gold in contact area, .000001 [0.00003] min. gold on remainder of contact, except .000050 [0.00127] min. gold for .200 [5.08] from tip of post, with entire contact underplated .000050 [0.00127] min. nickel

Related Product Data:

Performance Specifications—page 119

Card Guides—page 122

ACTION PIN Contact Mounting Hole Specifications—page 125

Application Tooling—page 126

Technical Documents:

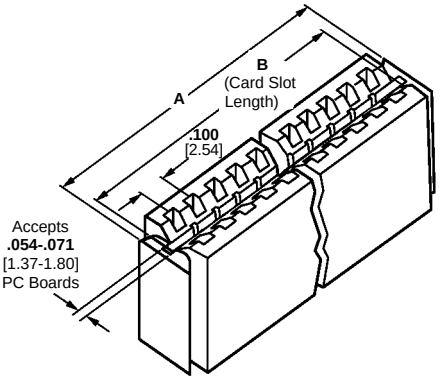
(pages 186, 187):

Product Specification
108-26002

Keying Plugs

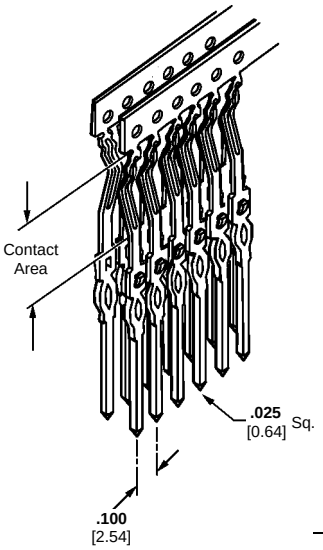
Intercontact (Plastic)
Part No. 118982-1

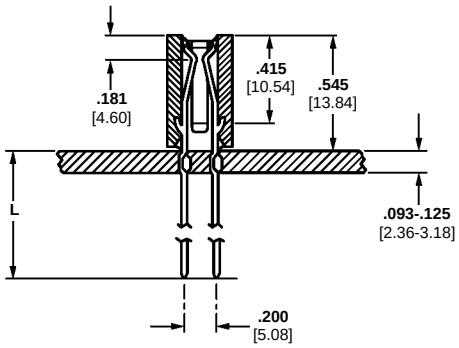
On-Contact (Plastic)
Part No. 119802-2



No. of Dual Positions	Dimensions A	Dimensions B	Housing Part Numbers
25	**2.734** 82.14	**2.604** 78.84	1-117798-4
30	**3.234** 82.14	**3.104** 78.84	117798-3
35	**3.734** 94.84	**3.604** 91.54	117798-6
36	**3.834** 97.38	**3.704** 94.08	117798-7
40	**4.234** 107.54	**4.104** 104.24	117798-8
50	**5.234** 132.94	**5.104** 129.64	1-117798-1
60	**6.234** 158.34	**6.104** 155.04	1-117798-2

Note: Other connector sizes can be made available, consult Tyco Electronics.

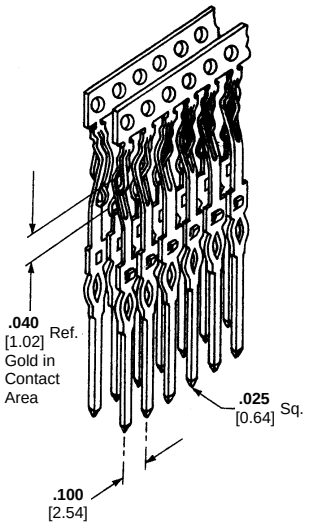




Dimension L	Contact Part Numbers* Plating A	Plating B	Plating C
.475 12.07	2-117795-4	4-117795-0	—
.702 17.83	117795-3	2-117795-6	4-117795-8

*Contacts are strip form, 35,000 per reel.

Make-Before-Break Contacts



Dimension L	Make Before Break Contact Part Numbers* Plating A	Plating B
.475 12.07	—	118951-8
.702 17.83	118951-4	—

Catalog 1654080
Issued 7-03
www.tycoelectronics.com

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UK: 44-141-810-8967

ECONOMATE Connectors (Continued)

.156 x .200 [3.96 x 5.08] Centerline Spacing

Material and Finish:

Housing—Black glass-filled nylon

Contacts—Copper alloy 725, plated as follows:
Plating A—Selectively plated .000030 [0.00076] min. gold in contact area, .000001 [0.00003] min. gold on remainder of contact, with entire contact underplated .000050 [0.00127] min. nickel
Plating B—Duplex plated .000030 [0.00076] min. gold in contact area, .000100 [0.00254] min. tin-lead on posts, with entire contact underplated .000050 [0.00127] min. nickel

Related Product Data:

Performance Specifications—page 119
Card Guides—page 122
ACTION PIN Contact Mounting Hole Specifications—page 125
Application Tooling—page 126

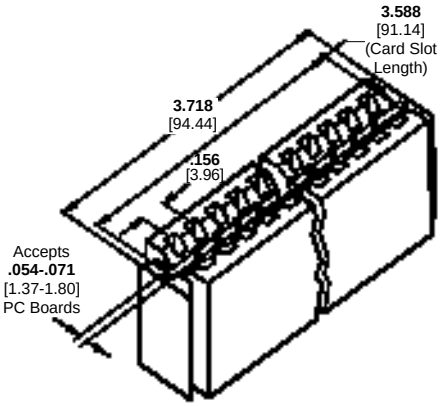
Technical Documents:

(pages 186, 187):

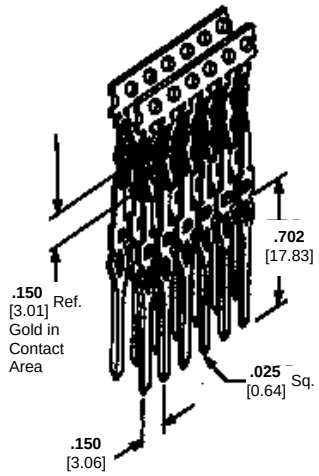
Product Specification
108-26002

Keying Plug

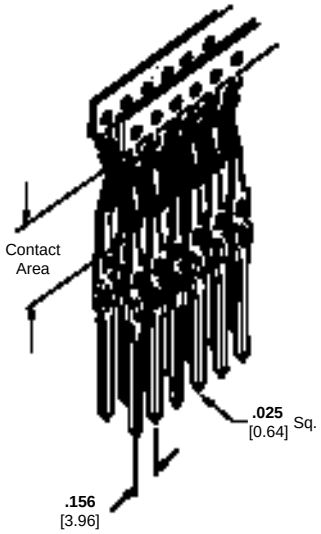
Intercontact (Plastic)
Part No. 118982-1

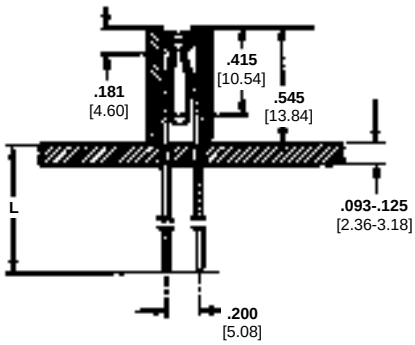


22 Dual Position Housing
Part No. 117296-4



Make-Before-Break Contacts





Note: Other connector sizes can be made available, consult Tyco Electronics.

Make Before Break Contacts		
Dimension L	**Plating**	**Part Numbers***
.475 12.07	**B**	1-118778-2
.702 17.83	**A**	118778-6

Dimension L	**Contact Part Numbers***
.475 12.07	117285-7
.702 17.83	117285-8

*Contacts are strip form, 15,000 per reel.

Catalog 1654080
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Japan: 81-44-844-8013
UK: 44-141-810-8967

Card Guides for ECONOMATE Connectors

Material: Black glass-filled nylon

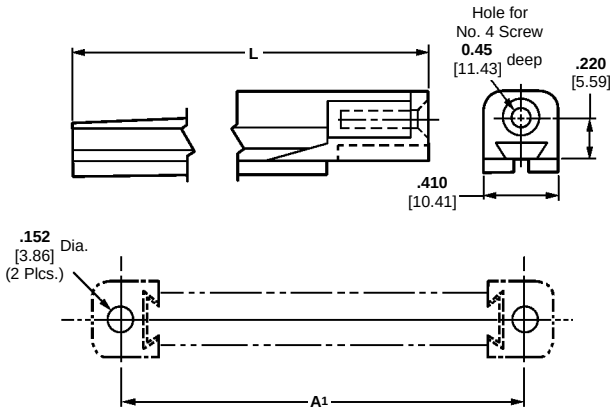
Related Product Data:

Mates with all .100 x .200 [2.54 x 5.08] and .156 x .200 [3.96 x 5.08] centerline housings

Technical Documents:

(pages 186, 187):

Instruction Sheet 408-9091



Recommended Mounting Dimensions

Dimension L*	Card Guide Part Numbers
2.500 63.50	117169-3
6.000 152.40	1-117169-3

*Other lengths can be made available in .500 [12.70] increments from 1.500 [38.10] to 6.500 [165.10]. Consult Tyco Electronics for details.

Housing		Dimension A1
Centerline Spacing	No. of Dual Positions	
.100 x .200 2.54 x 5.08	30	**3.544** 90.02
	35	**4.044** 102.72
	36	**4.144** 105.26
	40	**4.544** 115.42
	50	**5.544** 140.82
	60	**6.544** 166.22
.156 x .200 3.96 x 5.08	22	**4.028** 102.31

Note: **A1** dimension = **A** dimension of ECONOMATE housing plus .310 [7.87].

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ECONOMATE Center Carrier Feed-Thru Posts*

.100 [2.54] Centerline, Wrap Type

Material:

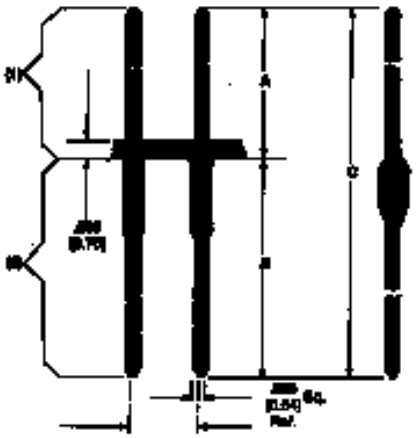
Copper Alloy 725

Finish – Gold plate per MIL-G-45204 over nickel plate per QQ-N-290 (see table for thicknesses)

Recommended Hole Size:

Non-Plated-thru Hole - .0453±.001 [1.15±0.03], 1.15 mm drill

Plated-thru Hole - .039 ±.004/.003 [0.99 ±0.1/0.08], 1.15 mm drill



Dimensions			Part Numbers
A	B	C	1) .000001 [0.00003] min. gold flash over .000050 [0.0013] min. nickel plate 2) .000050 [0.0013] min. gold plate over .000050 [0.0013] min. nickel plate
.318 8.08	**.687** 17.45	**1.005** 25.53	—
.578 14.68	**.460** 11.68	**1.038** 26.37	118243-8
.578 14.68	**.550** 13.97	**1.128** 28.65	1-118243-1
.380 9.65	**.823** 20.90	**1.203** 30.56	—

.100 [2.54] Centerline, TERMI-POINT Clip Part Number 119136-2

Material:

Copper Alloy 725

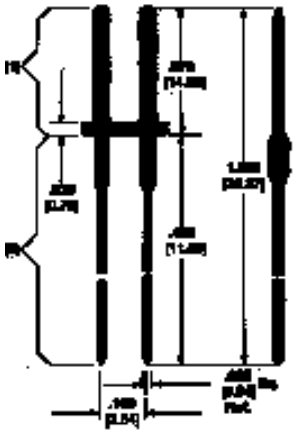
Finish –

1) Gold plate per MIL-G-45204, .000030 [0.00076] min. thk. over nickel plate per QQ-N-290, .000050 [0.0013] min. thk.
2) Gold flash per MIL-G-45204, .000001 [0.00003] min. thk. over nickel plate per QQ-N-290, .000050 [0.0013] min. thk.

Recommended Hole Size:

Non Plated-thru Hole - .0453±.001 [1.15±0.03], 1.15 mm drill

Plated-thru Hole - .039±.004/.003 [0.99±0.1/0.08], 1.15 mm drill



.125 [3.18] Centerline, Wrap Type

Material:

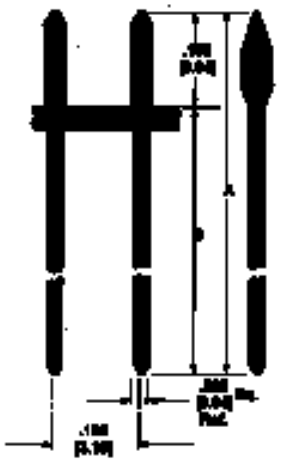
Copper Alloy 725

Finish – Gold plate per MIL-G-45204 or solder plate over nickel plate per QQ-N-290 (see table for thicknesses)

Recommended Hole Size:

Non Plated-thru Hole - .0453±.001 [1.15±0.03], 1.15 mm drill

Plated-Thru Hole - .039 ±.004/.003 [0.99±0.1/0.08], 1.15 mm drill



Dimensions		Part Numbers	
A	B	.000100 [0.0025] min. tin plate over .000050 [0.0013] min. nickel plate	.000030 [0.00076] gold plate over .000050 [0.0013] nickel plate
.703 17.68	**.548** 13.92	117311-7	1-117311-0

*Use AMP Cut and Transfer Machine for center carrier post insertion. Consult Tyco Electronics.

Catalog 1654080
Issued 7-03

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UK: 44-141-810-8967

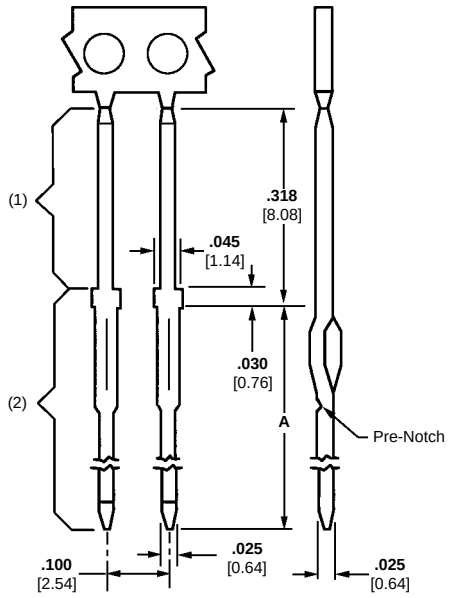
ECONOMATE Connectors (Continued)

Feed-Through Posts

Material and Finish:

Copper alloy 725, plated as follows:
Plating A—Selectively plated .000030 [0.00076] min. gold in Area (1), .000001 [0.00003] min. gold in Area (2), with entire post underplated .000050 [0.00127] min. nickel
Plating B—.000030 [0.00076] min. gold over .000100 [0.00254] min. nickel on entire post
Plating C—.000050 [0.00127] min. gold over .000100 [0.00254] min. nickel on entire post
Plating D—.000100 [0.00254] min. tin-lead over .000050 [0.00127] min. nickel on entire post

.100 [2.54] Centerline Spacing



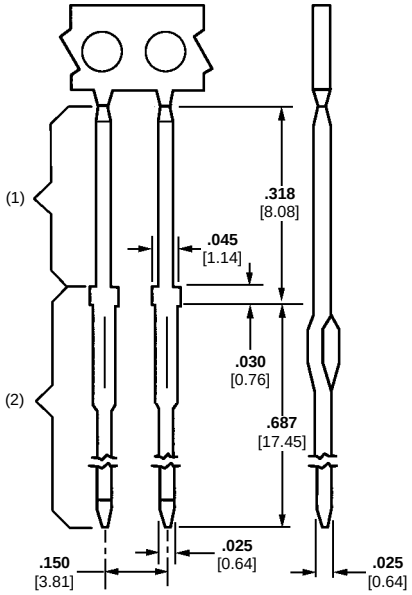
Dimension A	Feed-Through Post Part Numbers*			
	Plating A	Plating B	Plating C	Plating D
.687 17.45	117249-7 3-117249-1[1]	1-117249-2	117249-2	6-117249-5
.500 12.70	3-117249-2	—	—	5-117249-6

*Posts in strip form, 50,000 per reel.
[1]Pre-notched to break with 120° bend.

.150 [3.81] Centerline Spacing

Material and Finish:

Copper alloy 725, selectively plated .000030 [0.00076] min. gold in Area (1), .000001 [0.00003] min. gold in Area (2), with entire post underplated .000050 [0.00127] min. nickel



50,000 per reel
Part No. 117269-5

Catalog 1654080
Issued 7-03

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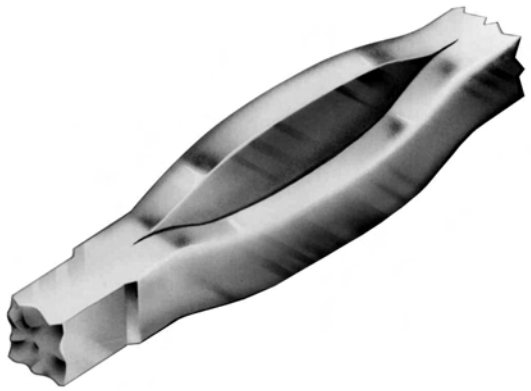
ECONOMATE Connectors (Continued)

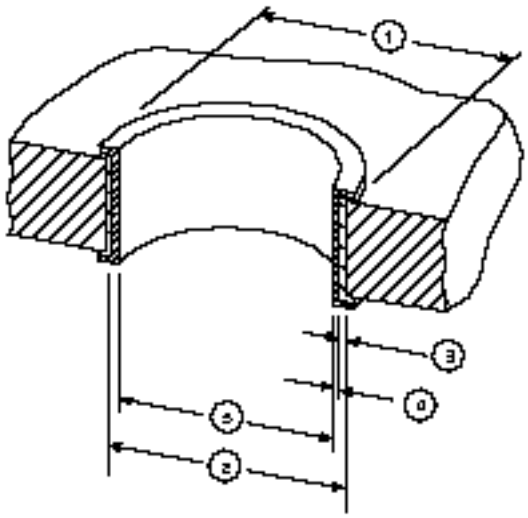
AMP ACTION PIN Press-Fit Contacts



ACTION PIN contacts provide a reliable press-fit connection. Localized pressure in the interface area entails oxide break-through and helps prevent corrosion in the harshest environments to provide a reliable connection virtually every time. Also, radial and axial distortion are controlled to meet today's standards for multilayer board applications.

PC Board Thickness

ACTION PIN contacts are designed for use in a variety of PC board thicknesses. However, certain ACTION PIN contacts are to be used in specific ranges of board thicknesses. To promote optimum performance, the recommended board thicknesses provided with the connector being used must be followed.



① Annular Ring (See Note)

② Drilled Hole

③ Copper Thickness

④ Tin-Lead Thickness

⑤ Plated Through-Hole

Mounting Hole Specifications

Connector		ACTION PIN Contact Material Thickness	Drilled Hole Diameter②	Plating Thicknesses		Plated Through-Hole Diameter⑤	Radial Hole Distortion	
Centerline	No. of Dual Positions			Copper③*	Tin-Lead④		Average	Maximum
.100 x .200 2.54 x 5.08	30, 35, 36, 40, 50, 60	**.025** 0.64	**.0453**$^{\pm.001}$ 1.151$^{\pm0.03}$	**.001-.003** 0.03-0.08	**.0003** 0.008 Min.	**.037-.043** 0.94-1.09	Not Specified	Not Specified
.156 x .200 3.96 x 5.08	22							

*Maximum hardness of copper layer is 150 Knoop.

Note: Recommended annular ring diameter is hole diameter plus **.020** [0.51].

Catalog 1654080
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Application Tooling for ECONOMATE Connectors

Available from Tyco Electronics is a complete series of ACTION PIN Assembly Tooling Kits for ECONOMATE connector housings and feed-through posts. Assembly Kit tools provide the means for installing housings and contacts onto printed circuit boards, as well as removing housings and contacts from the printed circuit boards. All tools are available in kits, or may be purchased individually.

In many instances, part number series are listed in the charts. Specific dash numbers and detailed information on the contacts and housings are presented on the respective product specification pages. For specific dash numbers and complete information on the tooling, contact Tyco Electronics.

For ECONOMATE Connectors

ACTION PIN Contacts			ECONOMATE Housings		ACTION PIN Assembly Tool Numbers
Centerline	Pin Length	Part Numbers	No. of Dual Positions	Part Numbers	
.125 x .125 3.18 x 3.18	**.702** 17.83	117793-☐	15-60	117796-☐	Applicator 265902-☐ Carrier Removal Tool 265924-☐ Housing Assembly Tool 58292-☐ Housing Removal Tool 265868-1 Pin Replacement Tool 265871-2
.100 x .200 2.54 x 5.08	**.702** 17.83	117795-☐	15-60	117798-☐	Applicator 265904-☐ Carrier Removal Tool 265924-☐ Housing Assembly Tool 265879-☐ Housing Removal Tool 265868-1 Pin Replacement Tool 265871-2
.156 x .200 3.96 x 5.08	**.702** 17.83	117285-☐	15-50	117296-☐	Applicator 265905-☐ Carrier Removal Tool 265924-☐ Housing Assembly Tool 265881-☐ Housing Removal Tool 265868-1 Pin Replacement Tool 265871-2
.156 x .200 3.96 x 5.08	**.475** 12.07	117285-☐	15-50	117296-☐	Applicator 265906-☐ Carrier Removal Tool 265924-☐ Housing Assembly Tool 265881-☐ Housing Removal Tool 265868-1 Pin Replacement Tool 265871-3
.100 x .200 2.54 x 5.08	**.475** 12.07	117795-☐	15-60	117798-☐	Applicator 266129-☐ Carrier Removal Tool 265924-☐ Housing Assembly Tool 265879-☐ Housing Removal Tool 265868-1 Pin Replacement Tool 265871-3
.100 2.54	**.340** 8.64	117880-☐	20-60	117879-☐	Applicator 265937-☐ Carrier Removal Tool 265924-☐ Housing Assembly Tool 265962-☐ Housing Removal Tool 265868-2 Pin Replacement Tool 1-265871-1

For Feed-Through Posts

ACTION PIN Contacts				ACTION PIN Assembly Tool Numbers
Centerline	Pin Length	No. of Positions	Part Numbers	
.100 2.54	**.500-.687** 12.70-17.45	8-60	117249-☐	Applicator 265910-☐ Carrier Removal Tool 265924-☐ Pin Replacement Tool 265871-7
.125 3.18	**.687** 17.45	8-60	117272-☐	Applicator 265911-☐ Carrier Removal Tool 265924-☐ Pin Replacement Tool 265871-7
.150 3.81	**.687** 17.45	8-50	117269-☐	Applicator 265912-☐ Carrier Removal Tool 265924-☐ Pin Replacement Tool 265871-7
.150 3.81	**.365-.475** 9.27-12.07	8-50	117269-☐	Applicator 265931-☐ Carrier Removal Tool 265924-☐ Pin Replacement Tool 265871-7

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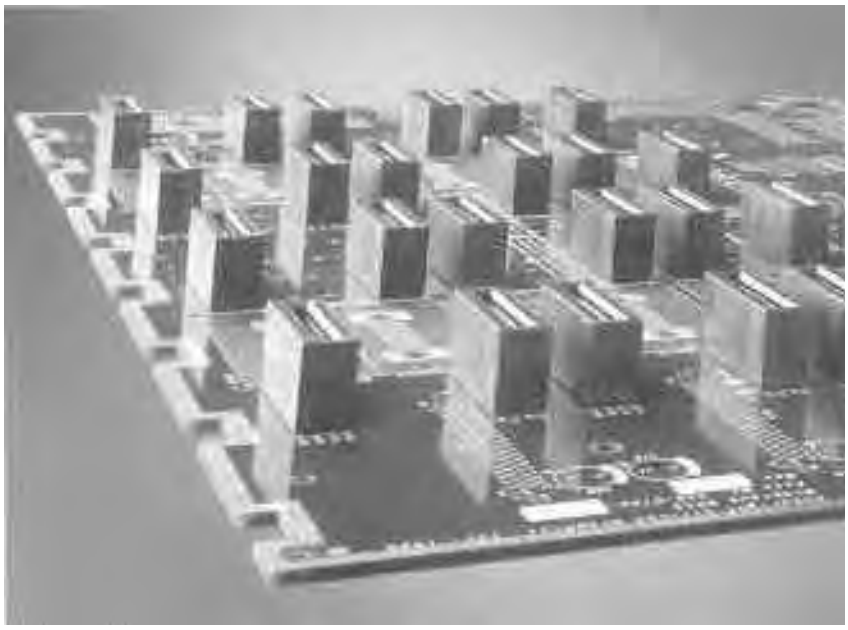
UK: 44-141-810-8967

High Density Press-Fit Card Edge

Product Facts

- **High density .050" [1.27] center spacing.**
- **Staggered contacts for low insertion force.**
- **Designed for multi-layer .093" [2.36] daughter cards.**
- **High temperature SMT solder reflow temperatures of 260° for 30 seconds.**
- **Unique pin geometry allows for even distribution of forces reducing axial pin rotation and preserving perpendicularity to the PCB board.**
- **Edge and side coining provides a uniform pin radius ensuring maximum contact without "skiving" the plated hole.**
- **Full complement of application tooling available.**
- **Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980**
- **Certified by Canadian Standards Association, File No. LR 49571**



High Density (.050" [1.27] center spacing) Press-Fit connectors from Tyco Electronics are designed for high density backplane or mid-plane applications. Compliant pin connectors from Tyco Electronics meet or exceed requirements of current industry standards, including Bellcore specifications, which address critical performance issues such as hole retention, hole deformation and environmental performance.

Electrical Characteristics:

Operating Voltage–600VDC (sea level)

Current Rating –1.5 Amperes

Initial Contact Resistance – 30 milliohms

Environmental Characteristics:

Operating Temperature – -55˚C to +125˚C

Temperature Cycling – MIL-STD-202 method 107

Vibration– MIL-STD-202, method 204

Catalog 1654080
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UK: 44-141-810-8967

.050 [1.27] Centerline For .093 [2.36] Thick Daughter Cards

Material and Finish:

Insulation Resistance—1000 megohms minimum

Contact Retention into PCB—2 lbs. min.

Insertion Force—10 oz. max.

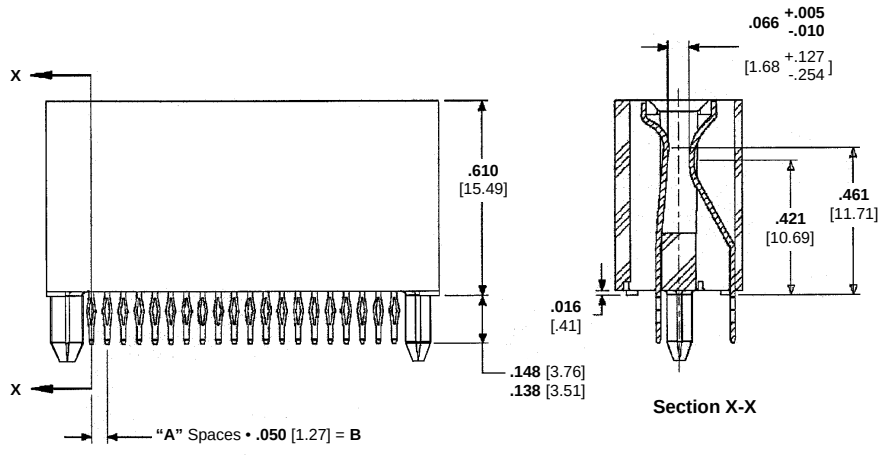
Mating Force—2 oz. per contact

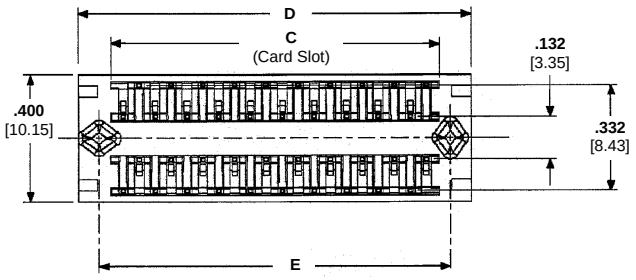
Housing—High Temp. Glass filled thermoplastic, UL rating 94V-0

Color—Black

Spring Contact—BeCu

Contact Plating—Palladium Nickel





Note: Dimension E is Connector Mounting PC Hole Pattern.

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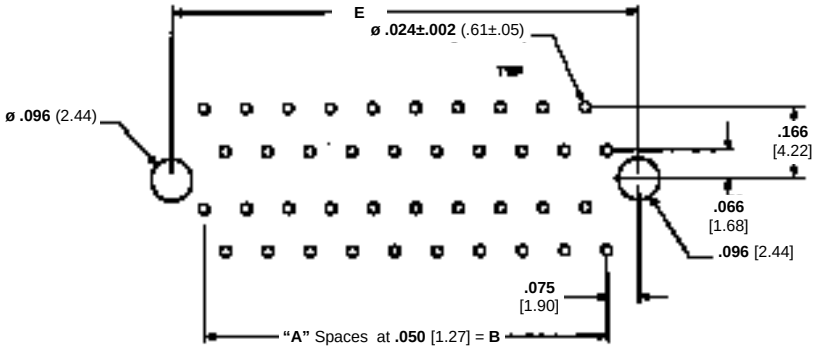
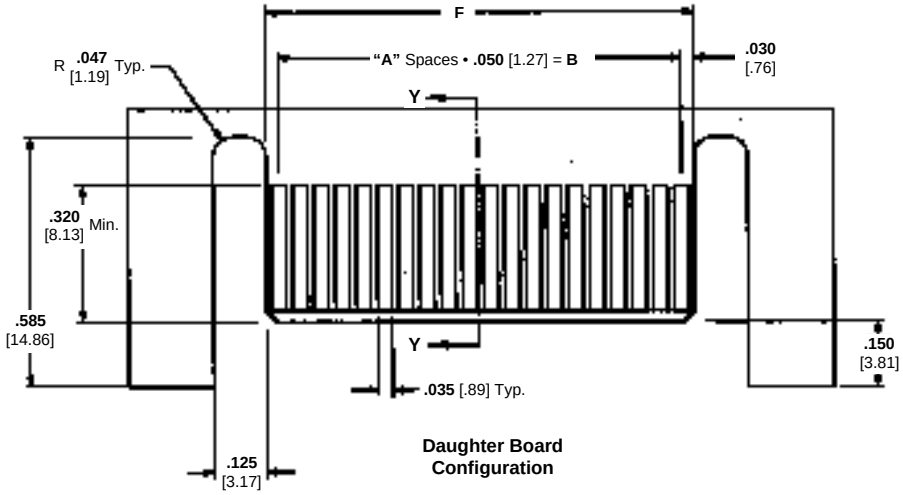
UK: 44-141-810-8967

Ordering Information

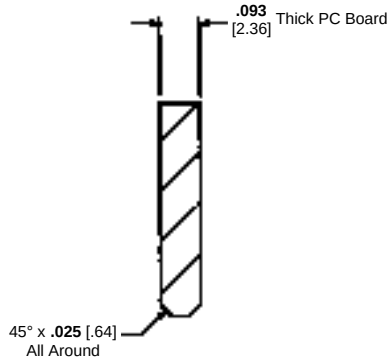
No. of Dual Readout Position	Dimensions						TYCO Part Number	Acquired Part Number
	A	B	C	D	E	F		
20	**19**	**0.950** [24.13]	**1.040** [26.42]	**1.230** [31.24]	**1.100** [27.94]	**1.010** [25.65]	147668-2	C9D020PF60048
30	**29**	**1.450** [36.83]	**1.540** [39.12]	**1.730** [43.94]	**1.600** [40.64]	**1.510** [38.35]	147668-3	C9D030PF60048
40	**39**	**1.950** [49.53]	**2.040** [51.82]	**2.230** [56.64]	**2.100** [53.34]	**2.010** [51.05]	147668-4	C9D040PF60048
50	**49**	**2.450** [62.23]	**2.540** [64.52]	**2.730** [69.34]	**2.600** [66.04]	**2.510** [63.75]	147668-5	C9D050PF60048
60	**59**	**2.950** [74.93]	**3.040** [77.22]	**3.230** [82.04]	**3.100** [78.74]	**3.010** [76.45]	147668-6	C9D060PF60048



Connector Mounting PC Hole Pattern



Daughter Board Configuration



Section Y-Y

Catalog 1654080
Issued 7-03

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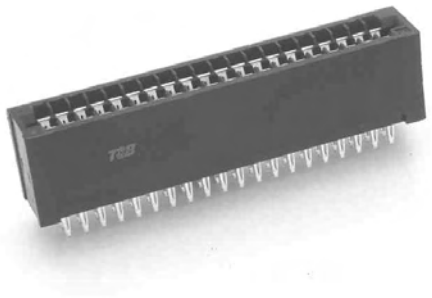
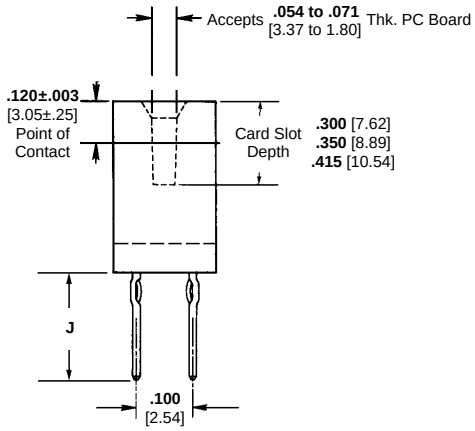
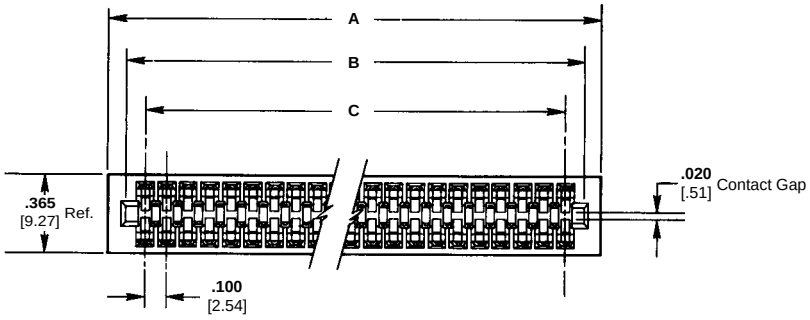
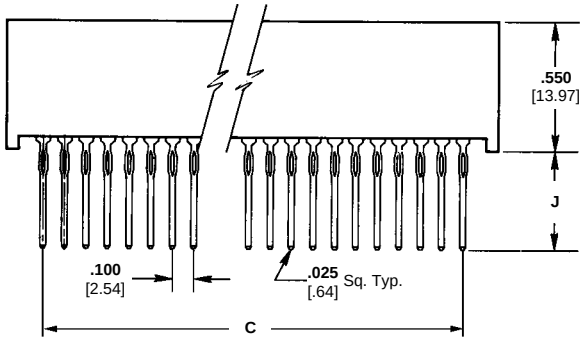
UK: 44-141-810-8967

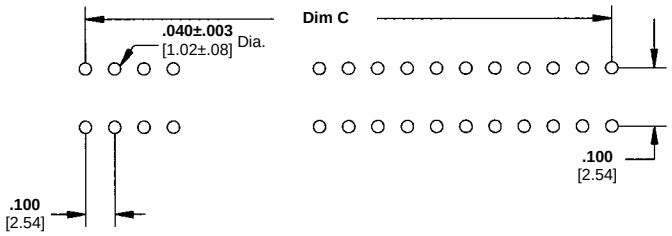
.100 x .100 [2.54 x 2.54] Centerline Press Fit, with Standoffs











Product Facts

- **Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980**
- **Certified by Canadian Standards Association, File No. LR49571**

Physical Properties:

Insulation Resistance—5000 megohms minimum

Contact Retention Into PCB—5lbs. min. [356 N]

Insertion Force—10 oz. [44.5 N] max. measured with a .0700 ± .0001 [1.80±.00254] THK polished blade per MIL-C-21097C

Withdrawal Force—1 oz. min. [4.54 N] measured with a .0540 ± .0001 [3.37±.000254] THK polished test blade per MIL-C-21097C after sizing 3 times with a .0700 ± .0001 [1.80±.00254] THK blade

Insulator Body—High Temp. Glass filled thermoplastic, UL rating 94V-0

Color—Black

Spring Contact—Phosphor Bronze alloy

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operating Voltage—600 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

Operating Temperature—-55˚C to +125˚C

Temperature Cycling—MIL-STD-202 method 107

Vibration—MIL-STD-202, method 204

Application Tooling:

Insertion Tool—page 150

Related Product Data:

Daughter Card Edge Pattern—page 57

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Ordering Information

.100 [2.54] Centerline/.100 [2.54] Row-To-Row with Standoffs

No. of Dual Readout Positions	Dimensions			Acquired Part Numbers		
	A	B	C	.300 [7.62] Card Slot Depth	.350 [8.89] Card Slot Depth	.415 [10.54] Card Slot Depth
Tail Length .180 [4.57] (Dim. "J")						
18	**2.034** 51.66	**1.904** 48.36	**1.700** 43.18	C1D18PF29013	C1D18PF29133	C1D18PF29043
20	**2.234** 56.74	**2.104** 53.44	**1.900** 48.26	C1D20PF29013	C1D20PF29133	C1D20PF29043
22	**2.434** 61.82	**2.304** 58.52	**2.100** 53.34	C1D22PF29013	C1D22PF29133	C1D22PF29043
25	**2.734** 69.44	**2.604** 66.14	**2.400** 60.96	C1D25PF29013	C1D25PF29133	C1D25PF29043
28	**3.034** 77.06	**2.904** 73.76	**2.700** 68.58	C1D28PF29013	C1D28PF29133	C1D28PF29043
30	**3.234** 82.14	**3.104** 78.84	**2.900** 73.66	C1D30PF29013	C1D30PF29133	C1D30PF29043
35	**3.734** 94.84	**3.604** 91.54	**3.400** 86.36	C1D35PF29013	C1D35PF29133	C1D35PF29043
36	**3.834** 97.38	**3.704** 94.08	**3.500** 88.90	C1D36PF29013	C1D36PF29133	C1D36PF29043
40	**4.234** 107.54	**4.104** 104.24	**3.900** 99.06	C1D40PF29013	C1D40PF29133	C1D40PF29043
43	**4.534** 115.16	**4.404** 111.86	**4.200** 106.68	C1D43PF29013	C1D43PF29133	C1D43PF29043
45	**4.734** 120.24	**4.604** 116.94	**4.400** 111.76	C1D45PF29013	C1D45PF29133	C1D45PF29043
50	**5.234** 132.94	**5.104** 129.64	**4.900** 124.46	C1D50PF29013	C1D50PF29133	C1D50PF29043
60	**6.234** 158.34	**6.104** 155.04	**5.900** 149.86	C1D60PF29013	C1D60PF29133	C1D60PF29043
Tail Length .475 [12.07] (Dim. "J")						
18	**2.034** 51.66	**1.904** 48.36	**1.700** 43.18	C1D18PF29015	C1D18PF29135	C1D18PF29045
20	**2.234** 56.74	**2.104** 53.44	**1.900** 48.26	C1D20PF29015	C1D20PF29135	C1D20PF29045
22	**2.434** 61.82	**2.304** 58.52	**2.100** 53.34	C1D22PF29015	C1D22PF29135	C1D22PF29045
25	**2.734** 69.44	**2.604** 66.14	**2.400** 60.96	C1D25PF29015	C1D25PF29135	C1D25PF29045
28	**3.034** 77.06	**2.904** 73.76	**2.700** 68.58	C1D28PF29015	C1D28PF29135	C1D28PF29045
30	**3.234** 82.14	**3.104** 78.84	**2.900** 73.66	C1D30PF29015	C1D30PF29135	C1D30PF29045
35	**3.734** 94.84	**3.604** 91.54	**3.400** 86.36	C1D35PF29015	C1D35PF29135	C1D35PF29045
36	**3.834** 97.38	**3.704** 94.08	**3.500** 88.90	C1D36PF29015	C1D36PF29135	C1D36PF29045
40	**4.234** 107.54	**4.104** 104.24	**3.900** 99.06	C1D40PF29015	C1D40PF29135	C1D40PF29045
43	**4.534** 115.16	**4.404** 111.86	**4.200** 106.68	C1D43PF29015	C1D43PF29135	C1D43PF29045
45	**4.734** 120.24	**4.604** 116.94	**4.400** 111.76	C1D45PF29015	C1D45PF29135	C1D45PF29045
50	**5.234** 132.94	**5.104** 129.64	**4.900** 124.46	C1D50PF29015	C1D50PF29135	C1D50PF29045
60	**6.234** 158.34	**6.104** 155.04	**5.900** 149.86	C1D60PF29015	C1D60PF29135	C1D60PF29045

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Ordering Information

.100" [2.54] Centerline / .100" [2.54] Row-to-Row with Standoffs

No. of Dual Readout Positions	Dimensions			Acquired Part Numbers		
	A	B	C	.300 [7.62] Card Slot Depth	.350 [8.84] Card Slot Depth	.415 [10.54] Card Slot Depth
Tail Length .625 [15.88] (Dim. "J")						
18	**2.034** 51.66	**1.904** 48.36	**1.700** 43.18	C1D18PF29017	C1D18PF29137	C1D18PF29047
20	**2.234** 56.74	**2.104** 53.44	**1.900** 48.26	C1D20PF29017	C1D20PF29137	C1D20PF29047
22	**2.434** 61.82	**2.304** 58.52	**2.100** 53.34	C1D22PF29017	C1D22PF29137	C1D22PF29047
25	**2.734** 69.44	**2.604** 66.14	**2.400** 60.96	C1D25PF29017	C1D25PF29137	C1D25PF29047
28	**3.034** 77.06	**2.904** 73.76	**2.700** 68.58	C1D28PF29017	C1D28PF29137	C1D28PF29047
30	**3.234** 82.14	**3.104** 78.84	**2.900** 73.66	C1D30PF29017	C1D30PF29137	C1D30PF29047
35	**3.734** 94.84	**3.604** 91.54	**3.400** 86.36	C1D35PF29017	C1D35PF29137	C1D35PF29047
36	**3.834** 97.38	**3.704** 94.08	**3.500** 88.90	C1D36PF29017	C1D36PF29137	C1D36PF29047
40	**4.234** 107.54	**4.104** 104.24	**3.900** 99.06	C1D40PF29017	C1D40PF29137	C1D40PF29047
43	**4.534** 115.16	**4.404** 111.86	**4.200** 106.68	C1D43PF29017	C1D43PF29137	C1D43PF29047
45	**4.734** 120.24	**4.604** 116.94	**4.400** 111.76	C1D45PF29017	C1D45PF29137	C1D45PF29047
50	**5.234** 132.94	**5.104** 129.64	**4.900** 124.46	C1D50PF29017	C1D50PF29137	C1D50PF29047
60	**6.234** 158.34	**6.104** 155.04	**5.900** 149.86	C1D60PF29017	C1D60PF29137	C1D60PF29047

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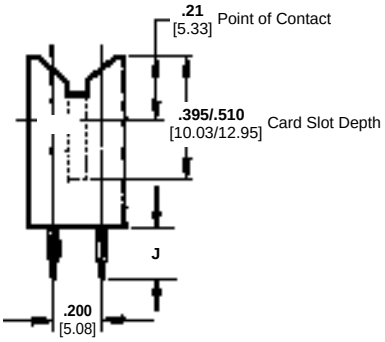
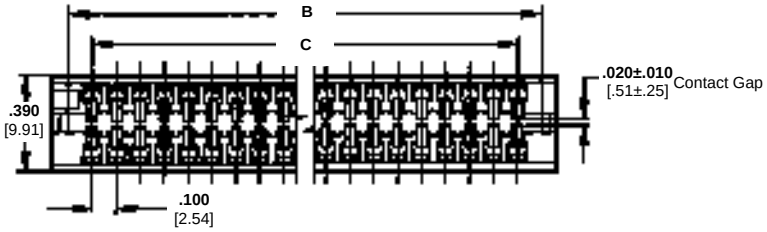
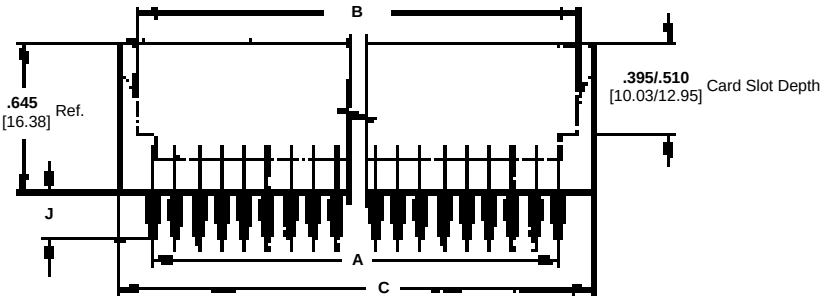
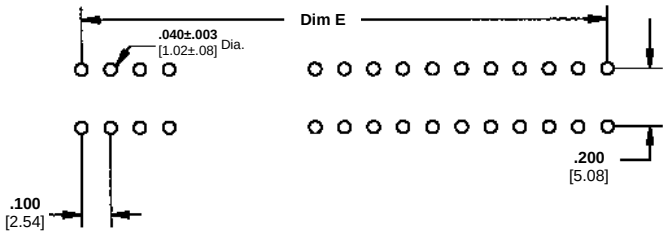
UK: 44-141-810-8967

.100 x .200 [2.54 x 5.08] Centerline Press-Fit, Full Scoop









Product Facts

- **Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980**
- **Certified by Canadian Standards Association, File No. LR49571**

Physical Properties:

Insulation Resistance—5000 megohms minimum.

Contact Retention Into PCB—5lbs. min. [356 N]

Insertion Force—10 oz. [44.5 N] max. measured with a .0700 ± .0001 [1.80±.00254] THK polished blade per MIL-C-21097C

Withdrawal Force—1 oz. min. [4.5 N] measured with a .0540 ± .0001 [3.37±.00254] THK polished test blade per MIL-C-21097C after sizing 3 times with a .0700 ± .0001 [1.80±.00254] THK blade

Insulator Body—High Temp. Glass filled thermoplastic, UL rating 94V-O

Color—Black

Spring Contact—Phosphor Bronze alloy

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties

Operating Voltage—600 VDC (sea level)

Current Rating—3 Amperes

Contact Resistance—10 milliohms

Environmental Properties:

Operating Temperature—-55˚C to +125˚C

Temperature Cycling—MIL-STD-202 method 107

Vibration—MIL-STD-202, method 204

Application Tooling:

Insertion Tool—page 150

Related Product Data:

Daughter Card Edge Pattern—page 57

Note: Open ends and open/closed ends are available. Consult Tyco Electronics.

Catalog 1654080
Issued 7-03

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Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

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South America: 55-11-3611-1514
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Ordering Information

.100 [2.54] Centerline / .200 [5.08] Row-to-Row Full Scoop

No. of Dual Readout Positions	Dimensions			Acquired Part Numbers	
	A	B	C	.510 [12.95] Card Slot Depth	.395 [10.03] Card Slot Depth
Tail Length .670 [17.02] (DIM "J")					
18	**2.034** 51.66	**1.904** 48.36	**1.700** 43.18	W8D18PF29012	W8D18PF29042
20	**2.234** 56.74	**2.104** 53.44	**1.900** 48.26	W8D20PF29012	W8D20PF29042
22	**2.434** 61.82	**2.304** 58.52	**2.100** 53.34	W8D22PF29012	W8D22PF29042
25	**2.734** 69.44	**2.604** 66.14	**2.400** 60.96	W8D25PF29012	W8D25PF29042
28	**3.034** 77.06	**2.904** 73.76	**2.700** 68.58	W8D28PF29012	W8D28PF29042
30	**3.234** 82.14	**3.104** 78.84	**2.900** 73.66	W8D30PF29012	W8D30PF29042
35	**3.734** 94.84	**3.604** 91.54	**3.400** 86.36	W8D35PF29012	W8D35PF29042
36	**3.834** 97.38	**3.704** 94.08	**3.500** 88.90	W8D36PF29012	W8D36PF29042
40	**4.234** 107.54	**4.104** 104.24	**3.900** 99.06	W8D40PF29012	W8D40PF29042
43	**4.534** 115.16	**4.404** 111.86	**4.200** 106.68	W8D43PF29012	W8D43PF29042
45	**4.734** 120.24	**4.604** 116.94	**4.400** 111.76	W8D45PF29012	W8D45PF29042
50	**5.234** 132.94	**5.104** 129.64	**4.900** 124.46	W8D50PF29012	W8D50PF29042
60	**6.234** 158.34	**6.104** 155.04	**5.900** 149.86	W8D60PF29012	W8D60PF29042
Tail Length .180 [4.57] (DIM "J")					
18	**2.034** 51.66	**1.904** 48.36	**1.700** 43.18	W8D18PF29013	W8D18PF29043
20	**2.234** 56.74	**2.104** 53.44	**1.900** 48.26	W8D20PF29013	W8D20PF29043
22	**2.434** 61.82	**2.304** 58.52	**2.100** 53.34	W8D22PF29013	W8D22PF29043
25	**2.734** 69.44	**2.604** 66.14	**2.400** 60.96	W8D25PF29013	W8D25PF29043
28	**3.034** 77.06	**2.904** 73.76	**2.700** 68.58	W8D28PF29013	W8D28PF29043
30	**3.234** 82.14	**3.104** 78.84	**2.900** 73.66	W8D30PF29013	W8D30PF29043
35	**3.734** 94.84	**3.604** 91.54	**3.400** 86.36	W8D35PF29013	W8D35PF29043
36	**3.834** 97.38	**3.704** 94.08	**3.500** 88.90	W8D36PF29013	W8D36PF29043
40	**4.234** 107.54	**4.104** 104.24	**3.900** 99.06	W8D40PF29013	W8D40PF29043
43	**4.534** 115.16	**4.404** 111.86	**4.200** 106.68	W8D43PF29013	W8D43PF29043
45	**4.734** 120.24	**4.604** 116.94	**4.400** 111.76	W8D45PF29013	W8D45PF29043
50	**5.234** 132.94	**5.104** 129.64	**4.900** 124.46	W8D50PF29013	W8D50PF29043
60	**6.234** 158.34	**6.104** 155.04	**5.900** 149.86	W8D60PF29013	W8D60PF29043

Catalog 1654080
Issued 7-03

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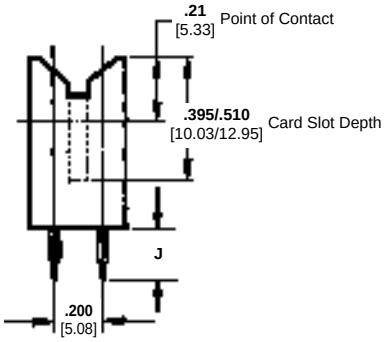
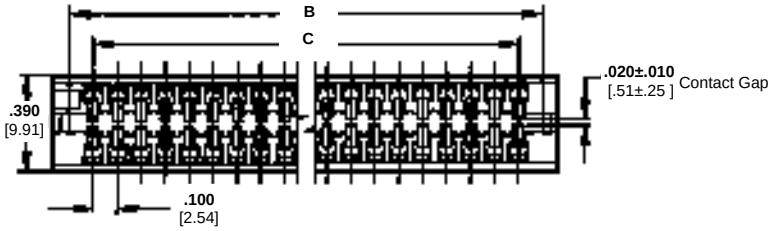
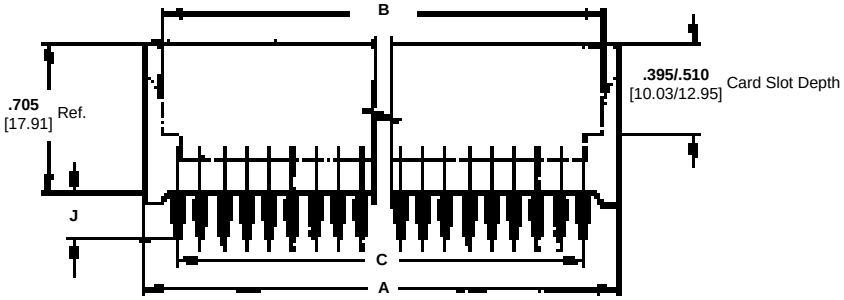
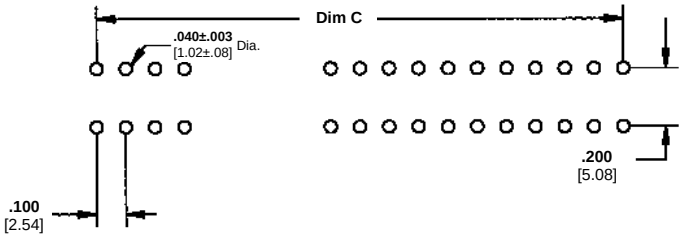
UK: 44-141-810-8967

.100 x .200 [2.54 x 5.08] Centerline, Press-Fit, Full Scoop with Standoffs









Product Facts

- **Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980**
- **Certified by Canadian Standards Association, File No. LR49571**

Physical Properties:

Insulation Resistance—5000 megohms minimum.

Contact Retention Into PCB—5lbs. min. [356 N]

Insertion Force—10 oz. [44.5 N] max. measured with a .0700 ± .0001 [1.80±.00254] THK polished blade per MIL-C-21097C

Withdrawal Force—1 oz. min. [4.5 N] measured with a .0540 ± .0001 [3.37±.00254] THK polished test blade per MIL-C-21097C after sizing 3 times with a .0700 ± .0001 [1.80±.00254] THK blade

Insulator Body—High Temp. Glass filled thermoplastic, UL rating 94V-O

Color—Black

Spring Contact—Phosphor Bronze alloy

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operating Voltage—600 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

Operating Temperature—-55˚C to +125˚C

Temperature Cycling—MIL-STD-202 method 107

Vibration—MIL-STD-202, method 204

Application Tooling:

Insertion Tool—page 150

Related Product Data:

Daughter Card Edge Pattern—page 57

Note: Open ends and open/closed ends are available. Consult Tyco Electronics.

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Japan: 81-44-844-8013
UK: 44-141-810-8967

Ordering Information

.100 [2.54] Centerline / .200 [5.08] Row-to-Row Full Scoop with Standoffs

No. of Dual Readout Positions	Dimensions			Acquired Part Numbers	
	A	B	C	.510 [12.95] Card Slot Depth	.395 [10.03] Card Slot Depth
Tail Length .670 [17.02] (DIM "J")					
18	**2.034** 51.66	**1.904** 48.36	**1.700** 43.18	W8D18PF29062	W8D18PF29092
20	**2.234** 56.74	**2.104** 53.44	**1.900** 48.26	W8D20PF29062	W8D20PF29092
22	**2.434** 61.82	**2.304** 58.52	**2.100** 53.34	W8D22PF29062	W8D22PF29092
25	**2.734** 69.44	**2.604** 66.14	**2.400** 60.96	W8D25PF29062	W8D25PF29092
28	**3.034** 77.06	**2.904** 73.76	**2.700** 68.58	W8D28PF29062	W8D28PF29092
30	**3.234** 82.14	**3.104** 78.84	**2.900** 73.66	W8D30PF29062	W8D30PF29092
35	**3.734** 94.84	**3.604** 91.54	**3.400** 86.36	W8D35PF29062	W8D35PF29092
36	**3.834** 97.38	**3.704** 94.08	**3.500** 88.90	W8D36PF29062	W8D36PF29092
40	**4.234** 107.54	**4.104** 104.24	**3.900** 99.06	W8D40PF29062	W8D40PF29092
43	**4.534** 115.16	**4.404** 111.86	**4.200** 106.68	W8D43PF29062	W8D43PF29092
45	**4.734** 120.24	**4.604** 116.94	**4.400** 111.76	W8D45PF29062	W8D45PF29092
50	**5.234** 132.94	**5.104** 129.64	**4.900** 124.46	W8D50PF29062	W8D50PF29092
60	**6.234** 158.34	**6.104** 155.04	**5.900** 149.86	W8D60PF29062	W8D60PF29092
Tail Length .180 [4.57] (DIM "J")					
18	**2.034** 51.66	**1.904** 48.36	**1.700** 43.18	W8D18PF29063	W8D18PF29093
20	**2.234** 56.74	**2.104** 53.44	**1.900** 48.26	W8D20PF29063	W8D20PF29093
22	**2.434** 61.82	**2.304** 58.52	**2.100** 53.34	W8D22PF29063	W8D22PF29093
25	**2.734** 69.44	**2.604** 66.14	**2.400** 60.96	W8D25PF29063	W8D25PF29093
28	**3.034** 77.06	**2.904** 73.76	**2.700** 68.58	W8D28PF29063	W8D28PF29093
30	**3.234** 82.14	**3.104** 78.84	**2.900** 73.66	W8D30PF29063	W8D30PF29093
35	**3.734** 94.84	**3.604** 91.54	**3.400** 86.36	W8D35PF29063	W8D35PF29093
36	**3.834** 97.38	**3.704** 94.08	**3.500** 88.90	W8D36PF29063	W8D36PF29093
40	**4.234** 107.54	**4.104** 104.24	**3.900** 99.06	W8D40PF29063	W8D40PF29093
43	**4.534** 115.16	**4.404** 111.86	**4.200** 106.68	W8D43PF29063	W8D43PF29093
45	**4.734** 120.24	**4.604** 116.94	**4.400** 111.76	W8D45PF29063	W8D45PF29093
50	**5.234** 132.94	**5.104** 129.64	**4.900** 124.46	W8D50PF29063	W8D50PF29093
60	**6.234** 158.34	**6.104** 155.04	**5.900** 149.86	W8D60PF29063	W8D60PF29093

Catalog 1654080
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Japan: 81-44-844-8013
UK: 44-141-810-8967

.100 x .200 [2.54 x 5.08] Centerline, Press-Fit without Standoffs

Product Facts

- **Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980**
- **Certified by Canadian Standards Association, File No. LR49571**

Physical Properties:

Insulation Resistance—5000 megohms minimum.

Contact Retention Into PCB—5 lbs. [356 N]

Insertion/Withdrawal Force—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.

Insulator Body—Glass filled thermoplastic, UL rating 94V-0

Color—Black

Contacts—High strength copper alloy.

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operating Voltage—600 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

Operating Temperature—-55˚C to +125˚C

Temperature Cycling—MIL-STD-202 method 107

Vibration—MIL-STD-202, method 204

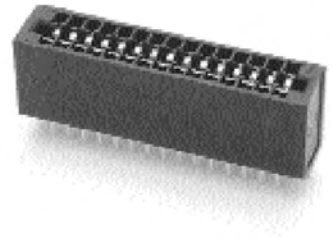
Application Tooling:

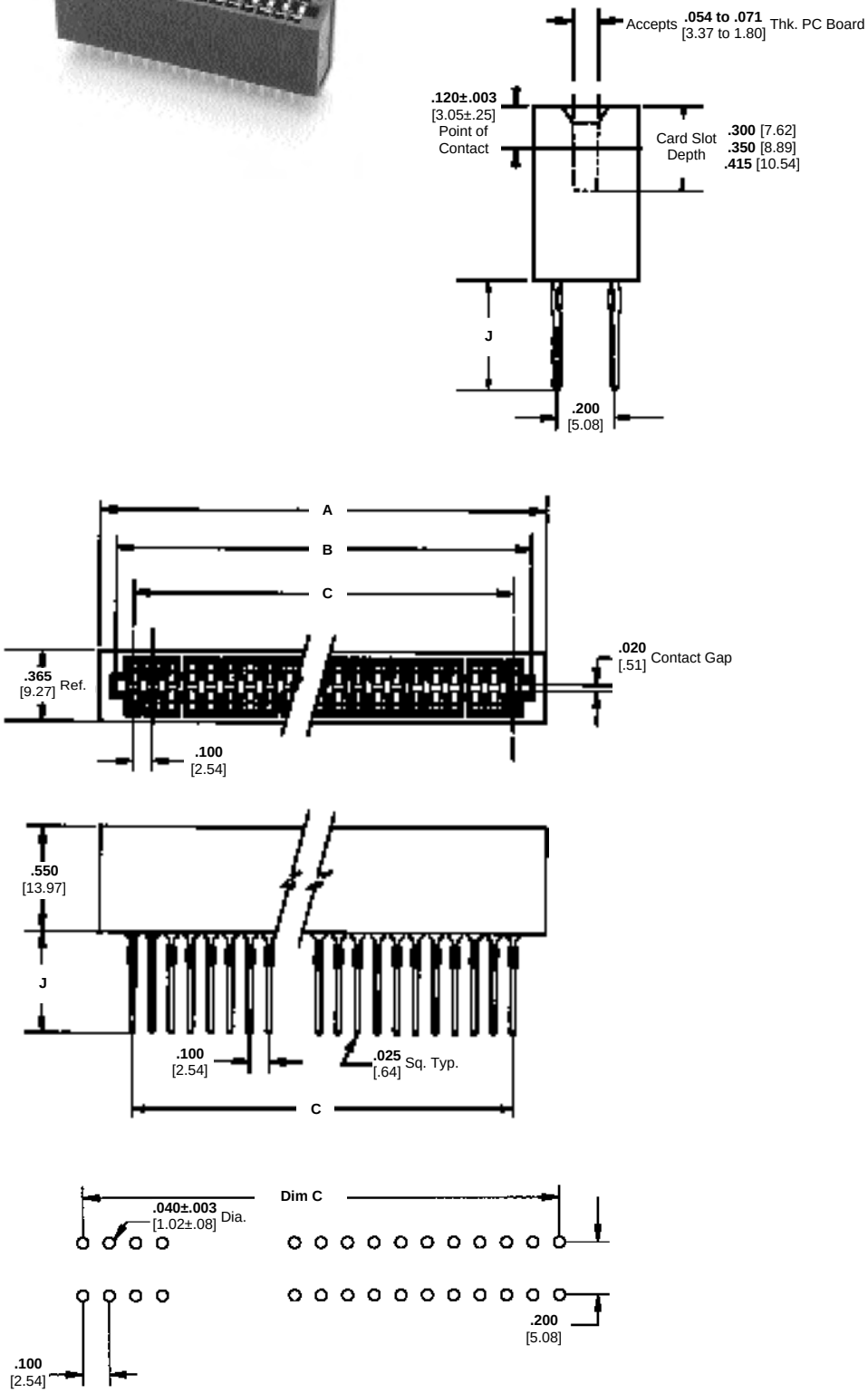
Insertion Tool—page 150

Related Product Data:

Daughter Card Edge Pattern—page 57

Note: Open ends and open/closed ends are available. Consult Tyco Electronics.





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UK: 44-141-810-8967

Ordering Information

.100" [2.54] Centerline / .200" [5.08] Row-to-Row without Standoffs

No. of Dual Readout Positions	Dimensions			Acquired Part Numbers		
	A	B	C	.300 [7.62] Card Slot Depth	.350 [8.89] Card Slot Depth	.415 [10.54] Card Slot Depth
Tail Length .670 [17.02] ("J")						
6	**0.860** 21.84	**0.700** 17.78	**0.500** 12.70	C8D06PF29032	C8D06PF29142	C8D06PF29022
10	**1.260** 32.00	**1.100** 27.94	**0.900** 22.86	C8D10PF29032	C8D10PF29142	C8D10PF29022
12	**1.460** 37.08	**1.300** 33.02	**1.100** 27.94	C8D12PF29032	C8D12PF29142	C8D12PF29022
15	**1.760** 44.70	**1.600** 40.64	**1.400** 35.56	C8D15PF29032	C8D15PF29142	C8D15PF29022
20	**2.260** 57.40	**2.100** 53.34	**1.900** 48.26	C8D20PF29032	C8D20PF29142	C8D20PF29022
22	**2.460** 62.48	**2.300** 58.42	**2.100** 53.34	C8D22PF29032	C8D22PF29142	C8D22PF29022
25	**2.760** 70.10	**2.600** 66.04	**2.400** 60.96	C8D25PF29032	C8D25PF29142	C8D25PF29022
28	**3.060** 77.72	**2.900** 73.66	**2.700** 68.58	C8D28PF29032	C8D28PF29142	C8D28PF29022
30	**3.260** 82.80	**3.100** 78.74	**2.900** 73.66	C8D30PF29032	C8D30PF29142	C8D30PF29022
31	**3.360** 85.34	**3.200** 81.28	**3.000** 76.20	C8D31PF29032	C8D31PF29142	C8D31PF29022
35	**3.760** 95.50	**3.600** 91.44	**3.400** 86.36	C8D35PF29032	C8D35PF29142	C8D35PF29022
36	**3.860** 98.04	**3.700** 93.98	**3.500** 88.90	C8D36PF29032	C8D36PF29142	C8D36PF29022
40	**4.260** 108.20	**4.100** 104.14	**3.900** 99.06	C8D40PF29032	C8D40PF29142	C8D40PF29022
43	**4.560** 115.82	**4.400** 111.76	**4.200** 106.68	C8D43PF29032	C8D43PF29142	C8D43PF29022
50	**5.260** 133.60	**5.100** 129.54	**4.900** 124.46	C8D50PF29032	C8D50PF29142	C8D50PF29022
60	**6.260** 159.00	**6.100** 154.94	**5.900** 149.86	C8D60PF29032	C8D60PF29142	C8D60PF29022
Tail Length .180 [4.57] ("J")						
6	**0.860** 21.84	**0.700** 17.78	**0.500** 12.70	C8D06PF29033	C8D06PF29143	C8D06PF29023
10	**1.260** 32.00	**1.100** 27.94	**0.900** 22.86	C8D10PF29033	C8D10PF29143	C8D10PF29023
12	**1.460** 37.08	**1.300** 33.02	**1.100** 27.94	C8D12PF29033	C8D12PF29143	C8D12PF29023
15	**1.760** 44.70	**1.600** 40.64	**1.400** 35.56	C8D15PF29033	C8D15PF29143	C8D15PF29023
20	**2.260** 57.40	**2.100** 53.34	**1.900** 48.26	C8D20PF29033	C8D20PF29143	C8D20PF29023
22	**2.460** 62.48	**2.300** 58.42	**2.100** 53.34	C8D22PF29033	C8D22PF29143	C8D22PF29023
25	**2.760** 70.10	**2.600** 66.04	**2.400** 60.96	C8D25PF29033	C8D25PF29143	C8D25PF29023
28	**3.060** 77.72	**2.900** 73.66	**2.700** 68.58	C8D28PF29033	C8D28PF29143	C8D28PF29023
30	**3.260** 82.80	**3.100** 78.74	**2.900** 73.66	C8D30PF29033	C8D30PF29143	C8D30PF29023
31	**3.360** 85.34	**3.200** 81.28	**3.000** 76.20	C8D31PF29033	C8D31PF29143	C8D31PF29023
35	**3.760** 95.50	**3.600** 91.44	**3.400** 86.36	C8D35PF29033	C8D35PF29143	C8D35PF29023
36	**3.860** 98.04	**3.700** 93.98	**3.500** 88.90	C8D36PF29033	C8D36PF29143	C8D36PF29023
40	**4.260** 108.20	**4.100** 104.14	**3.900** 99.06	C8D40PF29033	C8D40PF29143	C8D40PF29023
43	**4.560** 115.82	**4.400** 111.76	**4.200** 106.68	C8D43PF29033	C8D43PF29143	C8D43PF29023
50	**5.260** 133.60	**5.100** 129.54	**4.900** 124.46	C8D50PF29033	C8D50PF29143	C8D50PF29023
60	**6.260** 159.00	**6.100** 154.94	**5.900** 149.86	C8D60PF29033	C8D60PF29143	C8D60PF29023

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Hong Kong: 852-2735-1628
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UK: 44-141-810-8967

.100 x .200 [2.54 x 5.08] Centerline, Press-Fit with Standoffs

Product Facts

- **Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980**
- **Certified by Canadian Standards Association, File No. LR49571**

Physical Properties:

Insulation Resistance—5000 megohms minimum.

Contact Retention Into PCB—5 lbs. [356 N]

Insertion/Withdrawal Force—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.

Insulator Body—Glass filled thermoplastic, UL rating 94V-0

Color—Black

Contacts—High strength copper alloy.

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operating Voltage—600 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

Operating Temperature—-55˚C to +125˚C

Temperature Cycling—MIL-STD-202 method 107

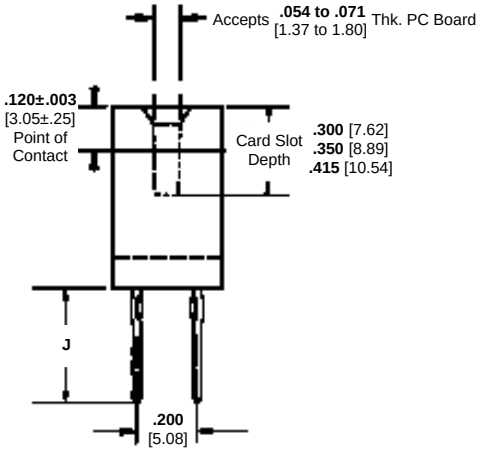
Vibration—MIL-STD-202, method 204

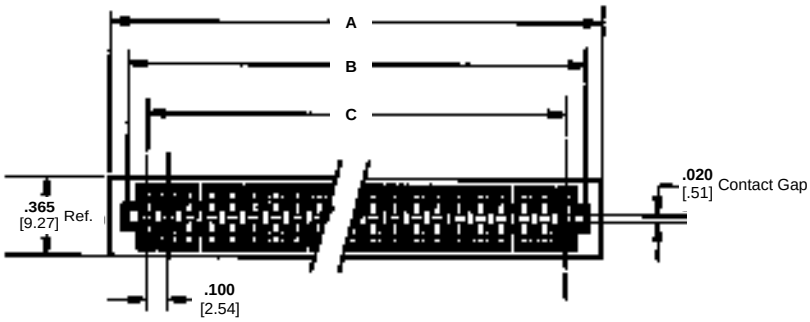
Application Tooling:

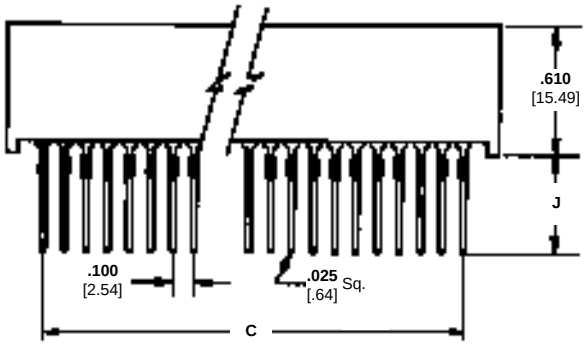
Insertion Tool—page 150

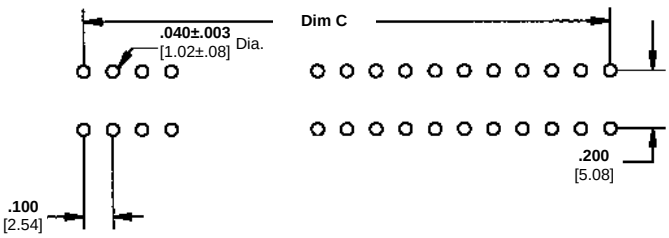
Related Product Data:

Daughter Card Edge Pattern—page 57









Note: Open ends and open/closed ends are available. Consult Tyco Electronics.

Catalog 1654080
Issued 7-03

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Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

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South America: 55-11-3611-1514
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Ordering Information

.100 [2.54] Center-to-Center/.200 [5.08] Row-To-Row with Standoffs

No. of Dual Readout Positions	Dimensions			Acquired Part Numbers		
	A	B	C	.300 [7.62] Card Slot Depth	.350 [8.89] Card Slot Depth	.415 [10.54] Card Slot Depth
Tail Length .670 [17.02] (dim "J")						
6	**0.860** 21.84	**0.700** 17.78	**0.500** 12.70	C8D06PF29012	C8D06PF29132	C8D06PF29042
10	**1.260** 32.00	**1.100** 27.94	**0.900** 22.86	C8D10PF29012	C8D10PF29132	C8D10PF29042
12	**1.460** 37.08	**1.300** 33.02	**1.100** 27.94	C8D12PF29012	C8D12PF29132	C8D12PF29042
15	**1.760** 44.70	**1.600** 40.64	**1.400** 35.56	C8D15PF29012	C8D15PF29132	C8D15PF29042
20	**2.260** 57.40	**2.100** 53.34	**1.900** 48.26	C8D20PF29012	C8D20PF29132	C8D20PF29042
22	**2.460** 62.48	**2.300** 58.42	**2.100** 53.34	C8D22PF29012	C8D22PF29132	C8D22PF29042
25	**2.760** 70.10	**2.600** 66.04	**2.400** 60.96	C8D25PF29012	C8D25PF29132	C8D25PF29042
28	**3.060** 77.72	**2.900** 73.66	**2.700** 68.58	C8D28PF29012	C8D28PF29132	C8D28PF29042
30	**3.260** 82.80	**3.100** 78.74	**2.900** 73.66	C8D30PF29012	C8D30PF29132	C8D30PF29042
31	**3.360** 85.34	**3.200** 81.28	**3.000** 76.20	C8D31PF29012	C8D31PF29132	C8D31PF29042
35	**3.760** 95.50	**3.600** 91.44	**3.400** 86.36	C8D35PF29012	C8D35PF29132	C8D35PF29042
36	**3.860** 98.04	**3.700** 93.98	**3.500** 88.90	C8D36PF29012	C8D36PF29132	C8D36PF29042
40	**4.260** 108.20	**4.100** 104.14	**3.900** 99.06	C8D40PF29012	C8D40PF29132	C8D40PF29042
43	**4.560** 115.82	**4.400** 111.76	**4.200** 106.68	C8D43PF29012	C8D43PF29132	C8D43PF29042
50	**5.260** 133.60	**5.100** 129.54	**4.900** 124.46	C8D50PF29012	C8D50PF29132	C8D50PF29042
60	**6.260** 159.00	**6.100** 154.94	**5.900** 149.86	C8D60PF29012	C8D60PF29132	C8D60PF29042
Tail Length .180 [4.57] (dim "J")						
6	**0.860** 21.84	**0.700** 17.78	**0.500** 12.70	C8D06PF29013	C8D06PF29133	C8D06PF29043
10	**1.260** 32.00	**1.100** 27.94	**0.900** 22.86	C8D10PF29013	C8D10PF29133	C8D10PF29043
12	**1.460** 37.08	**1.300** 33.02	**1.100** 27.94	C8D12PF29013	C8D12PF29133	C8D12PF29043
15	**1.760** 44.70	**1.600** 40.64	**1.400** 35.56	C8D15PF29013	C8D15PF29133	C8D15PF29043
20	**2.260** 57.40	**2.100** 53.34	**1.900** 48.26	C8D20PF29013	C8D20PF29133	C8D20PF29043
22	**2.460** 62.48	**2.300** 58.42	**2.100** 53.34	C8D22PF29013	C8D22PF29133	C8D22PF29043
25	**2.760** 70.10	**2.600** 66.04	**2.400** 60.96	C8D25PF29013	C8D25PF29133	C8D25PF29043
28	**3.060** 77.72	**2.900** 73.66	**2.700** 68.58	C8D28PF29013	C8D28PF29133	C8D28PF29043
30	**3.260** 82.80	**3.100** 78.74	**2.900** 73.66	C8D30PF29013	C8D30PF29133	C8D30PF29043
31	**3.360** 85.34	**3.200** 81.28	**3.000** 76.20	C8D31PF29013	C8D31PF29133	C8D31PF29043
35	**3.760** 95.50	**3.600** 91.44	**3.400** 86.36	C8D35PF29013	C8D35PF29133	C8D35PF29043
36	**3.860** 98.04	**3.700** 93.98	**3.500** 88.90	C8D36PF29013	C8D36PF29133	C8D36PF29043
40	**4.260** 108.20	**4.100** 104.14	**3.900** 99.06	C8D40PF29013	C8D40PF29133	C8D40PF29043
43	**4.560** 115.82	**4.400** 111.76	**4.200** 106.68	C8D43PF29013	C8D43PF29133	C8D43PF29043
50	**5.260** 133.60	**5.100** 129.54	**4.900** 124.46	C8D50PF29013	C8D50PF29133	C8D50PF29043
60	**6.260** 159.00	**6.100** 154.94	**5.900** 149.86	C8D60PF29013	C8D60PF29133	C8D60PF29043

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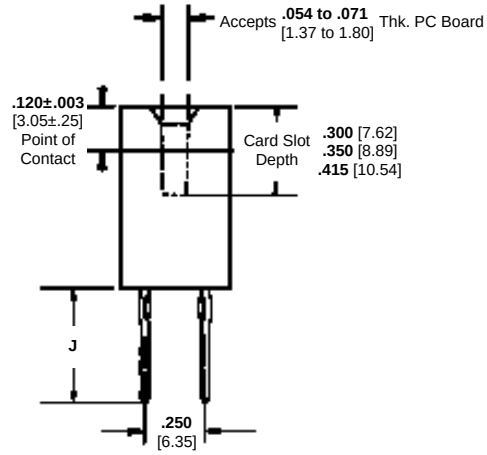
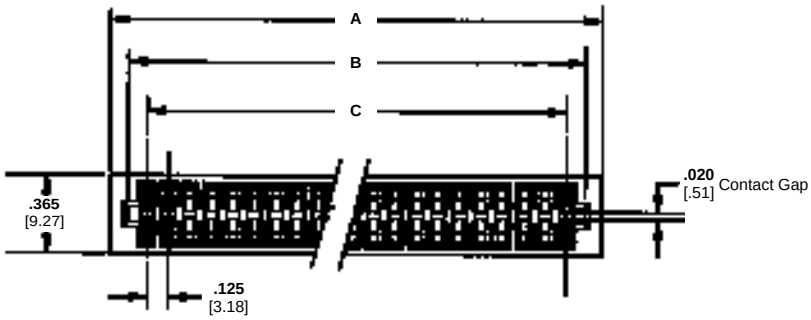
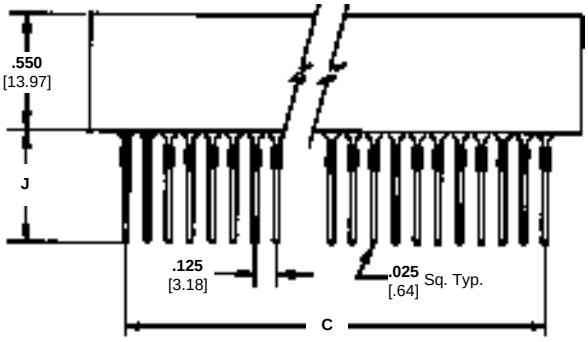
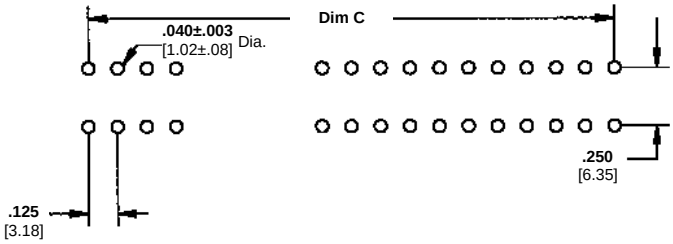
.125 x .250 [3.18 x 6.35] Centerline without Standoffs









Product Facts

- **Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980**
- **Certified by Canadian Standards Association, File No. LR49571**

Physical Properties:

Insulation Resistance—5000 megohms minimum.

Contact Retention Into PCB—5 lbs. [356 N]

Insertion/Withdrawal Force—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.

Insulator Body—Glass filled thermoplastic, UL rating 94V-0

Color—Black

Contacts—High strength copper alloy.

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operating Voltage—1000 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

Operating Temperature—-55˚C to +125˚C

Temperature Cycling—MIL-STD-202 method 107

Vibration—MIL-STD-202, method 204

Application Tooling:

Insertion Tool—page 150

Related Product Data:

Daughter Card Edge Pattern—page 57

Note: Open ends and open/closed ends are available. Consult Tyco Electronics.

Catalog 1654080
Issued 7-03

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UK: 44-141-810-8967

Ordering Information

.125 [3.18] Centerline /.250 [6.35] Row-to-Row without Standoffs

No. of Dual Readout Positions	Dimensions			Acquired Part Numbers		
	A	B	C	.300 [7.62] Card Slot Depth	.350 [8.89] Card Slot Depth	.415 [10.54] Card Slot Depth
Tail Length .670 [17.02] (DIM "J")						
6	**1.035** 26.29	**0.875** 22.23	**0.625** 15.88	C7D06PF29032	C7D06PF29142	C7D06PF29022
10	**1.535** 38.99	**1.375** 34.93	**1.125** 28.58	C7D10PF29032	C7D10PF29142	C7D10PF29022
12	**1.785** 45.34	**1.625** 41.28	**1.375** 34.93	C7D12PF29032	C7D12PF29142	C7D12PF29022
15	**2.160** 54.86	**2.000** 50.80	**1.750** 44.45	C7D15PF29032	C7D15PF29142	C7D15PF29022
18	**2.535** 64.39	**2.375** 60.33	**2.125** 53.98	C7D18PF29032	C7D18PF29142	C7D18PF29022
20	**2.785** 70.74	**2.625** 66.68	**2.375** 60.33	C7D20PF29032	C7D20PF29142	C7D20PF29022
22	**3.035** 77.09	**2.875** 73.03	**2.625** 66.68	C7D22PF29032	C7D22PF29142	C7D22PF29022
25	**3.410** 86.61	**3.250** 82.55	**3.000** 76.20	C7D25PF29032	C7D25PF29142	C7D25PF29022
28	**3.785** 96.14	**3.625** 92.08	**3.375** 85.73	C7D28PF29032	C7D28PF29142	C7D28PF29022
30	**4.035** 102.49	**3.875** 98.43	**3.625** 92.08	C7D30PF29032	C7D30PF29142	C7D30PF29022
31	**4.160** 105.66	**4.000** 101.60	**3.750** 95.25	C7D31PF29032	C7D31PF29142	C7D31PF29022
35	**4.660** 118.36	**4.500** 114.30	**4.250** 107.95	C7D35PF29032	C7D35PF29142	C7D35PF29022
36	**4.785** 121.54	**4.625** 117.48	**4.375** 111.13	C7D36PF29032	C7D36PF29142	C7D36PF29022
40	**5.285** 134.24	**5.125** 130.18	**4.875** 123.83	C7D40PF29032	C7D40PF29142	C7D40PF29022
43	**5.660** 143.76	**5.500** 139.70	**5.250** 133.35	C7D43PF29032	C7D43PF29142	C7D43PF29022
50	**6.535** 165.99	**6.375** 161.93	**6.125** 155.58	C7D50PF29032	C7D50PF29142	C7D50PF29022
Tail Length .180 [4.57] (DIM "J")						
6	**1.035** 26.29	**0.875** 22.23	**0.625** 15.88	C7D06PF29033	C7D06PF29143	C7D06PF29023
10	**1.535** 38.99	**1.375** 34.93	**1.125** 28.58	C7D10PF29033	C7D10PF29143	C7D10PF29023
12	**1.785** 45.34	**1.625** 41.28	**1.375** 34.93	C7D12PF29033	C7D12PF29143	C7D12PF29023
15	**2.160** 54.86	**2.000** 50.80	**1.750** 44.45	C7D15PF29033	C7D15PF29143	C7D15PF29023
18	**2.535** 64.39	**2.375** 60.33	**2.125** 53.98	C7D18PF29033	C7D18PF29143	C7D18PF29023
20	**2.785** 70.74	**2.625** 66.68	**2.375** 60.33	C7D20PF29033	C7D20PF29143	C7D20PF29023
22	**3.035** 77.09	**2.875** 73.03	**2.625** 66.68	C7D22PF29033	C7D22PF29143	C7D22PF29023
25	**3.410** 86.61	**3.250** 82.55	**3.000** 76.20	C7D25PF29033	C7D25PF29143	C7D25PF29023
28	**3.785** 96.14	**3.625** 92.08	**3.375** 85.73	C7D28PF29033	C7D28PF29143	C7D28PF29023
30	**4.035** 102.49	**3.875** 98.43	**3.625** 92.08	C7D30PF29033	C7D30PF29143	C7D30PF29023
31	**4.160** 105.66	**4.000** 101.60	**3.750** 95.25	C7D31PF29033	C7D31PF29143	C7D31PF29023
35	**4.660** 118.36	**4.500** 114.30	**4.250** 107.95	C7D35PF29033	C7D35PF29143	C7D35PF29023
36	**4.785** 121.54	**4.625** 117.48	**4.375** 111.13	C7D36PF29033	C7D36PF29143	C7D36PF29023
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43	**5.660** 143.76	**5.500** 139.70	**5.250** 133.35	C7D43PF29033	C7D43PF29143	C7D43PF29023
50	**6.535** 165.99	**6.375** 161.93	**6.125** 155.58	C7D50PF29033	C7D50PF29143	C7D50PF29023

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.125 x .250 [3.18 x 6.35] Centerline with Standoffs

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- **Certified by Canadian Standards Association, File No. LR49571**

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Insulator Body—Glass filled thermoplastic, UL rating 94V-0

Color—Black

Contacts—High strength copper alloy.

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Temperature Cycling—MIL-STD-202 method 107

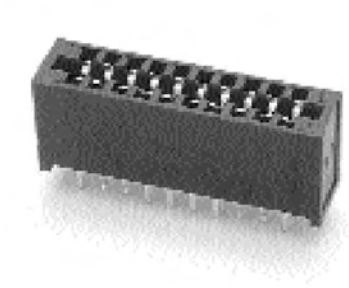
Vibration—MIL-STD-202, method 204

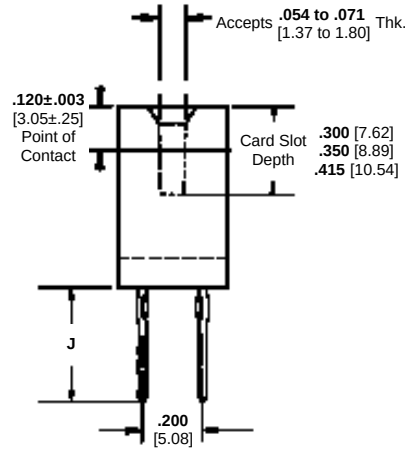
Application Tooling:

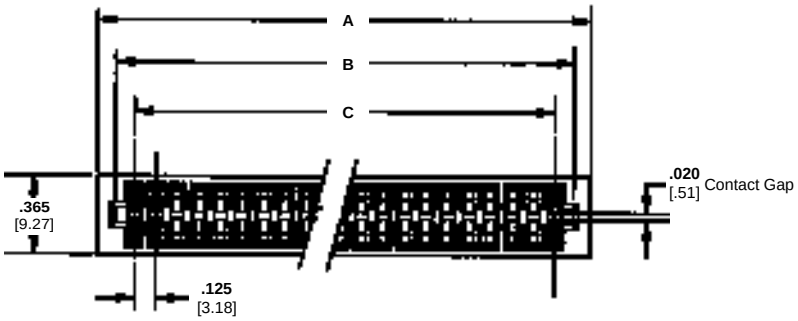
Insertion Tool—page 150

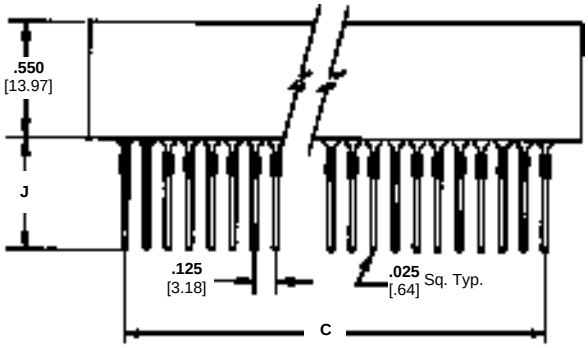
Related Product Data:

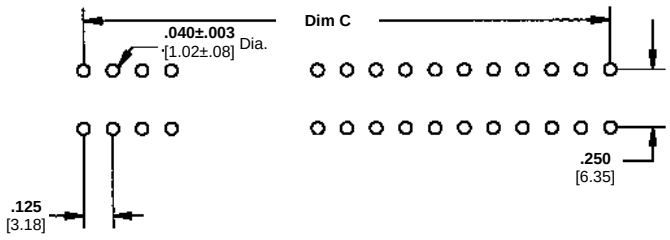
Daughter Card Edge Pattern—page 57











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10	**1.535** 38.99	**1.375** 34.93	**1.125** 28.58	C7D10PF29012	C7D10PF29132	C7D10PF29042
12	**1.785** 45.34	**1.625** 41.28	**1.375** 34.93	C7D12PF29012	C7D12PF29132	C7D12PF29042
15	**2.160** 54.86	**2.000** 50.80	**1.750** 44.45	C7D15PF29012	C7D15PF29132	C7D15PF29042
18	**2.535** 64.39	**2.375** 60.33	**2.125** 53.98	C7D18PF29012	C7D18PF29132	C7D18PF29042
20	**2.785** 70.74	**2.625** 66.68	**2.375** 60.33	C7D20PF29012	C7D20PF29132	C7D20PF29042
22	**3.035** 77.09	**2.875** 73.03	**2.625** 66.68	C7D22PF29012	C7D22PF29132	C7D22PF29042
25	**3.410** 86.61	**3.250** 82.55	**3.000** 76.20	C7D25PF29012	C7D25PF29132	C7D25PF29042
28	**3.785** 96.14	**3.625** 92.08	**3.375** 85.73	C7D28PF29012	C7D28PF29132	C7D28PF29042
30	**4.035** 102.49	**3.875** 98.43	**3.625** 92.08	C7D30PF29012	C7D30PF29132	C7D30PF29042
31	**4.160** 105.66	**4.000** 101.60	**3.750** 95.25	C7D31PF29012	C7D31PF29132	C7D31PF29042
35	**4.660** 118.36	**4.500** 114.30	**4.250** 107.95	C7D35PF29012	C7D35PF29132	C7D35PF29042
36	**4.785** 121.54	**4.625** 117.48	**4.375** 111.13	C7D36PF29012	C7D36PF29132	C7D36PF29042
40	**5.285** 134.24	**5.125** 130.18	**4.875** 123.83	C7D40PF29012	C7D40PF29132	C7D40PF29042
43	**5.660** 143.76	**5.500** 139.70	**5.250** 133.35	C7D43PF29012	C7D43PF29132	C7D43PF29042
50	**6.535** 165.99	**6.375** 161.93	**6.125** 155.58	C7D50PF29012	C7D50PF29132	C7D50PF29042
Tail Length .180 [4.57] (DIM "J")						
6	**1.035** 26.29	**0.875** 22.23	**0.625** 15.88	C7D06PF29013	C7D06PF29133	C7D06PF29043
10	**1.535** 38.99	**1.375** 34.93	**1.125** 28.58	C7D10PF29013	C7D10PF29133	C7D10PF29043
12	**1.785** 45.34	**1.625** 41.28	**1.375** 34.93	C7D12PF29013	C7D12PF29133	C7D12PF29043
15	**2.160** 54.86	**2.000** 50.80	**1.750** 44.45	C7D15PF29013	C7D15PF29133	C7D15PF29043
18	**2.535** 64.39	**2.375** 60.33	**2.125** 53.98	C7D18PF29013	C7D18PF29133	C7D18PF29043
20	**2.785** 70.74	**2.625** 66.68	**2.375** 60.33	C7D20PF29013	C7D20PF29133	C7D20PF29043
22	**3.035** 77.09	**2.875** 73.03	**2.625** 66.68	C7D22PF29013	C7D22PF29133	C7D22PF29043
25	**3.410** 86.61	**3.250** 82.55	**3.000** 76.20	C7D25PF29013	C7D25PF29133	C7D25PF29043
28	**3.785** 96.14	**3.625** 92.08	**3.375** 85.73	C7D28PF29013	C7D28PF29133	C7D28PF29043
30	**4.035** 102.49	**3.875** 98.43	**3.625** 92.08	C7D30PF29013	C7D30PF29133	C7D30PF29043
31	**4.160** 105.66	**4.000** 101.60	**3.750** 95.25	C7D31PF29013	C7D31PF29133	C7D31PF29043
35	**4.660** 118.36	**4.500** 114.30	**4.250** 107.95	C7D35PF29013	C7D35PF29133	C7D35PF29043
36	**4.785** 121.54	**4.625** 117.48	**4.375** 111.13	C7D36PF29013	C7D36PF29133	C7D36PF29043
40	**5.285** 134.24	**5.125** 130.18	**4.875** 123.83	C7D40PF29013	C7D40PF29133	C7D40PF29043
43	**5.660** 143.76	**5.500** 139.70	**5.250** 133.35	C7D43PF29013	C7D43PF29133	C7D43PF29043
50	**6.535** 165.99	**6.375** 161.93	**6.125** 155.58	C7D50PF29013	C7D50PF29133	C7D50PF29043

NOTE: Optional stacking designs are available (consult Tyco Electronics).

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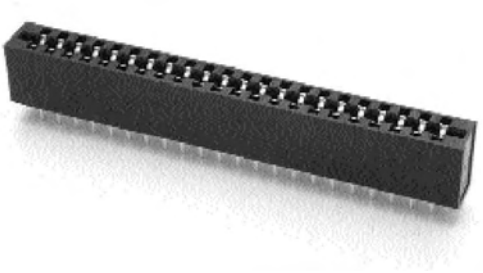
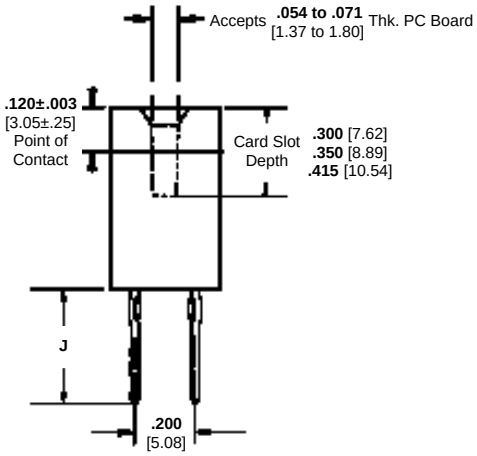
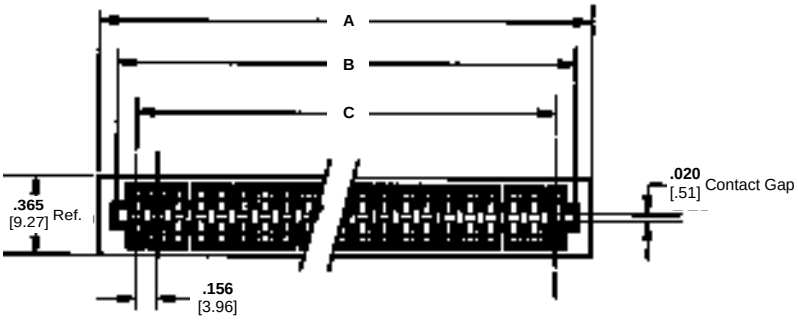
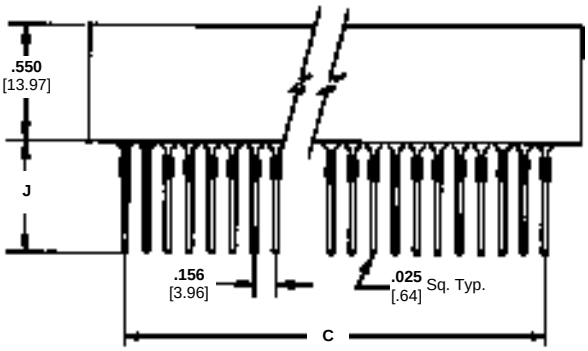
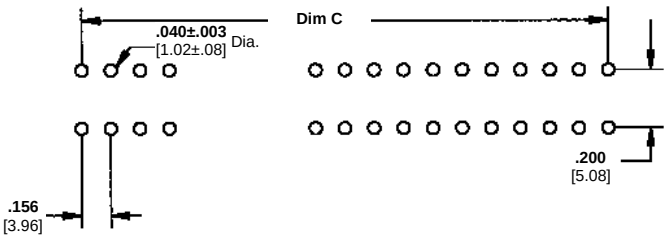
.156 x .200 [3.18 x 5.08] Centerline without Standoffs











Product Facts

- **Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980**
- **Certified by Canadian Standards Association, File No. LR49571**

Physical Properties:

Insulation Resistance—5000 megohms minimum.

Contact Retention Into PCB—5 lbs. [356 N]

Insertion/Withdrawal Force—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.

Insulator Body—Glass filled thermoplastic, UL rating 94V-0

Color—Black

Contacts—High strength copper alloy.

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operating Voltage—1500 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

Operating Temperature—-55˚C to +125˚C

Temperature Cycling—MIL-STD-202 method 107

Vibration—MIL-STD-202, method 204

Application Tooling:

Insertion Tool—page 150

Related Product Data:

Daughter Card Edge Pattern—page 57

Note: Open ends and open/closed ends are available. Consult Tyco Electronics.

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UK: 44-141-810-8967

Ordering Information

.156 [3.18] Centerline/.200 [5.08] Row-to-Row without Standoffs

No. of Dual Readout Positions	Dimensions			Acquired Part Numbers		
	A	B	C	.300 [7.62] Card Slot Depth	.350 [8.84] Card Slot Depth	.415 [10.54] Card Slot Depth
.670 [17.02] Tail Length (DIM "J")						
6	**1.221** 31.01	**1.100** 27.94	**0.780** 19.81	C6D06PF29032	C6D06PF29142	C6D06PF29022
10	**1.845** 46.86	**1.724** 43.79	**1.404** 35.66	C6D10PF29032	C6D10PF29142	C6D10PF29022
12	**2.157** 54.79	**2.036** 51.71	**1.716** 43.59	C6D12PF29032	C6D12PF29142	C6D12PF29022
15	**2.625** 66.68	**2.504** 63.60	**2.184** 55.47	C6D15PF29032	C6D15PF29142	C6D15PF29022
18	**3.093** 78.56	**2.972** 75.49	**2.652** 67.36	C6D18PF29032	C6D18PF29142	C6D18PF29022
20	**3.405** 86.49	**3.284** 83.41	**2.964** 75.29	C6D20PF29032	C6D20PF29142	C6D20PF29022
22	**3.717** 94.41	**3.596** 91.34	**3.276** 83.21	C6D22PF29032	C6D22PF29142	C6D22PF29022
25	**4.185** 106.30	**4.064** 103.23	**3.744** 95.10	C6D25PF29032	C6D25PF29142	C6D25PF29022
28	**4.653** 118.19	**4.532** 115.11	**4.212** 106.98	C6D28PF29032	C6D28PF29142	C6D28PF29022
30	**4.965** 126.11	**4.844** 123.04	**4.524** 114.91	C6D30PF29032	C6D30PF29142	C6D30PF29022
31	**5.121** 130.07	**5.000** 127.00	**4.680** 118.87	C6D31PF29032	C6D31PF29142	C6D31PF29022
35	**5.745** 145.92	**5.624** 142.85	**5.304** 134.72	C6D35PF29032	C6D35PF29142	C6D35PF29022
36	**5.901** 149.89	**5.780** 146.81	**5.460** 138.68	C6D36PF29032	C6D36PF29142	C6D36PF29022
40	**6.525** 165.74	**6.404** 162.66	**6.085** 154.56	C6D40PF29032	C6D40PF29142	C6D40PF29022
43	**6.993** 177.62	**6.872** 174.55	**6.552** 166.42	C6D43PF29032	C6D43PF29142	C6D43PF29022
.180 [4.57] Tail Length (DIM "J")						
6	**1.221** 31.01	**1.100** 27.94	**0.780** 19.81	C6D06PF29033	C6D06PF29143	C6D06PF29023
10	**1.845** 46.86	**1.724** 43.79	**1.404** 35.66	C6D10PF29033	C6D10PF29143	C6D10PF29023
12	**2.157** 54.79	**2.036** 51.71	**1.716** 43.59	C6D12PF29033	C6D12PF29143	C6D12PF29023
15	**2.625** 66.68	**2.504** 63.60	**2.184** 55.47	C6D15PF29033	C6D15PF29143	C6D15PF29023
18	**3.093** 78.56	**2.972** 75.49	**2.652** 67.36	C6D18PF29033	C6D18PF29143	C6D18PF29023
20	**3.405** 86.49	**3.284** 83.41	**2.964** 75.29	C6D20PF29033	C6D20PF29143	C6D20PF29023
22	**3.717** 94.41	**3.596** 91.34	**3.276** 83.21	C6D22PF29033	C6D22PF29143	C6D22PF29023
25	**4.185** 106.30	**4.064** 103.23	**3.744** 95.10	C6D25PF29033	C6D25PF29143	C6D25PF29023
28	**4.653** 118.19	**4.532** 115.11	**4.212** 106.98	C6D28PF29033	C6D28PF29143	C6D28PF29023
30	**4.965** 126.11	**4.844** 123.04	**4.524** 114.91	C6D30PF29033	C6D30PF29143	C6D30PF29023
31	**5.121** 130.07	**5.000** 127.00	**4.680** 118.87	C6D31PF29033	C6D31PF29143	C6D31PF29023
35	**5.745** 145.92	**5.624** 142.85	**5.304** 134.72	C6D35PF29033	C6D35PF29143	C6D35PF29023
36	**5.901** 149.89	**5.780** 146.81	**5.460** 138.68	C6D36PF29033	C6D36PF29143	C6D36PF29023
40	**6.525** 165.74	**6.404** 162.66	**6.085** 154.56	C6D40PF29033	C6D40PF29143	C6D40PF29023
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Catalog 1654080
Issued 7-03

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UK: 44-141-810-8967

.156 x .200 [3.18 x 5.08] Centerline with Standoffs

Product Facts

- **Recognized under the Component Program of Underwriters Laboratories Inc., File No. E60980**
- **Certified by Canadian Standards Association, File No. LR49571**

Physical Properties:

Insulation Resistance—5000 megohms minimum.

Contact Retention Into PCB—5 lbs. [356 N]

Insertion/Withdrawal Force—8 oz./2 oz. [35.6 N/ 8.9 N] average contact pair using .0620 [1.57] steel blade.

Insulator Body—Glass filled thermoplastic, UL rating 94V-0

Color—Black

Contacts—High strength copper alloy.

Contact Plating—.000050 [0.00127] nickel underplate with .000030 [0.00076] gold in the mating area, tin/lead on tails, .000100 [0.00254] minimum

Electrical Properties:

Operating Voltage—1500 VDC (sea level)

Current Rating—3 Amperes

Initial Contact Resistance—10 milliohms

Environmental Properties:

Operating Temperature—-55˚C to +125˚C

Temperature Cycling—MIL-STD-202 method 107

Vibration—MIL-STD-202, method 204

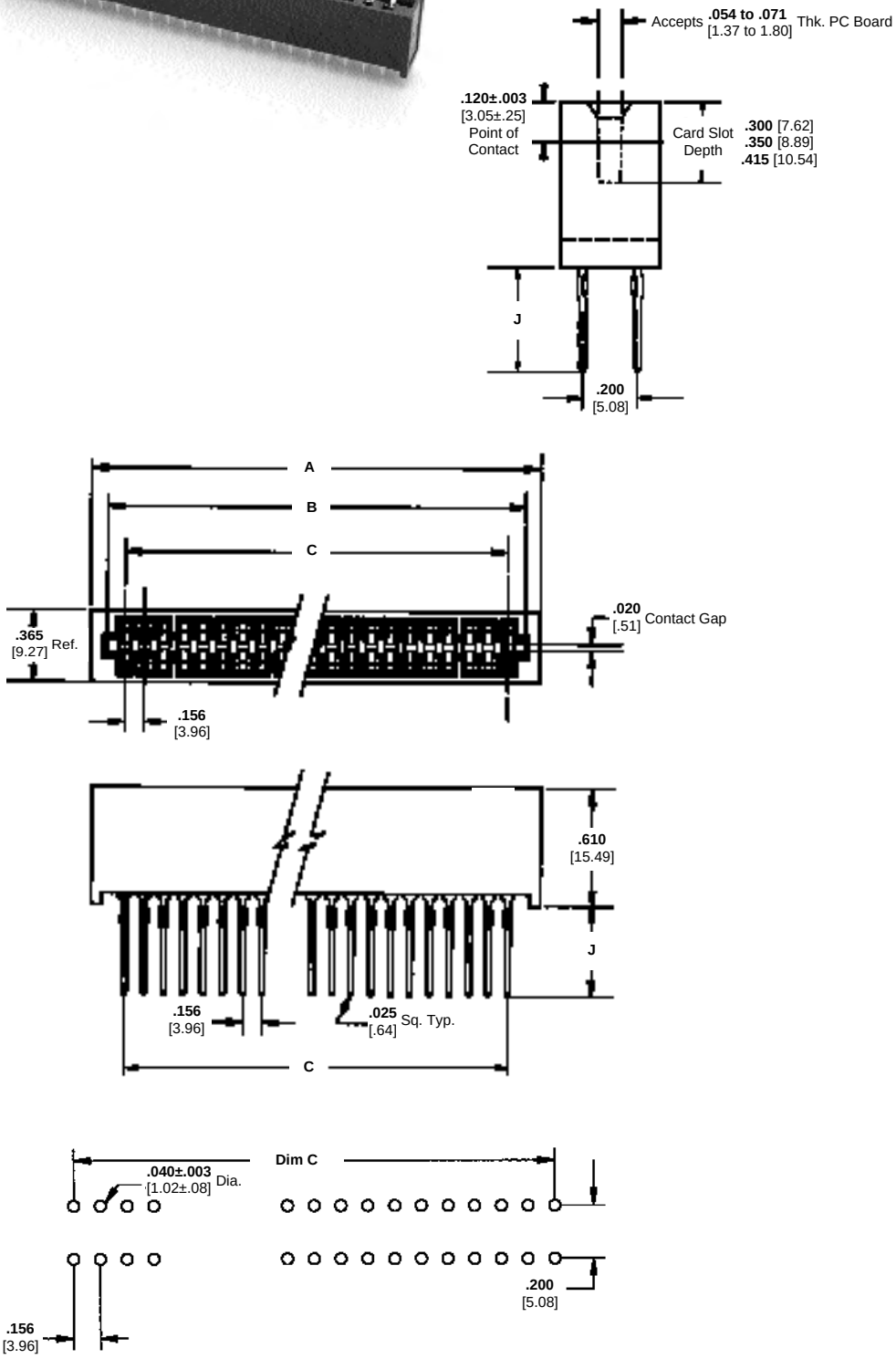
Application Tooling:

Insertion Tool—page 150

Related Product Data:

Daughter Card Edge Pattern—page 57

Note: Open ends and open/closed ends are available. Consult Tyco Electronics.



Press-Fit
Board-to-Board Connectors

Catalog 1654080
Issued 7-03

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Ordering Information

.156 [3.18] Centerline/.200 [5.08] Row-to-Row with Standoffs

No. of Dual Readout Positions	Dimensions			Acquired Part Numbers		
	A	B	C	.300 [7.62] Card Slot Depth	.350 [8.89] Card Slot Depth	.415 [10.54] Card Slot Depth
.670 [17.02] Tail Length (DIM "J")						
6	**1.221** 31.01	**1.100** 27.94	**0.780** 19.81	C6D06PF29012	C6D06PF29132	C6D06PF29042
10	**1.845** 46.86	**1.724** 43.79	**1.404** 35.66	C6D10PF29012	C6D10PF29132	C6D10PF29042
12	**2.157** 54.79	**2.036** 51.71	**1.716** 43.59	C6D12PF29012	C6D12PF29132	C6D12PF29042
15	**2.625** 66.68	**2.504** 63.60	**2.184** 55.47	C6D15PF29012	C6D15PF29132	C6D15PF29042
18	**3.093** 78.56	**2.972** 75.49	**2.652** 67.36	C6D18PF29012	C6D18PF29132	C6D18PF29042
20	**3.405** 86.49	**3.284** 83.41	**2.964** 75.29	C6D20PF29012	C6D20PF29132	C6D20PF29042
22	**3.717** 94.41	**3.596** 91.34	**3.276** 83.21	C6D22PF29012	C6D22PF29132	C6D22PF29042
25	**4.185** 106.30	**4.064** 103.23	**3.744** 95.10	C6D25PF29012	C6D25PF29132	C6D25PF29042
28	**4.653** 118.19	**4.532** 115.11	**4.212** 106.98	C6D28PF29012	C6D28PF29132	C6D28PF29042
30	**4.965** 126.11	**4.844** 123.04	**4.524** 114.91	C6D30PF29012	C6D30PF29132	C6D30PF29042
31	**5.121** 130.07	**5.000** 127.00	**4.680** 118.87	C6D31PF29012	C6D31PF29132	C6D31PF29042
35	**5.745** 145.92	**5.624** 142.85	**5.304** 134.72	C6D35PF29012	C6D35PF29132	C6D35PF29042
36	**5.901** 149.89	**5.780** 146.81	**5.460** 138.68	C6D36PF29012	C6D36PF29132	C6D36PF29042
40	**6.525** 165.74	**6.404** 162.66	**6.085** 154.56	C6D40PF29012	C6D40PF29132	C6D40PF29042
43	**6.993** 177.62	**6.872** 174.55	**6.552** 166.42	C6D43PF29012	C6D43PF29132	C6D43PF29042
.180 [4.57] Tail Length (DIM "J")						
6	**1.221** 31.01	**1.100** 27.94	**0.780** 19.81	C6D06PF29013	C6D06PF29133	C6D06PF29043
10	**1.845** 46.86	**1.724** 43.79	**1.404** 35.66	C6D10PF29013	C6D10PF29133	C6D10PF29043
12	**2.157** 54.79	**2.036** 51.71	**1.716** 43.59	C6D12PF29013	C6D12PF29133	C6D12PF29043
15	**2.625** 66.68	**2.504** 63.60	**2.184** 55.47	C6D15PF29013	C6D15PF29133	C6D15PF29043
18	**3.093** 78.56	**2.972** 75.49	**2.652** 67.36	C6D18PF29013	C6D18PF29133	C6D18PF29043
20	**3.405** 86.49	**3.284** 83.41	**2.964** 75.29	C6D20PF29013	C6D20PF29133	C6D20PF29043
22	**3.717** 94.41	**3.596** 91.34	**3.276** 83.21	C6D22PF29013	C6D22PF29133	C6D22PF29043
25	**4.185** 106.30	**4.064** 103.23	**3.744** 95.10	C6D25PF29013	C6D25PF29133	C6D25PF29043
28	**4.653** 118.19	**4.532** 115.11	**4.212** 106.98	C6D28PF29013	C6D28PF29133	C6D28PF29043
30	**4.965** 126.11	**4.844** 123.04	**4.524** 114.91	C6D30PF29013	C6D30PF29133	C6D30PF29043
31	**5.121** 130.07	**5.000** 127.00	**4.680** 118.87	C6D31PF29013	C6D31PF29133	C6D31PF29043
35	**5.745** 145.92	**5.624** 142.85	**5.304** 134.72	C6D35PF29013	C6D35PF29133	C6D35PF29043
36	**5.901** 149.89	**5.780** 146.81	**5.460** 138.68	C6D36PF29013	C6D36PF29133	C6D36PF29043
40	**6.525** 165.74	**6.404** 162.66	**6.085** 154.56	C6D40PF29013	C6D40PF29133	C6D40PF29043
43	**6.993** 177.62	**6.872** 174.55	**6.552** 166.42	C6D43PF29013	C6D43PF29133	C6D43PF29043

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Press-Fit Application Tooling

Tyco Electronics offers a complete line of servo-electric driven presses for the application of press-fit connectors. Each system features a PC controlled servo electric drive for precise application and monitoring of force, speed, and press height. The entire process is data driven to provide flexible programming and automatic set-up. SPC analysis is provided for each connector pressed to assure the quality of every application.

BMEP 1K/2K Servo Electric Press

- 1000 or 2000 lb force [4.5 or 9 kN]
- 12" [305 mm] throat depth
- Compact footprint – 16" x 24" [406 x 610 mm]
- Force resolution of approximately 1 lb [4.4 N] for delicate press applications.

BMEP 3T/5T Benchtop Electric Servo Press

- 3 or 5 tons force [27 or 44 kN]
- 18" x 24" [460 x 610 mm] PCB capacity
- Compact footprint – 24" x 48" [610 x 1220 mm]
- Midrange force and board size capacity in a benchtop unit.

MEP 6T/12 T Manual Electric Servo Press

- 6 or 12 tons force [53 or 107 kN]
- 24" x 36" [610 x 914 mm] PCB capacity
- Self-contained, portable unit
- Compact, manual unit capable of handling large boards and high force applications.

Automatic Pick, Place and Press (AP3)

- 8 tons force [71 kN]
- 18" x 30" [457 x 762 mm] PCB capacity
- SMEMA compatible unit for automatic pick, place and press of connectors and odd-from components.
- Vision system for pin inspection prior to placement.

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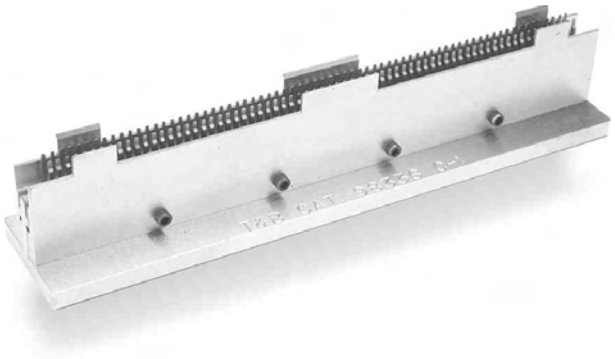
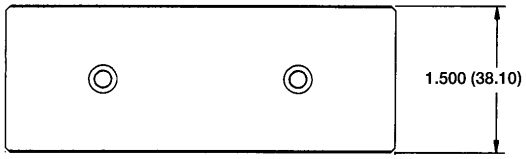
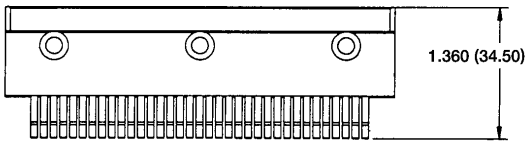
Press-Fit Card Edge Insertion Tools







Ordering Information

Center-to Center	Connector Prefix	Max. No. Of Positions	Tool Part Number		Replacement Blade Part Number	
			Acquired P/N	TYCO	Acquired P/N	Tyco
.100 x .100 2.54 x 2.54	C1	70	98336	3-1437266-5	98293	1437274-1
.100 x .100 2.54 x 2.54	C1	100	98341	—	98293	1437274-1
.156 x .200 3.96 x 5.08	C6	43	98231	1-1437266-1	98206	1437266-8
.125 x .250 3.18 x 6.35	C7	50	98230	1-1437266-0	98206	1437266-8
.100 x .200 2.54 x 5.08	C8	70	98224	1437266-9	98206	1437266-8
.100 x .200 2.54 x 5.08 (Full Scoop)	W8	70	98236	1490560-1	98238	1490563-1
.100 x .200 2.54 x 5.08 (Full Scoop)	W8	35	98236	1490560-2	98238	1490563-1

Catalog 1654080
Issued 7-03

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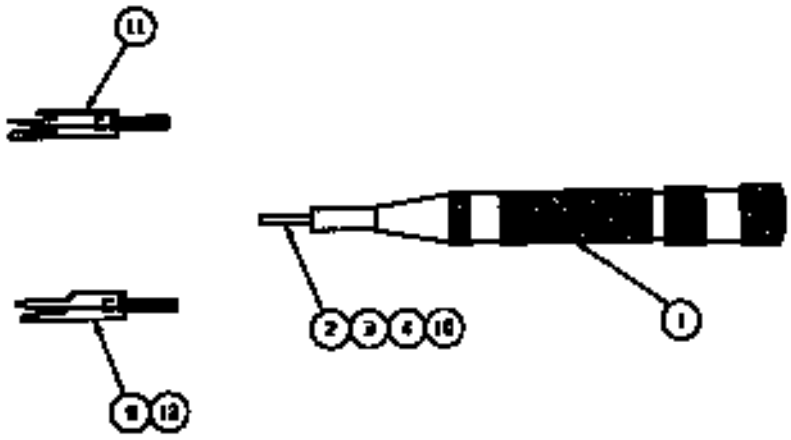
C. America: 52-55-5-729-0425

South America: 55-11-3611-1514
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Press-Fit Card Edge Removal Tool Kits

Description

Removal tool kits include: impact tools, removal tips for tail lengths ranging from .180 in. [4.57] to .680 in. [17.27] Kits for .100" x .200" [2.54 x 5.08] Series Card Edge connectors include the insertion tip.



Ordering Information

Center x Row	Prefix	Acquired Kit Number	Tyco Kit Number
.156 x .200 3.96 x 5.08	C6	9818002	1437266-3
.125 x .250 3.18 x 6.35	C7	9818002	1437266-3
.100 x .200 2.54 x 5.08	C8	9818002	1437266-3
.100 x .100 2.54 x 2.54	C1	9818004	1437266-4
.100 x .200 2.54 x 5.08 Wide Full Scoop	W8	9818005	1437266-5

Ordering Information

Item No.	Description	Applies to Kit No.					Replacement Part Number	Tyco Part Number
		9818001	9818001	9818003	9818004	9818005		
1	Impact Tool	√	√	√	√	√	9820401	1437266-7
2	Removal Tip - .180 [4.57] Tail	√	√	√	√	√	9820301	1437266-6
3	Removal Tip - **.378/.475** Tail 9.60/12.07		√	√	√	√	9820302	1437260-4
4	Removal Tip - **.670/.680** Tail 17.02/17.27		√	√	√	√	9820303	—
6	Insertion Tip - C6, 7 & 8 PF		√				9836701	3-1437266-9
10	Removal Tip - **.550/.625** Tail 13.97/15.88		√				9820305	1437260-5
11	Insertion Tip - C1 Series PF				√		9836301	1437260-6
12	Insertion Tip - W8 Series PF					√	9836702	1437260-7

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Wire-to-Board Connectors

Except for DUO-TYNE flag connectors, which are exclusively for wire-to-board application, the connectors presented in this section are primarily wire-to-board connectors, but do have some board-to-board capabilities. These connectors are available in a wide range of styles to suit almost any wire-to-board application. This versatile connector family features snap-in contacts of various configurations including crimp, post, eyelet and solder types.

Wire-to-board crimp, snap-in contacts are easily inserted into the connector housing and are furnished in reel-fed strip form for automatic machine application and loose piece for hand tool termination. The Wire-to-Board Printed Circuit Board Connector family includes:

Crimp Snap Twin Leaf Connectors
(Pages 154-163)
These connectors are designed for high density wire-to-board applications and feature bifurcated, crimp and solder eyelet contacts on .100 [2.54] and .125 [3.18] centers. Design flexibility allows the customer to save by purchasing only enough contacts for his circuit design requirements. Contact styles include crimp, solder eyelet and vertical and right-angle posts, in a variety of sizes.

AMP-LEAF Connectors
(Pages 164-172)
These connectors are for single- or double-sided printed circuit boards. Snap-in contacts lock in place on .156 [3.96] centers, maintaining constant pressure on circuit paths. Contact options are available for precision crimped terminations and solder dip applications.

High Current Connectors
(Pages 173-176)
Designed for a current capability of up to 30 amperes, these connectors are an economical answer to the costly problem of interconnecting high current printed circuitry. Styles are available for wire-to-board and board-to-board applications. Contacts are on .312 [7.92] centers.

DUO-TYNE Flag Connectors
(Pages 177-180)
These economical connectors are designed to meet the quality and reliability requirements of industries such as appliance controls, vending machine subassemblies, television, stereo, business machines and other areas with similar control needs. The right-angle design of the connector permits close-quarter cabling. Contacts are doubly locked in when a PC board is inserted.

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Wire-to-Board Connector Selection Guide

	Crimp Snap Twin Leaf Connectors (Pages 154-163)	AMP-LEAF Connectors (Pages 164-172)
Centerlines		
.100 [2.54]	x	
.125 [3.18]	x	
.156 [3.96]	x	x
.197 [5.00]		
.260 [6.60]		
.312 [7.92]		
Styles		
Crimp	x	x
Right-Angle Post	x	x
Wrap-Type Post	x	x
Solder Eyelet	x	x
Solder Tail	x	x
Double Sided	x	x
Single Sided	x	x

	High Current Connectors (Pages 173-176)	DUO-TYNE Flag Connectors (Pages 177-180)
Centerlines		
.100 [2.54]		
.125 [3.18]		
.156 [3.96]		x
.197 [5.00]		
.260 [6.60]		
.312 [7.92]	x	
Styles		
Crimp	x	x
Right-Angle Post		
Wrap-Type Post		
Solder Eyelet		
Solder Tail	x	
Double Sided	x	x*
Single Sided		

*Double-sided board; single readout.

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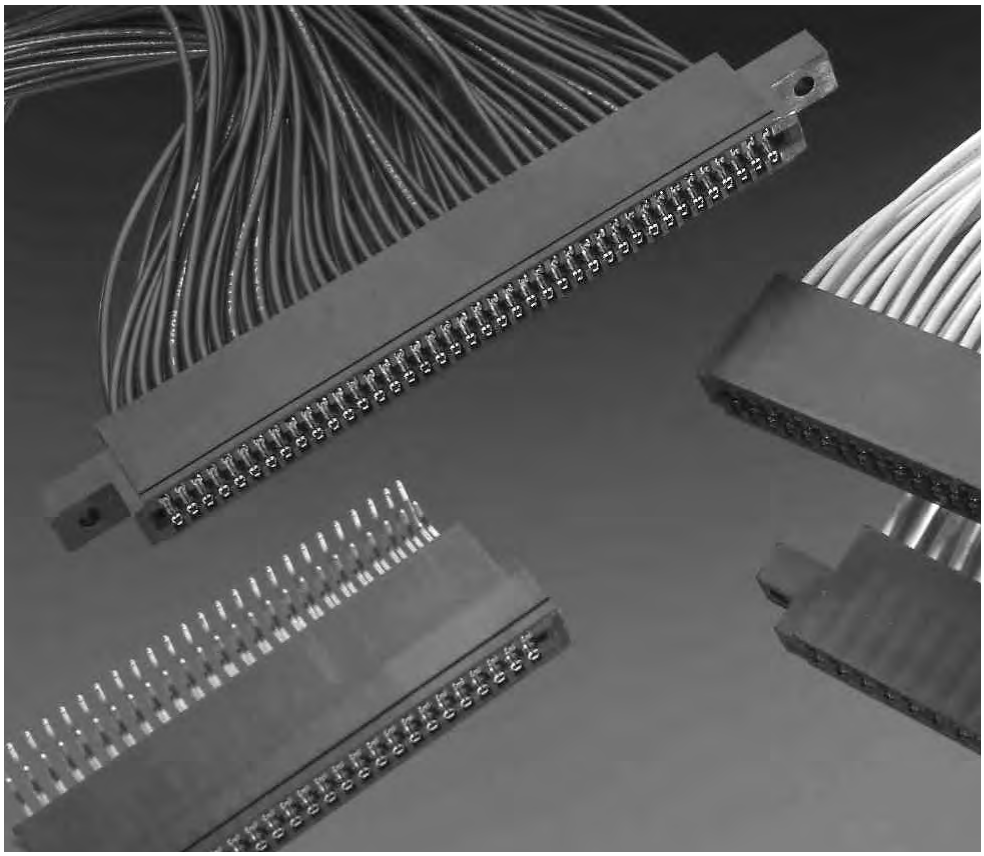
Crimp Snap Twin Leaf Connectors

Product Facts

- **Crimp snap-in, solder eyelet, .025 [0.64] square posted and right angle contacts on .100 [2.54], .125 [3.18] or .156 [3.96] centers**
- **Customer buys only enough contacts to meet circuit and retention requirements**
- **Contacts bifurcated for redundancy**
- **Single leaf version available for higher contact normal forces**
- **Low insertion forces**
- **Accommodates AWG 16-28 [1.4-0.08 mm²] wire range and insulation diameters .035-.105 [0.89-2.67]**
- **Large variety of connector sizes**
- **Cavity identification on face of card slot and wire entry**
- **High speed automatic machine terminations provide uniform reliability at lowest applied cost**
- **Recognized under the Component Program of Underwriters Laboratories Inc. File No. E28476**
- **Certified by Canadian Standards Association File No. LR 7189**



The Crimp Snap Twin Leaf Connector is designed especially for high density wire-to-board applications. Termination styles include crimp, solder, posted and right angle, in a variety of sizes.

Design flexibility allows the customer to save by purchasing only enough contacts for the circuit requirements. Easy replaceability of each contact cuts repair cost in the event of contact or wire damage.

Performance Specifications

Contact Rating*: 5 amperes, continuous 3 amperes, max. (for .025 [0.64] posted contacts)

Contact Resistance:
10 milliohms, max.

Insulation Resistance:
5000 megohms (initial)
1000 megohms

Voltage Rating:
.100 [2.54] Centerline-1000 Vrms
.125 [3.18] Centerline-1500 Vrms
.156 [3.96] Centerline-1800 Vrms

Insertion Force (per pair): Twin Leaf-10 oz. [2.78 N], max.; 7.6 oz. [2.11 N], avg. Non-Bifurcated Contacts-20 oz. [5.57 N], max.

Extraction Force (per pair): Twin Leaf-0.7 oz. [0.195 N], min.; 1.2 oz. [0.334 N], avg.

Operating Temperature:
-55°C to +105°C

***Consult Tyco Electronics engineering when paralleling contacts for power applications.**

Catalog 1654080
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Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Crimp Snap Twin Leaf Connectors (Continued)

Crimp, Snap-In Contacts

Material and Finish:

Phosphor bronze, plated .000030 [0.00076] nickel on entire contact, with the addition of one of the following platings:
Plating A—.000030 [0.00076] gold in mating area
Plating B—.000015 [0.00038] gold in mating area
Plating C—.000050 [0.00127] gold in mating area, with gold flash on remainder of contact
Plating D—.000015 [0.00038] gold in mating area, with gold flash on remainder of contact
Note: Tin plating is available upon request.

Related Product Data:

Performance Specifications—page 154
Application Tooling—pages 184,185
Connector Housings—pages 157, 159, 161

Technical Documents:

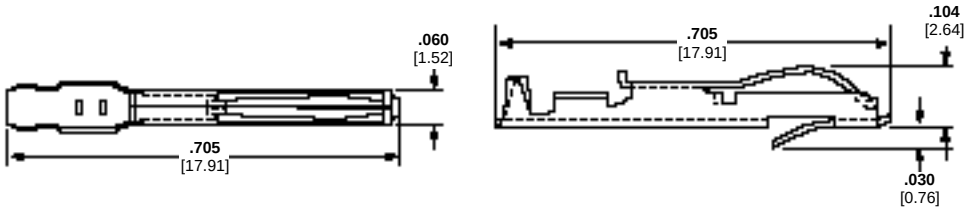
(pages 186, 187):

Product Specification
108-9031

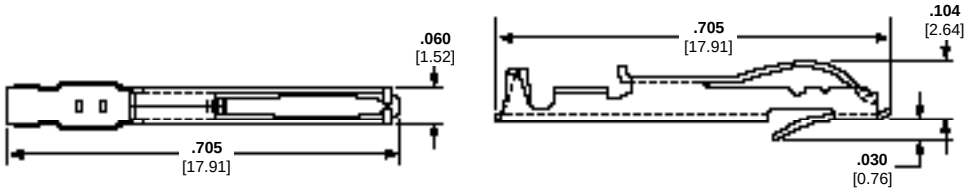
Application Specification
114-9004

Instruction Sheets
408-7527, 408-7529, 408-7531, 408-7551, 408-7556, 408-7583

Note: Only loose piece contacts manufactured and supplied by Tyco Electronics are to be used with the hand tools listed on this page. No attempt should be made to produce loose piece parts from a strip since special cutoff tooling is required to assure a properly functioning part.



Connector Centerline	Wire Size Range AWG/mm²	Insulation Dia. Range	Contact Finish (Plating)	Contact Part Numbers: Loose Piece	Contact Part Numbers: Strip Form	Applicator for AMP-O-LECTRIC Machine*	Applicator for Stripper/Crimper Machine	Color Code	Hand Tool
.100 2.54	**28-24** 0.08-0.2	**.035-.055** 0.89-1.40	A	583616-4	583616-2	466577-4	466912-1	Orange	90268-1
			B	583616-5	583616-3				
			C	583616-9	583616-8				
			D	1-583616-1	1-583616-0				
	24-20 0.2-0.6	**.048-.060** 1.22-1.52	A	583853-5	583853-3	466622-2	466919-1	Green	91535-1
			B	583853-4	583853-2				
			C	583853-9	583853-8				
			D	1-583853-1	1-583853-0				
.125 3.18	**28-24** 0.08-0.2	**.035-.055** 0.89-1.40	A	583616-4	583616-2	466577-4	466912-1	Orange	90268-1
			B	583616-5	583616-3				
			C	583616-9	583616-8				
			D	1-583853-1	1-583853-0				
	24-20 0.2-0.6	**.048-.060** 1.22-1.52	A	583853-5	583853-3	466622-2	466919-1	Green	91535-1
			B	583853-4	583853-2				
			C	583853-9	583853-8				
			D	1-583853-1	1-583853-0				
	22-18 0.3-0.9	**.049-.095** 1.24-2.41	A	583649-6	583649-3	466713-2	466928-1	Violet	90264-1
			B	583649-5	583649-2				
			C	583649-7	583649-4				
	20-16 0.6-1.4	**.073-.090** 1.85-2.29	A	583875-6	583875-5	687775-2	—	White	90285-1
			C	583875-3	583875-2				
.156 3.96	**28-24** 0.08-0.2	**.035-.055** 0.89-1.40	A	583616-4	583616-2	466577-4	466912-1	Orange	90268-1
			B	583616-5	583616-3				
			C	583616-9	583616-8				
			D	1-583616-1	1-583616-0				
	24-20 0.2-0.6	**.048-.060** 1.22-1.52	A	583853-5	583853-3	466622-2	466919-1	Green	91535-1
			B	583853-4	583853-2				
			C	583853-9	583853-8				
			D	1-583853-1	1-583853-0				
	22-18 0.3-0.9	**.049-.095** 1.24-2.41	A	583649-6	583649-3	466713-2	466928-1	Violet	90264-1
			B	583649-5	583649-2				
			C	583649-7	583649-4				
	20-16 0.6-1.4	**.073-.090** 1.85-2.29	A	583875-6	583875-5	687775-2	—	White	90285-1
			C	583875-3	583875-2				
		.085-.105 2.16-2.67	B	583875-3	—	—	—		



Crimp, Snap-In Contacts, Non-Bifurcated

Material and Finish:

Phosphor bronze, plated .000030 [0.00076] nickel on entire contact, with the addition of one of the following platings:
Plating A—.000030 [0.00076] gold in mating area
Plating B—.000015 [0.00038] gold in mating area
Note: Tin plating is available upon request.

Related Product Data:

(See above)

Connector Centerline	Wire Size Range AWG/mm²	Insulation Dia. Range	Contact Finish (Plating)	Contact Part Numbers: Loose Piece	Contact Part Numbers: Strip Form	Applicator for AMP-O-LECTRIC Machine*	Applicator for Stripper/Crimper Machine	Color Code	Hand Tool
.100 2.54	**28-24** 0.08-0.2	**.035-.055** 0.89-1.40	A	531476-5	531476-4	466577-4	466912-1	Orange	90268-1
	24-20 0.2-0.6	**.048-.060** 1.22-1.52	A	531477-5	531477-4	466622-2	466919-1	Green	91535-1
			B	531477-4	531477-2				
.125 3.18	**28-24** 0.08-0.2	**.035-.055** 0.89-1.40	A	531476-5	531476-4	466577-4	466912-1	Orange	90268-1
	24-20 0.2-0.6	**.048-060** 1.22-1.52	A	531477-5	531477-4	466622-2	466919-1	Green	91535-1
			B	531477-3	531477-2				
	22-18 0.3-0.9	**.045-.095** 1.14-2.41	A	—	531478-4	466713-2	466928-1	Violet	90264-1
.156 3.96	**28-24** 0.08-0.2	**.035-.055** 0.89-1.40	A	531476-5	531476-4	466577-4	466912-1	Orange	90268-1
			B	531477-5	—				
	24-20 0.2-0.6	**.048-.060** 1.22-1.52	A	531477-5	531477-4	466622-2	466919-1	Green	91535-1
			B	531477-3	531477-2				
	22-18 0.3-0.9	**.045-.095** 1.14-2.41	A	—	531478-4	466713-2	466928-1	Violet	—

*Applicators are for AMP-O-LECTRIC Model "K" machines. Consult Tyco Electronics for applicators for other bench machines and lead-making machines.

Catalog 1654080
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Crimp Snap Twin Leaf Connectors (Continued)

Snap-In Solder Eyelet Contacts

Material and Finish:

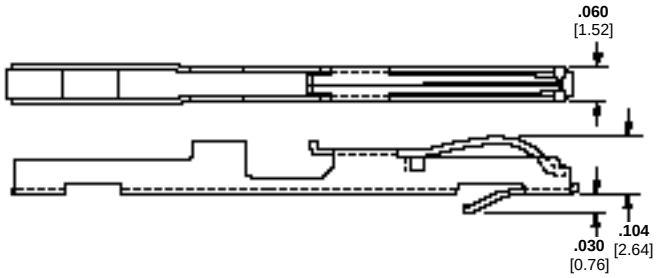
Phosphor bronze, plated .000030 [0.00076] nickel on entire contact, with the addition of one of the following platings:
Plating A—.000030 [0.00076] gold in mating area
Plating B—.000015 [0.00038] gold in mating area
Solder eyelet portion is tin plated.
Note: Tin plating of entire contact is available upon request.

Related Product Data:

Performance Specifications—page 154
Connector Housings—pages 157, 159, 161

Technical Documents
(pages 186, 187):

Product Specification 108-9031
Application Specification 114-9004
Instruction Sheets 408-7527, 408-7529



Connector Centerline	Contact Finish (Plating)	Part Numbers
.100 2.54	A	583854-3
	B	583854-5
.125 3.18	A	530245-3

Snap-In Wrap Post Contacts

Material and Finish:

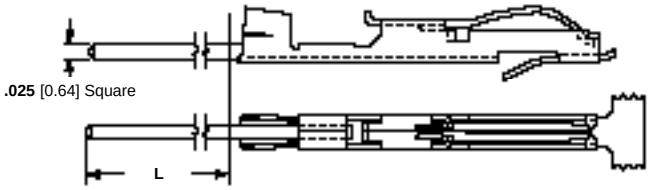
Contact—Phosphor bronze, plated .000015 [0.00038] gold in mating area, with entire contact underplated .000030 [0.00076] nickel
Post—Phosphor bronze, tin-plated
Note: Tin plated contacts are available upon request.

Related Product Data:

Performance Specifications—page 154
Connector Housings—pages 157, 159, 161

Technical Documents:
(pages 186, 187):

Product Specification 108-9031
Application Specification 114-9004
Instruction Sheets 408-7527, 408-7529



Connector Centerline Spacing	Dimension L	Part Numbers
.100 2.54	**.451** 11.46	583879-1
	.535 13.59	583879-4
.125 3.18	**.525** 13.34	583884-1
.156 3.96	**.525** 13.34	583884-1

Hand

Contact Extraction Tool

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UK: 44-141-810-8967

Crimp Snap Twin Leaf Connectors, .100 [2.54] Centerline

Housings

Material: Black glass-filled polyester, 94V-0 rated

Related Product Data:

Performance Specifications—page 154
Contacts—pages 155, 156
Accessories—page 162*
PCB Edge Pattern—page 163

Technical Documents:

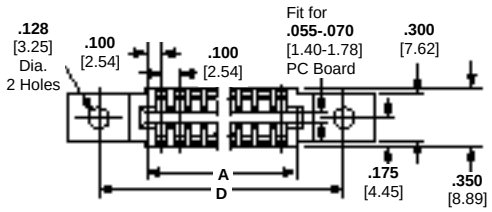
(pages 186, 187):

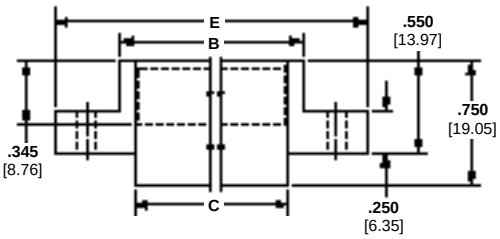
Product Specification
108-9031

Application Specification
114-9004

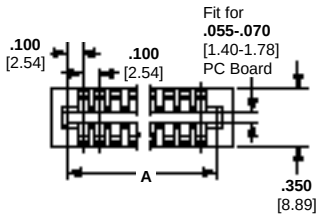
Instruction Sheet 408-7527

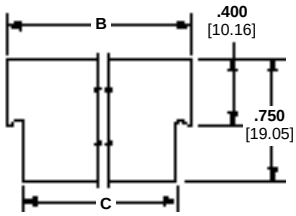
With Mounting Ears





Without Mounting Ears





No. of Dual Positions	Dimensions					Part Numbers	
	A	B	C	D	E	Without Mounting Ears	With Mounting Ears
6	**.700** 17.78	**.900** 22.86	**.720** 18.29	—	—	2-583717-1	—
				1.175 29.85	**1.430** 36.32	—	583861-5
7	**.800** 20.32	**1.000** 25.4	**.820** 20.83	—	—	2-583717-3	—
8	**.900** 22.86	**1.100** 27.94	**.920** 23.36	—	—	3-583717-9	—
10	**1.100** 27.94	**1.300** 33.02	**1.120** 28.49	**1.700** 43.18	**2.100** 53.34	583717-1	583718-1
				1.575 40.01	**1.830** 46.48	—	583861-7
13	**1.200** 30.48	**1.400** 35.56	**1.600** 40.64	—	—	3-583717-3	—
14	**1.500** 38.1	**1.700** 43.16	**1.520** 38.61	—	—	2-583717-7	—
15	**1.600** 40.64	**1.800** 45.72	**1.620** 41.15	**2.200** 55.88	**2.600** 66.04	583717-3	583718-3
				2.075 52.71	**2.330** 59.18	—	583861-9
17	**1.800** 45.72	**2.000** 50.8	**1.820** 46.30	**2.400** 60.96	**2.800** 71.12	583717-5	1-583861-1
18	**1.900** 48.26	**2.100** 53.34	**1.920** 48.76	—	—	583717-7	—
20	**2.100** 53.34	**2.300** 58.42	**2.120** 53.84	—	—	3-583717-1	—
22	**2.300** 58.42	**2.500** 63.50	**2.320** 58.93	**2.900** 73.66	**3.300** 83.82	583717-9	583718-9
25	**2.600** 66.04	**2.800** 71.12	**2.620** 66.55	**3.200** 81.28	**3.600** 91.44	1-583717-1	1-583718-1
30	**3.100** 78.74	**3.300** 83.82	**3.120** 79.25	**3.700** 93.98	**4.100** 104.14	1-583717-3	1-583718-3
				3.575 90.81	**3.830** 97.28	—	583861-1
32	**3.300** 83.82	**3.500** 88.90	**3.320** 84.33	**3.900** 99.06	**4.300** 190.22	—	2-583718-7
36	**3.700** 93.98	**3.900** 93.06	**3.720** 94.49	**4.175** 106.04	**4.430** 112.52	—	2-583861-5
40	**4.100** 104.14	**4.300** 109.22	**4 .120** 104.65	**4.700** 119.38	**5.100** 129.54	—	1-583718-5
				4.575 116.21	**4.830** 122.68	—	583861-3
50	**5.100** 129.54	**5.300** 134.62	**5.120** 130.05	**5.700** 144.78	**6.100** 154.94	1-583717-9	1-583718-7
				5.575 141.61	**5.830** 148.08	—	2-583861-1

Note: Other connector sizes can be made available, consult Tyco Electronics.

Catalog 1654080
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UK: 44-141-810-8967

Crimp Snap Twin Leaf Connectors, .100 [2.54] Centerline (Continued)

Housings Preloaded with Right-Angle Posts

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated .000015 [0.00038] gold in mating area, with entire contact underplated .000030 [0.00076] nickel

Posts—Phosphor bronze, tin plated

Related Product Data:

Performance Specifications—page 154

Asccessories—page 162*

PCB Edge Pattern and Hole Layout—page 163

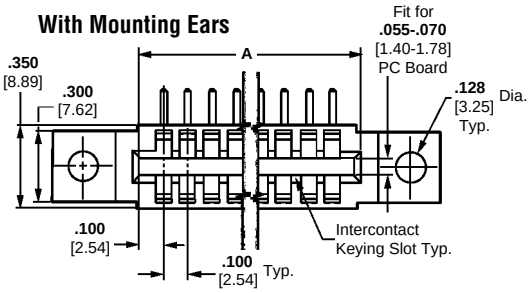
Technical Documents:

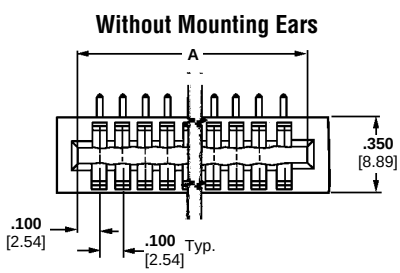
(pages 186, 187):

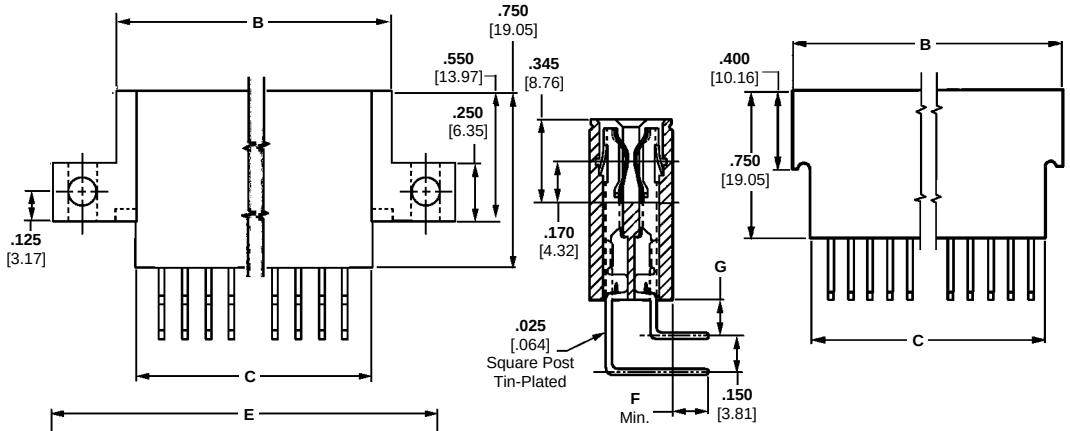
Product Specification 108-9031

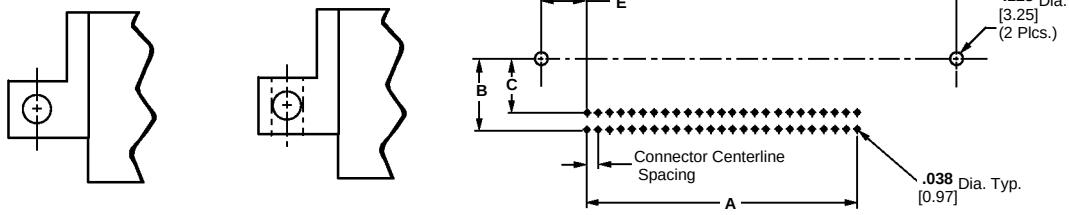
Application Specification 114-9004

Instruction Sheet 408-7527









Type I

Type II

Recommended PC Board Hole Layout

No. of Dual Pos.	Dimensions							Posted Assembly Part Numbers		
	A	B	C	D	E	F	G	Right-Angle Post With Mounting Ears Type I	Right-Angle Post With Mounting Ears Type II	Right-Angle Post Without Mounting Ears
10	**1.100** 27.94	**1.300** 33.02	**1.120** 28.49	**1.575** 40.01	**1.830** 46.48	—	—	—	583900-5	—
17	**1.800** 45.72	**2.000** 50.80	**1.820** 46.23	—	—	**.090** 2.29	**.150** 3.81	—	—	530218-5
22	**2.300** 58.42	**2.500** 63.50	**2.320** 58.93	**2.900** 73.66	**3.300** 83.82	**.090** 2.29	**.150** 3.81	—	1-583900-3	530218-9
25	**2.600** 66.04	**2.800** 71.12	**2.620** 66.55	**3.200** 81.28	**3.600** 91.44	**.090** 2.29	**.150** 3.81	583900-1	—	530218-1
28	**2.900** 73.66	**3.100** 78.74	**2.920** 74.16	**3.375** 85.72	**3.630** 92.20	**.090** 2.29	**.150** 3.81	—	583900-6	—
30	**3.100** 78.74	**3.200** 81.28	**3.120** 79.25	**3.700** 93.98	**4.100** 104.14	**.090** 2.29	**.150** 3.81	—	583900-4	530218-6
50	**5.100** 129.54	**5.300** 134.62	**5.120** 130.05	**5.575** 141.61	**5.830** 148.08	—	—	583900-3	—	—

Note: Other connector sizes can be made available, consult Tyco Electronics.

Catalog 1654080
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Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Crimp Snap Twin Leaf Connectors, .125 [3.18] Centerline

Housings

Material: Black glass-filled polyester 94V-0 rated

Related Product Data:

Performance Specifications—page 154
Contacts—pages 155, 156
Accessories—page 162
PCB Edge Pattern—page 163

Technical Documents:

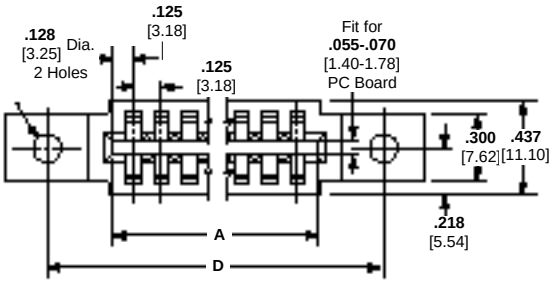
(pages 186, 187):

Product Specification
108-9031

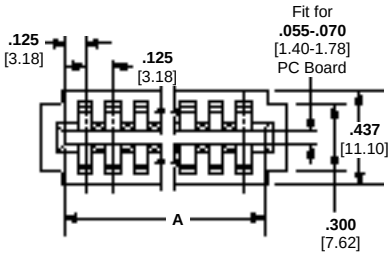
Application Specification
114-9004

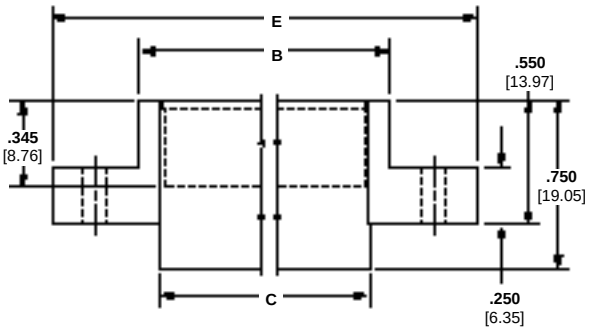
Instruction Sheet 408-7527

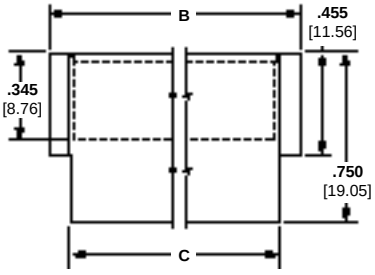
With Mounting Ears



Without Mounting Ears







No. of Dual Positions	Dimensions					Part Numbers	
	A	B	C	D	E	Without Mounting Ears	With Mounting Ears
6	**.875** 22.23	**1.035** 26.29	**.845** 21.46	**1.295** 32.89	**1.555** 39.50	583873-1	583864-1
10	**1.375** 34.93	**1.535** 38.99	**1.345** 34.16	**1.795** 45.59	**2.055** 52.20	—	583864-3
15	**2.000** 50.80	**2.160** 54.86	**1.970** 50.04	**2.420** 61.47	**2.680** 68.07	583873-5	—
22	**2.875** 73.03	**3.035** 77.09	**2.845** 72.26	**3.295** 83.69	**3.555** 90.30	583873-9	583864-9
25	**3.250** 82.55	**3.410** 86.61	**3.220** 81.79	**3.670** 93.22	**3.930** 99.82	—	—
28	**3.625** 92.08	**3.785** 96.14	**3.595** 91.31	**4.045** 102.74	**4.305** 109.35	—	1-583864-3
30	**3.875** 98.43	**4.035** 102.49	**3.845** 47.66	**4.295** 109.09	**4.555** 115.70	—	2-583864-1
40	**5.125** 130.17	**5.285** 134.23	**5.095** 129.41	**5.545** 140.84	**5.805** 147.44	—	1-583864-7
44	**5.625** 142.88	**5.785** 146.94	**5.595** 142.11	**6.045** 153.54	**6.305** 160.15	1-583873-9	—

Note: Other connector sizes can be made available, consult Tyco Electronics.

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UK: 44-141-810-8967

Crimp Snap Twin Leaf Connectors, .125 [3.18] Centerline (Continued)

Housings Preloaded with Right-Angle Posts

Material and Finish:

Housing—Black glass-filled polyester, 94V-0 rated

Contacts—Phosphor bronze, plated .000030 [0.00076] gold in mating area, with entire contact underplated .000030 [0.00076] nickel

Posts—Phosphor bronze, tin-plated

Related Product Data:

Performance Specifications—page 154

Accessories—page 162

PCB Edge Pattern and Hole Layout—page 163

Technical Documents:

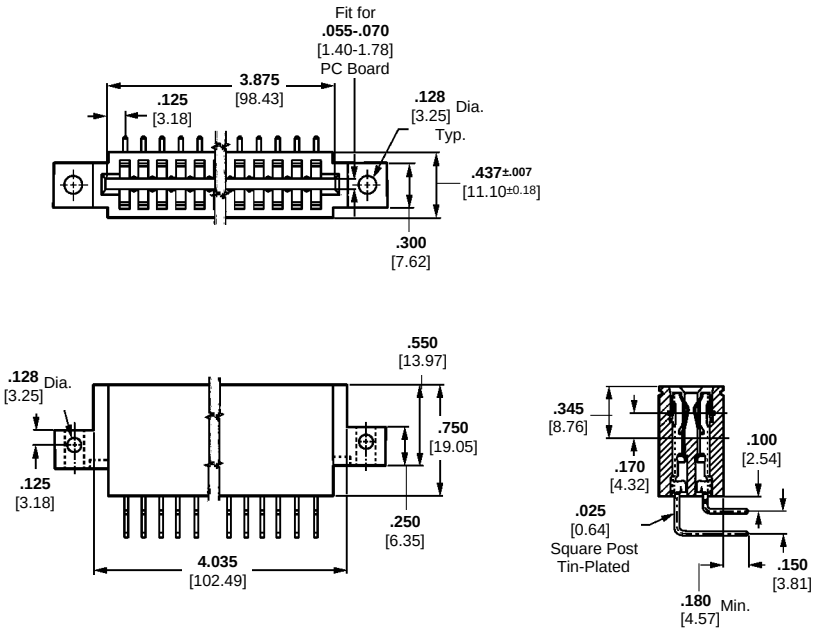
(pages 186, 187):

Product Specification 108-9031

Application Specification 114-9004

Instruction Sheet 408-7527

With Mounting Ears



30 Dual Positions,
Part No. 530238-8

Catalog 1654080
Issued 7-03

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Japan: 81-44-844-8013
UK: 44-141-810-8967

Crimp Snap Twin Leaf Connectors, .156 [3.96] Centerline

Housings

Material: Black glass-filled polyester, 94V-0 rated

Related Product Data:

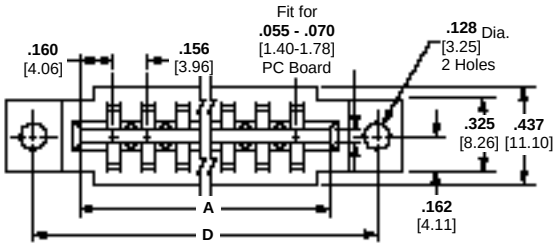
Performance Specifications—page 154
Contacts—pages 155, 156
Accessories—page 162
PCB Edge Pattern—page 163

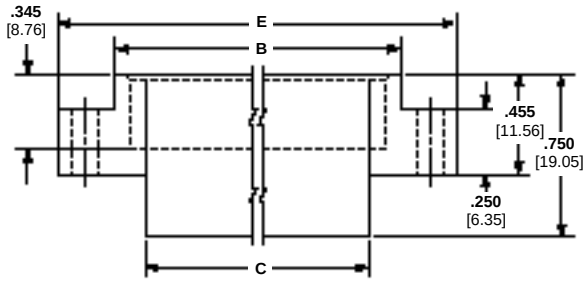
Technical Documents:

(pages 186, 187):

Product Specification 108-9031
Application Specification 114-9004
Instruction Sheet 408-7527

With Mounting Ears





No. of Dual Positions	Dimensions					Part Numbers
	A	B	C	D	E	Mounting Ears
6	**1.100** 27.94	**1.264** 32.11	**.976** 24.79	**1.535** 38.99	**1.785** 45.34	1-583859-3
8	**1.412** 35.86	**1.576** 40.03	**1.288** 32.72	**1.847** 46.91	**2.097** 53.26	2-583859-1
10	**1.724** 43.79	**1.888** 47.96	**1.600** 40.64	**2.159** 54.84	**2.409** 61.19	583859-9
12	**2.036** 51.71	**2.200** 55.88	**1.912** 48.56	**2.471** 62.76	**2.721** 69.11	1-583859-5
15	**2.504** 63.60	**2.668** 67.77	**2.380** 60.45	**2.939** 74.65	**3.189** 81.00	583859-7
18	**2.972** 75.49	**3.136** 79.55	**2.848** 72.34	**3.407** 86.54	**3.657** 92.89	583859-5
22	**3.596** 91.34	**3.760** 95.50	**3.472** 88.19	**4.031** 102.39	**4.281** 108.74	583859-3
28	**4.532** 115.11	**4.696** 119.28	**4.408** 111.96	**4.967** 126.16	**5.217** 132.51	583859-1
36	**5.780** 146.81	**5.944** 150.96	**5.656** 143.66	**6.215** 157.86	**6.465** 164.21	2-583859-3

Note: Other connector sizes can be made available, consult Tyco Electronics.

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Accessories for Crimp Snap Twin Leaf Connectors

Dummy Contacts

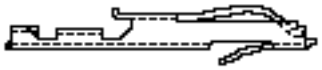
Material: Phosphor bronze

Related Product Data:

The dummy contact is used in sparsely loaded housings to balance contact pressure. For specific recommendations, consult Tyco Electronincs.

Technical Documents
(pages 186, 187):

Instruction Sheet 408-7527



Tin Plated — **Part No. 583857-5**
.000030 [0.00076] Nickel Plated — **Part No. 583857-6**
Gold Flash-Over-Nickel Plate— **Part No. 583857-7**

Retaining Spring

Material: Stainline steel

Related Product Data:

Retaining springs are used for single sided PC board applications. Use one spring per 6 empty cavities.

Technical Documents
(pages 186, 187):

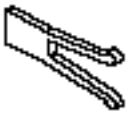
Instruction Sheet 408-7527

Unplated— **Part No. 583691-2**
Gold Flash-Over-Nickel Plate— **Part No. 583691-3**

Keying Plugs

Technical Documents
(pages 186, 187):

Instruction Sheet 408-7527

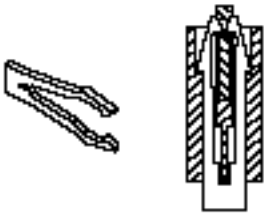


On-Contact Plug
Natural Nylon— **Part No. 583764-1**

Intercontact Plug
Natural Nylon— **Part No. 583274-1**
Glass-Filled Polyester— **Part No. 583274-3**

Locking Key

Material: Nylon

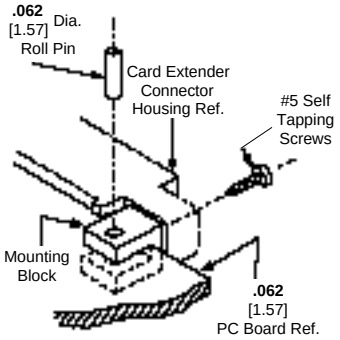


On-Contact Clip
Part No. 530213-1

Mounting Block

Material: Natural color nylon

Kit Part No. 531250-4
Each kit includes 2 mounting blocks
2 self tapping screws,
#5 x .437 [11.10]
2 roll pins
.075 x .250 [1.57 x 6.35]



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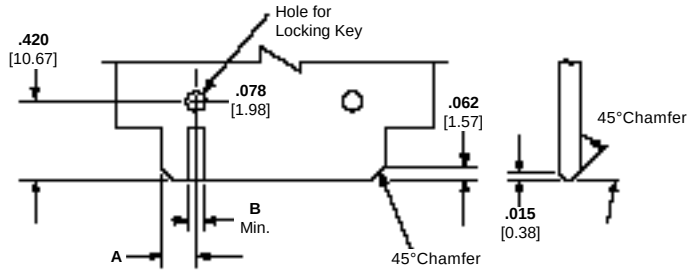
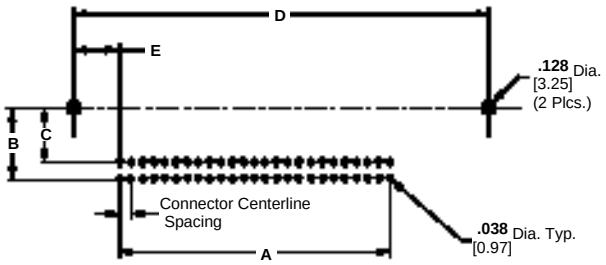
Crimp Snap Twin Leaf Connectors (Continued)

Recommended PC Board Edge Pattern



Connector Centerline Spacing	Dimensions	
	A	B
.100 2.54	**.093** 2.36	**.052** 1.32
.125 3.18	**.118** 3.00	**.078** 1.98
.156 3.96	**.153** 3.89	**.094** 2.39

Recommended PC Board Hole Layout



Connector Centerline Spacing: .100 [2.54]

No. of Dual Positions	Dimensions				
	A	B	C	D	E
10	**.900** 22.86	**.625** 15.88	**.475** 12.07	**1.575** 40.01	**.400** 10.16
17	**1.600** 40.64	—	—	—	—
20	**1.900** 48.26	**.625** 15.88	**.375** 9.53	**2.575** 65.41	**.337** 8.56
22	**2.100** 53.34	**.625** 15.88	**4.75** 12.07	**2.900** 73.66	**.337** 8.56
25	**2.400** 60.96	**.625** 15.88	**.475** 12.07	**3.200** 81.28	**.400** 10.16
30	**2.900** 73.66	—	—	**3.700** 93.98	**.400** 10.16
50	**4.900** 124.46	**.525** 13.34	**.375** 9.53	**5.575** 141.61	**.337** 8.56

Connector Centerline Spacing: .125 [3.18]

No. of Dual Positions	Dimensions				
	A	B	C	D	E
30	**3.625** 92.08	—	—	**4.295** 109.09	**.350** 8.89

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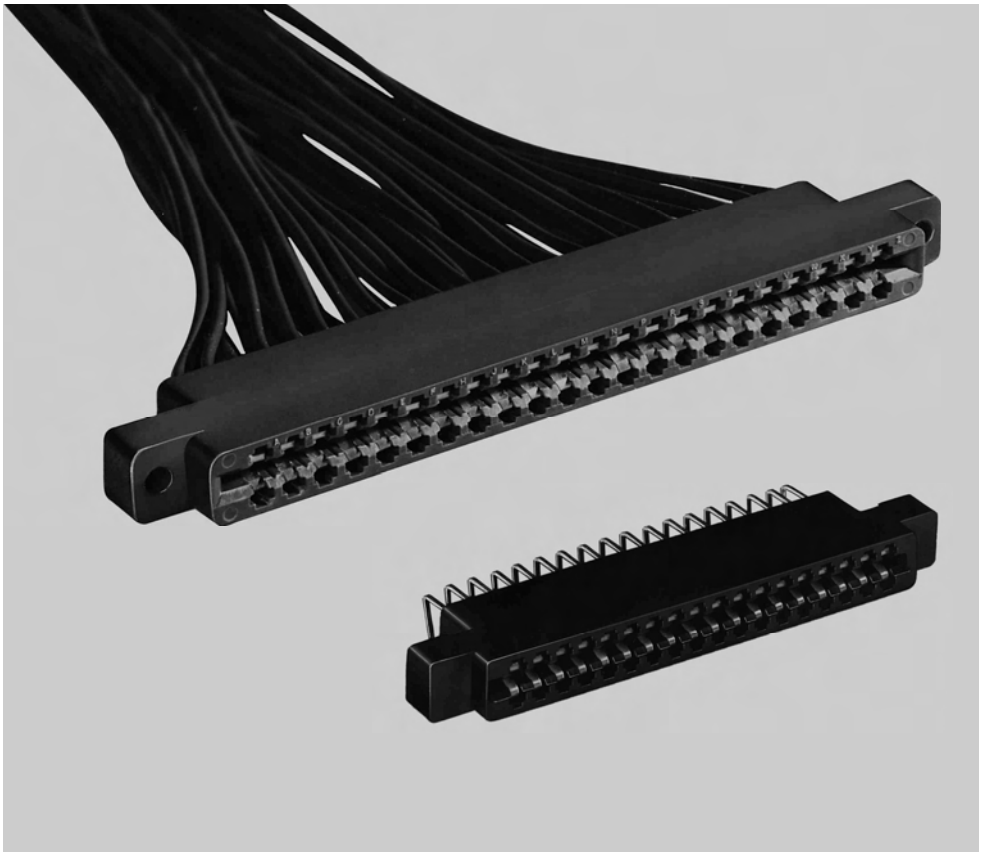
Mexico: 01-800-733-8926
C. America: 52-55-5-729-0425

South America: 55-11-3611-1514
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

AMP-LEAF Connectors



Product Facts

- **Contacts on .156 [3.96] centers**
- **Glass-filled polyester, phenolic or diallyl phthalate housings**
- **Closed card entry design helps prevent overstressing of contacts**
- **Gold-over-nickel plated contacts**
- **Locking lance permits easy contact replacement**
- **Keying**
- **Contacts maintain exact pressures on the circuit paths, despite repeated insertions and extractions**
- **Recognized under the Component Program of Underwriters Laboratories Inc. File No. E28476**
- **Certified by Canadian Standards Association**, File No. LR 7189**

**CSA certification pending for certain products, as noted.

Performance Specifications

Contact Current Rating*:
5.0 amperes, max.

Contact Engaging Force:
16 oz. [4.4 N], max.

Contact Separation Force:
2 oz. [0.6 N], min.

Vibration:
MIL-STD-202, Method 201

Operating Temperature:
Contacts –40°C to +85°C

Storage Temperature:
–40°C to +85°C

Housings:

Glass-Filled Polyester, –55°C to +105°C

Glass-Filled Phenolic, –65°C to +125°C

Diallyl Phthalate, –65°C to +125°C

***Consult Tyco Electronics engineering when paralleling contacts for power applications.**

AMP-LEAF Connectors are available with crimp, snap-in contacts or preloaded with right-angle posted contacts.

The crimp type printed circuit connector is supplied with the housing unloaded—the user buys only enough contacts to satisfy circuit requirements. This feature, when coupled with the Tyco Electronics matched tooling, contributes substantially to lower installed costs.

Right-angle posted connectors are supplied in various sizes, with preloaded contacts on one or both sides. The solder-type posts are formed 90° from the housing to permit right-angle interfacing between mother and daughter boards.

Catalog 1654080
Issued 7-03

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Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

AMP-LEAF Connectors (Continued)

Crimp, Snap-In Contacts

Material and Finish:

Phosphor bronze, plated as follows:
Plating A—.000100-.000200 [0.00254-0.00508] tin (lubricant must be used)
Plating B—.000030 [0.00076] min. gold in mating area, gold flash on remainder of contact, with entire contact underplated .000050 [0.00127] min. nickel
Plating C—.000015 [0.00038] min. gold in mating area, gold flash on remainder of contact, with entire contact underplated .000050 [0.00127] min. nickel
Plating D—.000030 [0.00076] min. gold over .000050 [0.00127] min. nickel in mating area, remainder of contact gold flash over .000015 [0.00038] min. nickel
Plating E—.000030 [0.00076] min. gold in mating area, with entire contact underplated .000050 [0.00127] min. nickel
Plating F—.000015 [0.00038] min. gold in mating area, with entire contact underplated .000050 [0.00127] min. nickel

Related Product Data:

Performance Specifications—page 164
Connector Housings—pages 167-169
Application Tooling—pages 184, 185

Technical Documents:

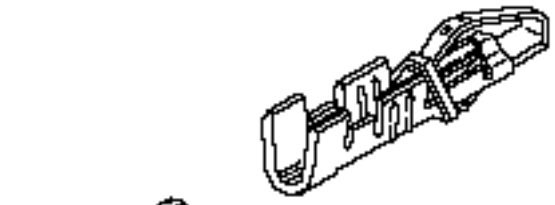
(pages 186, 187):

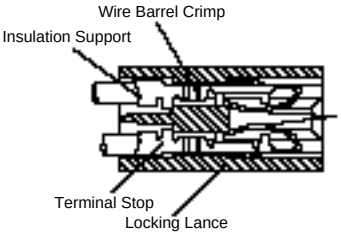
Product Specifications
108-9013, 108-9043

Application Specification
114-9003

Instruction Sheets
408-6591, 408-7045, 408-7622, 408-7623, 408-7624, 408-7625, 408-7626

Crimp Inspection Sheet
CI 8050-33





Wire Range AWG/mm²	Insulation Range		Contact Part Numbers		Contact Finish	Applicator for AMP-O-LECTRIC Machine*	Hand Tool
	Single Wire	Double Wire	Loose Piece	Strip Form			
26-22 0.12-0.4	**.050-.064** 1.27-1.63	—	583990-3	583204-2	B	466366-2	90028-3
			—	343371-1	D		
22-18 0.3-0.9	**.055-.080** 1.40-2.03	**.120** 3.05 Max.	—	583361-2	A	466367-2	90017-3 (1 #22-20) 90028-3 (2 #22) 90101-3 (1 #20)
			583989-3	583361-3	B		
			583989-4	583361-4	C		
			—	583555-4	E		
			—	583555-6	F		
16 1.25-1.40	**.108** 2.74 Max.	**.080-.160** 2.03-4.06	583991-3	60151-6	B	466368-2	90031-8 (2 #18) 90101-3 (2 #20) 90101-3 (1 #16)

*Applicators are for AMP-O-LECTRIC Model "K" machines. Consult Tyco Electronics for applicators for other bench machines and lead-making machines.

Notes: 1. Shorting contacts are available, consult Tyco Electronics.
2. Contacts and housings to accommodate .093 [2.36] thick PC boards can be made available, consult Tyco Electronics.

Hand Crimping Tool

Contact Extraction Tool

Extraction Tool Number	Used with Housings
465195-1	480110-2, -5 480142-2, -3 582140-5 582147-5 582264-2 582500-2 582963-2 583167-3 583280-1 583617-1 583680-1 583685-1 583722-1 583723-1 583724-1 583725-1 583726-1
465195-2	480133-2

Dummy Contact

Plain Finish—
Part No. 66084-1
Tin Finish—
Part No. 66084-2
Gold Finish—
Part No. 66084-3

Material:

Phosphor bronze

Technical Documents:

(pages 186, 187):

Instruction Sheet 408-7037

Catalog 1654080
Issued 7-03

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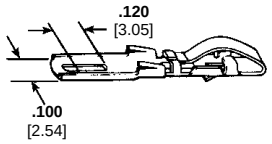
UK: 44-141-810-8967

AMP-LEAF Connectors (Continued)

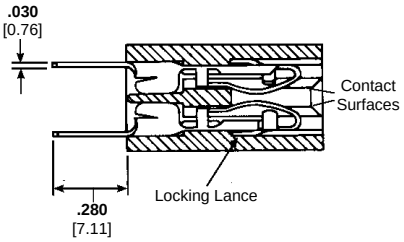
Solder Eyelet Contact

Material and Finish:

Phosphor bronze, plated .000015 [0.00038] min. gold in contact area, gold flash on remainder of contact, with entire contact underplated .000050 [0.00127] min. nickel



Standard Eyelet Type Contact
Part No. 66067-5
(For .055-.070 [1.4-1.78]
Thick PC Boards)

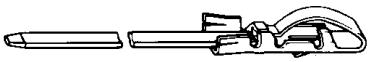


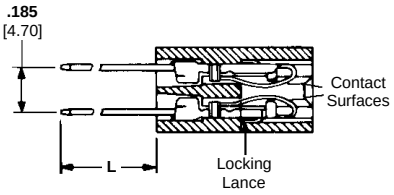
Note: Solder tab will accommodate a maximum of two 16 AWG [1.25-1.4 mm²] solid wires, or two 18 AWG [0.8-0.9 mm²] stranded wires.

Post Type Contacts

Material and Finish:

Phosphor bronze, plated .000015 [0.00038] min. gold in contact area, tin on post, with entire contact underplated .000050 [0.00127] min. nickel





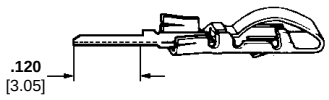
Post Length L	Loose Piece Contact Part No. (.045 x .045 [1.14 x 1.14] Post)
.960 24.38	1-582355-3
.560 14.22	1-582355-5

Note: Post type contacts are for .055-.070 [1.4-1.78] thick PC boards.

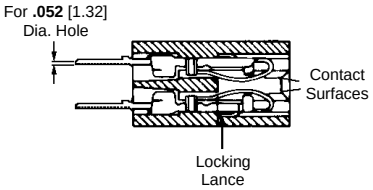
Solder Dip Contacts

Material and Finish:

Phosphor bronze, plated .000015 [0.00038] min. gold in contact area or, plated .000030 [0.00076] min. gold in contact area, tin on post, with entire contact underplated .000050 [0.00127] min. nickel



Solder Dip Contact
Part No. 583294-2 (.000015)
Part No. 583294-1 (.000030)
(For .062 [1.57]
Thick PC Board)



Catalog 1654080
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UK: 44-141-810-8967

AMP-LEAF Connectors, .156 [3.96] Centerline

Glass-Filled Polyester Housings

Material: Glass-filled polyester

Related Product Data:

Card Guide Assembly—page 171

PC Board Thickness—.055-.070 [1.40-1.78]

Performance Specifications—page 164

Contacts—pages 165, 166

Accessories—page 171

PC Board Layout—page 172

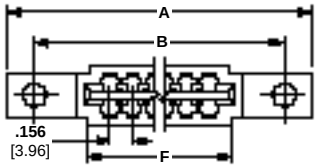
Technical Documents:

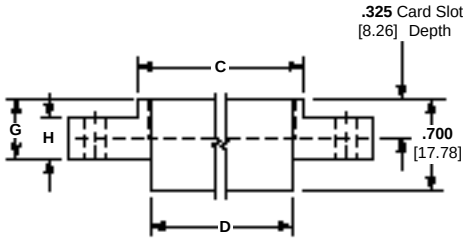
(pages 186, 187):

Product Specifications
108-9013, 108-9043

Application Specification
114-9003

Instruction Sheet 408-7037





No. of Dual Positions	Dimensions										Housing Part Numbers
	A	B	C	D	E	F	G	H	J	K	
6	**1.785** 45.34	**1.535** 38.99	**1.264** 32.11	**.976** 24.79	**.125** 3.18	**1.100** 27.94	**.456** 11.58	**.250** 6.35	**.300** 7.62	**.350** 8.89	583722-1
10	**2.409** 61.19	**2.159** 54.84	**1.888** 47.96	**1.600** 40.64	**.125** 3.18	**1.724** 43.79	**.456** 11.58	**.250** 6.35	**.300** 7.62	**.350** 8.89	583723-1
12	**2.721** 69.11	**2.471** 62.76	**2.200** 55.88	**1.912** 48.56	**.125** 3.18	**2.036** 51.71	**.456** 11.58	**.250** 6.35	**.300** 7.62	**.350** 8.89	583724-1*
15	**3.189** 81.00	**2.939** 74.65	**2.668** 67.77	**2.380** 60.45	**.128** 3.25	**2.504** 63.60	**.456** 11.58	**.250** 6.35	**.300** 7.62	**.350** 8.89	583680-1
18	**3.657** 92.89	**3.407** 86.54	**3.136** 79.65	**2.848** 72.34	**.125** 3.18	**2.972** 75.49	**.456** 11.58	**.250** 6.35	**.300** 7.62	**.350** 8.89	583725-1
18	**3.657** 92.89	**3.407** 86.54	**3.136** 79.65	**2.848** 72.34	**.156** 3.96	**2.972** 75.49	**.456** 11.58	**.250** 6.35	**.300** 7.62	**.350** 8.89	583725-3
22	**4.281** 108.74	**4.031** 102.39	**3.760** 95.50	**3.472** 88.19	**.125** 3.18	**3.596** 91.34	**.456** 11.58	**.250** 6.35	**.300** 7.62	**.350** 8.89	583617-1
22	**4.281** 108.74	**4.031** 102.39	**3.760** 95.50	**3.472** 88.19	**.156** 3.96	**3.596** 91.34	**.456** 11.58	**.250** 6.35	**.300** 7.62	**.350** 8.89	583617-3
25	**4.749** 120.62	**4.499** 114.27	**4.228** 107.39	**3.940** 100.01	**.125** 3.18	**4.064** 103.23	**.456** 11.58	**.250** 6.35	**.300** 7.62	**.350** 8.89	583726-1
30	**5.529** 140.44	**5.279** 134.09	**5.008** 127.20	**4.720** 119.89	**.125** 3.18	**4.844** 123.04	**.456** 11.58	**.250** 6.35	**.300** 7.62	**.350** 8.89	583685-1
36	**7.015** 178.18	**6.578** 167.08	**5.942** 150.92	**5.722** 145.33	**.156** 3.96	**5.782** 146.86	**.455** 11.55	**.290** 7.36	**.325** 8.25	**.437** 11.10	583552-1

*CSA certification pending.

Note: Other connector sizes can be made available, consult Tyco Electronics.

Catalog 1654080
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AMP-LEAF Connectors, .156 [3.96] Centerline (Continued)

Glass-Filled Phenolic Housings

Material: Glass-filled phenolic per MIL-M-14F

Related Product Data:

Card Guide Assembly—page 171

Performance Specifications—page 164

Contacts—pages 165, 166

Accessories—page 171

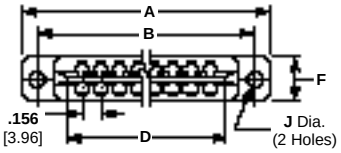
PC Board Layout—page 172

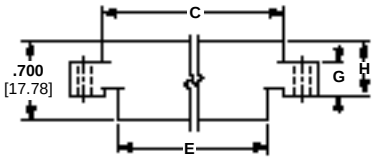
Technical Documents:
(pages 186, 187):

Product Specifications
108-9013, 108-9043

Application Specification
114-9003

Instruction Sheet 408-7037





No. of Dual Positions	Dimensions									Board Thickness	Housing Part Numbers
	A	B	C	D	E	F	G	H	J		
8	**1.982** 50.34	**1.767** 44.88	**1.550** 39.37	**1.410** 35.81	**1.288** 32.72	**.340** 8.64	**.250** 6.35	**.458** 11.63	**.125** 3.18	**.055-.070** 1.40-1.78	582140-5
10	**2.407** 61.14	**2.157** 54.79	**1.866** 47.90	**1.722** 43.74	**1.598** 40.59	**.360** 9.14	**.250** 6.35	**.456** 11.58	**.128** 3.25	**.055-.070** 1.40-1.78	582963-2*
10	—	—	**1.886** 47.90	**1.722** 43.74	**1.598** 40.59	**.360** 9.14	—	—	—	**.055-.070** 1.40-1.78	583280-1[1]
15	**3.182** 80.82	**2.854** 72.49	**2.621** 66.57	**2.506** 63.65	**2.376** 60.35	**.350** 8.89	**.250** 6.35	**.466** 11.84	**.187** 4.75	**.055-.070** 1.40-1.78	480110-5
15	**3.182** 80.82	**2.854** 72.49	**2.621** 66.57	**2.506** 63.65	**2.376** 60.35	**.350** 8.89	**.250** 6.35	**.466** 11.84	**.125** 3.18	**.055-.070** 1.40-1.78	1-582147-5*
15	**3.182** 80.82	**2.933** 74.49	**2.621** 66.57	**2.506** 63.65	**2.376** 60.35	**.350** 8.89	**.250** 6.35	**.466** 11.84	**.128** 3.25	**.055-.070** 1.40-1.78	582500-5
18	**3.650** 92.71	**3.400** 86.36	**3.088** 78.43	**2.948** 74.87	**2.843** 72.21	**.375** 9.52	**.155** 3.93	**.406** 10.31	**.156** 3.96	**.055-.070** 1.40-1.78	480133-5
22	**4.274** 108.56	**4.025** 102.24	**3.754** 95.35	**3.591** 91.21	**3.466** 88.04	**.350** 8.89	**.250** 6.35	**.456** 11.58	**.125** 3.18	**.055-.070** 1.40-1.78	480142-3
25	**4.741** 120.42	**4.493** 114.12	**4.221** 107.21	**4.058** 103.07	**3.933** 99.90	**.350** 8.89	**.250** 6.35	**.456** 11.58	**.125** 3.18	**.055-.070** 1.40-1.78	583167-3*
32	**6.365** 161.67	**5.928** 150.57	**5.292** 134.42	**5.132** 130.35	**5.072** 128.83	**.485** 12.32	**.290** 7.37	**.455** 11.56	**.187** 4.75	**.084-.104** 2.13-2.64	582264-2[2,3]

*CSA certification pending.

[1]Housing without mounting ears.
[2]Housing does not accommodate intercontact keying plug.
[3]For .086 to .104 [2.18 to 2.64] thick PC boards (special contacts required).

Note: Other connector sizes can be made available, consult Tyco Electronics.

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UK: 44-141-810-8967

AMP-LEAF Connectors, .156 [3.96] Centerline (Continued)

Diallyl Phthalate Housings

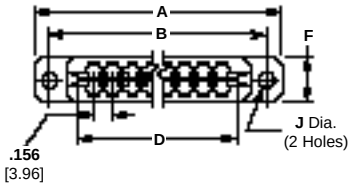
Material: Diallyl phthalate per MIL-M-14F

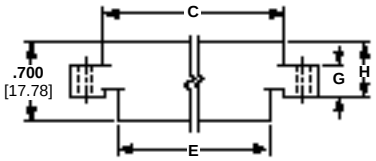
Related Product Data:

Card Guide Assembly—page 171
Performance Specifications—page 164
Contacts—pages 165, 166
Accessories—page 171
PC Board Layout—page 172

Technical Documents:
(pages 186, 187):

Product Specifications
108-9013, 108-9043
Application Specification
114-9003
Instruction Sheet 408-7037





Single Slot Housing

No. of Dual Positions	Dimensions									Board Thickness	Housing Part Numbers
	A	B	C	D	E	F	G	H	J		
15	**3.187** 80.95	**2.859** 72.62	**2.625** 66.68	**2.510** 63.75	**2.380** 60.45	**.350** 8.89	**.250** 6.35	**.466** 11.84	**.187** 4.15	**.055-.070** 1.40-1.78	480110-2
15	**3.187** 80.95	**2.938** 74.63	**2.625** 66.68	**2.510** 63.75	**2.380** 60.45	**.350** 8.89	**.250** 6.35	**.466** 11.84	**.128** 3.25	**.055-.070** 1.40-1.78	582500-2
18	**3.656** 92.86	**3.406** 86.51	**3.093** 78.56	**2.953** 75.01	**2.848** 72.34	**.375** 9.53	**.155** 3.94	**.406** 10.31	**.156** 3.96	**.055-.070** 1.40-1.78	480133-2
22	**4.281** 108.74	**4.031** 102.39	**3.760** 95.90	**3.596** 91.34	**3.472** 88.19	**.350** 8.89	**.250** 6.35	**.456** 11.58	**.125** 3.18	**.055-.070** 1.40-1.78	480142-2

Note: Other connector sizes can be made available, consult Tyco Electronics.

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C. America: 52-55-5-729-0425

South America: 55-11-3611-1514
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

AMP-LEAF Connectors, .156 [3.96] Centerline (Continued)

Housings Preloaded with Right-Angle Post Contacts

Material and Finish:

Housing—See chart below

Contacts—Phosphor bronze, plated .000015 [0.00038] min. gold in mating area, with entire contact underplated .000050 [0.00127] min. nickel

Post—Phosphor bronze, tin plated

Retaining Spring—Stainless steel

Related Product Data:

Card Guide Assembly—page 171

Performance Specifications—page 164

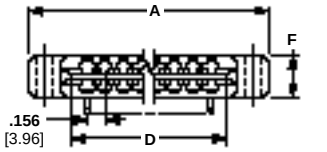
Accessories—page 171

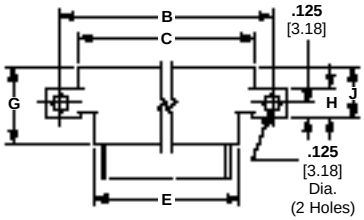
PC Board Layout—page 172

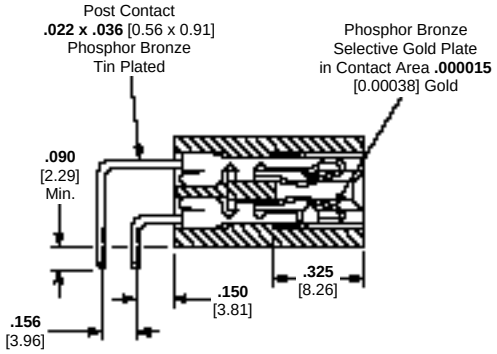
Technical Documents:

(pages 186, 187):

Product Specification
108-9013







No. of Dual Positions	Dimensions									Part Numbers	Housing Material
	A	B	C	D	E	F	G	H	J		
10	**2.407** 61.14	**2.157** 54.79	**1.886** 47.9	**1.722** 43.74	**1.598** 40.59	**.360** 9.14	**.700** 17.78	**.250** 6.35	**.456** 11.58	583599-1*	Glass-Filled Phenolic
15	**3.182** 80.82	**2.933** 74.5	**2.621** 66.57	**2.506** 63.65	**2.376** 60.35	**.350** 8.89	**.700** 17.78	**.250** 6.35	**.466** 11.84	583545-1*	
18	**3.650** 92.71	**3.400** 86.36	**3.088** 78.44	**2.948** 74.88	**2.843** 72.21	**.375** 9.53	**.700** 17.78	**.250** 6.35	**.406** 10.31	583544-1*	
	3.657 92.89	**3.457** 86.54	**3.136** 79.65	**2.972** 75.49	**2.848** 72.34	**.350** 8.89	**.700** 17.78	**.250** 6.35	**.456** 11.58	530851-1	Glass-Filled Polyester
22	**4.274** 108.56	**4.025** 102.24	**3.754** 95.35	**3.591** 91.21	**3.466** 88.04	**.350** 8.89	**.700** 17.78	**.250** 6.35	**.456** 11.58	583458-2*	Glass-Filled Phenolic
	4.281 108.74	**4.031** 102.39	**3.760** 95.50	**3.596** 91.34	**3.472** 88.19	**.350** 8.89	**.700** 17.78	**.250** 6.35	**.456** 11.58	583975-1*	Glass-Filled Polyester
28	**5.270** 133.86	**4.961** 126.01	**4.680** 118.87	**4.527** 114.99	**4.402** 111.81	**.350** 8.89	**.700** 17.78	**.250** 6.35	**.456** 11.58	530061-1*	Glass-Filled Phenolic

*CSA certification pending.

Notes: 1. Other connector sizes can be made available, consult Tyco Electronics.
2. Finished hole size is .048-.054 [1.22-1.37] diameter.

Catalog 1654080
Issued 7-03

www.tycoelectronics.com

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Dimensions are shown for reference purposes only. Specifications subject to change.

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Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

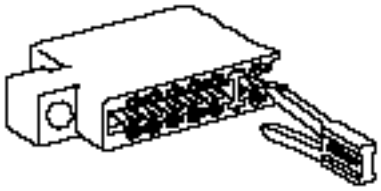
AMP-LEAF Connector Accessories

Keying Plugs

Material: Nylon

Technical Documents:
(pages 186, 187):
Instruction Sheets 408-7036, 408-7037, 408-7068, 408-7339

On-Contact Keying Plug



.055-.070 [1.4-1.78] Board Thickness—**Part No. 480143-1**

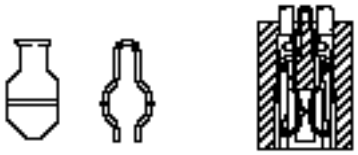
Intercontact Keying Plugs

.040 [1.02] Wide—**Part No. 582501-1**
.025 [0.64] Wide—**Part No. 583274-1**

Commoning Springs

Material and Finish:
Beryllium copper, gold plated

Technical Documents:
(pages 186, 187):
Instruction Sheet 408-7419



.055-.070 [1.4-1.78] thk. PC board—**Part No. 66092-1**

.055-.070 [1.4-1.78] and .084-.104 [2.13-2.64] thk. PC board with locking latches—**Part No. 583454-1**

Retaining Springs

Material: Stainless steel

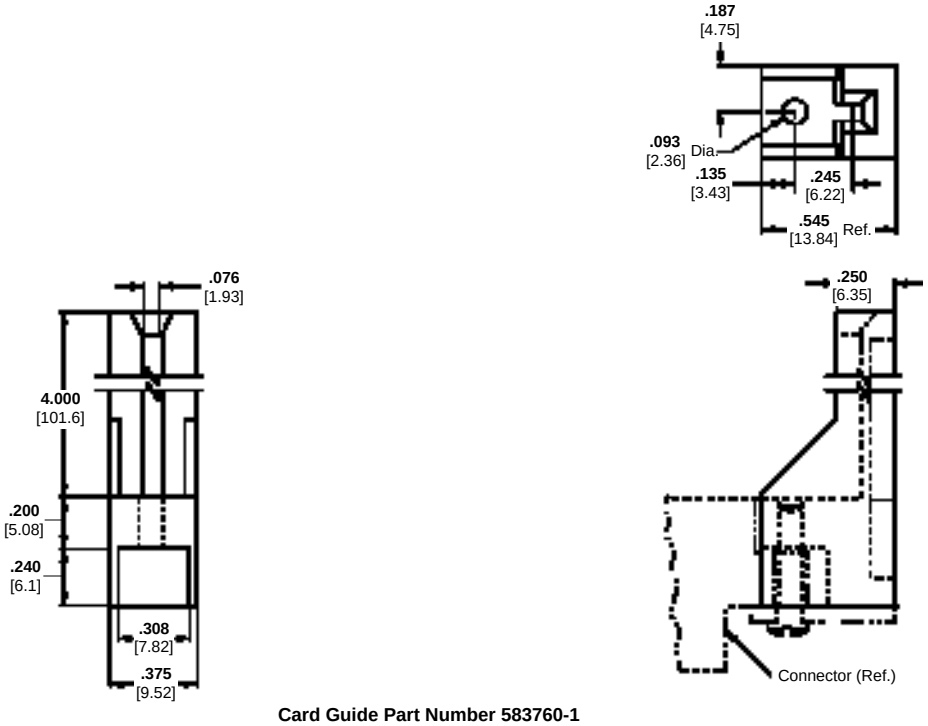
Technical Documents:
(pages 186, 187):
Instruction Sheets 408-7035, 408-7037

Nickel Finish—**Part No. 42973-1**
Plain Finish—**Part No. 42973-2**
Gold Finish—**Part No. 42973-3**

Card Guides

Material: Glass-filled nylon, black

Technical Documents:
(pages 186, 187):
Instruction Sheets 408-7557, 408-7565



Card Guide Part Number 583760-1

Note: Card guides may be used with all connector housings having mounting ears.

Catalog 1654080
Issued 7-03

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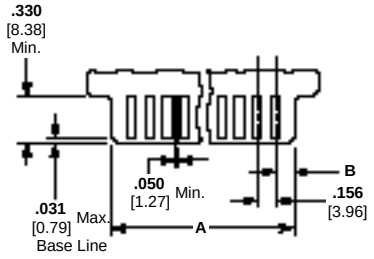
AMP-LEAF Connector PC Board Layouts

Recommended PC Board Layouts

Technical Documents:
(pages 186, 187):
Instruction Sheet 408-7037



Note: Slot for intercontact keying may be located between any two pads (except the first two and last two pads).

No. of Positions	Housing Material	Dimensions	
		A	B
8	P	**1.396** 35.46	**.152** 3.86
10	P	**1.709** 43.40	**.151** 3.84
15	DP	**2.491** 63.27	**.153** 3.89
	P	**2.487** 63.17	**.152** 3.86
18	DP	**2.940** 74.68	**.144** 3.66
22	DP	**3.583** 91.00	**.153** 3.89
	P	**3.578** 90.88	**.151** 3.84
25	P	**4.043** 102.69	**.150** 3.81
32	P	**5.117** 129.97	**.140** 3.56

DP = Diallyl Phthalate
P = Phenolic

Note: Board thickness **.055-.070** [1.4-1.78] all positions except 32 position–**.084-.104** [2.13-2.64].

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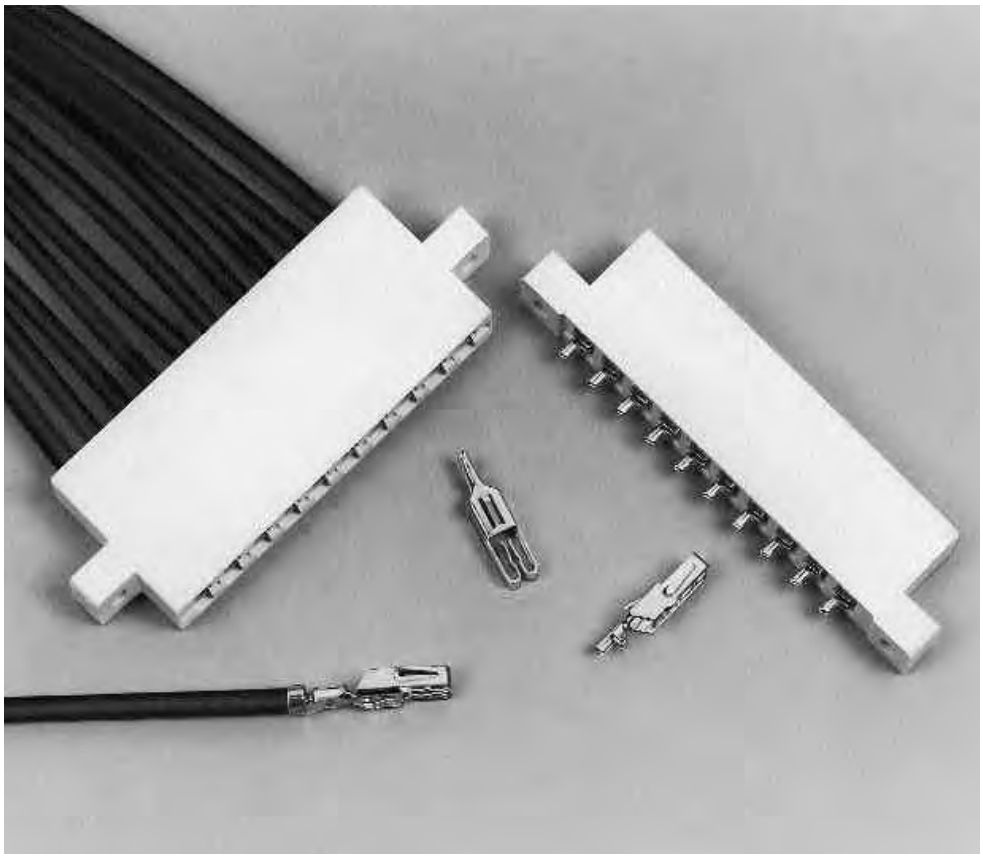
UK: 44-141-810-8967

High Current Connectors

Product Facts

- **High current capability up to 30 amperes***
- **UL rated 94V-0 glass-filled thermoplastic housings**
- **Choice of wire-to-board and board-to-board (solder tail) connector configurations in 3, 4, 8, 9, 10 and 12 contact sizes**
- **Heavy duty contacts made of high conductivity copper alloy with tin-over-nickel plating**
- **Contacts on .312 [7.92] centers**
- **Large redundant areas of contact provide excellent electrical continuity**
- **Connectors available for mating with .062 [1.57], .093 [2.36] and .125 [3.18] thick double-sided PC boards**
- **Contacts furnished in strip form for automatic machine termination and loose form for hand tool application**
- **Recognized under the Component Program of Underwriters Laboratories Inc. File No. E28476**
- **Certified by Canadian Standards Association File No. LR 7189**



AMP High Current Edge Connectors are an economical answer to the costly issue of interconnecting high current printed circuitry. Designed for a current capability of up to 30 amperes*, these connectors feature UL rated 94V-0, rugged glass-filled thermoplastic housings and high conductivity copper alloy contacts with bright tin-over-nickel plating. Contacts are on .312 [7.92] centers.

Connectors are available in 3, 4, 8, 9, 10 and 12 contact positions and in a choice of two styles for board-to-board and wire-to-board applications.

The board-to-board connectors are supplied preloaded with solder tail contacts and are designed to mate with .062 [1.57] thick double-sided daughter boards.

Wire-to-board housings are available with and without mounting ears and with capabilities of mating with .062 [1.57], .093 [2.36] and .125 [3.18] thick double-sided daughter boards. These housings are designed to accept crimp, snap-in contacts which can accommodate a wire size range of 16-10 AWG [1.25-6 mm^2]. Contacts are furnished in strip form for automatic machine termination and in loose form for hand tool application.

While the basic contact is designed to carry 30 amperes* of current, the actual number of contacts in a connector carrying 30 amperes is limited by the "T" rise of the connector and the PC board.

Performance Specifications

Contact Current Rating*:
30 amperes, max.

Dielectric Withstanding Voltage (Sea Level):
1800 VAC

Operating Voltage:
250 VAC, max.

Insulation Resistance:
1000 megohms, min.

Contact Resistance @ 30 amperes:
2 milliohms, max.

Operating Temperature:
–40°C to +95°C

Contact Engagement Force:
40 oz. [11.12 N], max.

***When used with a .180 [4.57] wide double-sided PC board with 5 oz. [0.14 Kg] min. copper each side. Consult Tyco Electronics engineering when paralleling contacts for power applications.**

Catalog 1654080
Issued 7-03

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Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

High Current Connectors (Continued)

Crimp, Snap-In Contacts

Material and Finish:

A—Copper alloy CDA-195 plated .000150 [0.00381] bright tin over .000030 [0.00076] nickel
B—Copper alloy CDA-195 plated .000150 [0.00381] silver all over

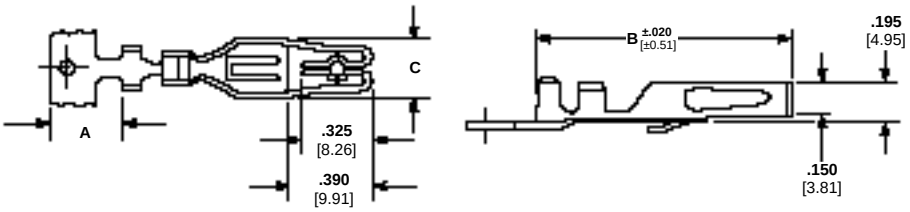
Related Product Data:

Performance Specifications—page 173
Connector Housings—page 175
Application Tooling—pages 184, 185

Technical Documents:

(pages 186, 187):

Product Specification 108-9045
Application Specification 114-9005
Instruction Sheets 408-7782, 408-7783, 408-7802



Plating	Wire Size Range		Ins. Dia. Range	Dimensions			Mateable Daughter Board Thickness	Contact Part Numbers		Applicator for AMP-O-LECTRIC Machine	Hand Tool 69710-1 Die Insert
	AWG	mm²		A	B	C		Loose Piece	Strip Form		
A	16-14	1.25-2	**.090-.145** 2.29-3.68	**.260** 6.60	**1.160** 29.46	**.285** 7.24	**.062** 1.57	530518-1	530517-2	466439-2	90333-1
A	12-10	3-6	**.160-.210** 4.06-5.33	**.190** 4.83	**1.230** 31.24	**.285** 7.24	**.062** 1.57	530520-1	530519-2	466438-2	90332-1
B	12-10	3-6	**.160-.210** 4.06-5.33	**.190** 4.83	**1.230** 31.24	**.285** 7.24	**.062** 1.57	—	530519-3	466438-2	90332-1
A	12-10	3-6	**.160-.210** 4.06-5.33	**.190** 4.83	**1.230** 31.24	**.347** 8.81	**.093** 2.36	—	531373-2	466438-2	90332-1

*Applicators are for AMP-O-LECTRIC Model "K" machines. Consult Tyco Electronics for applicators for other bench machines and lead-making machines.

Hand Crimping Tool
69710-1

Extraction Tool
91116-1

Catalog 1654080
Issued 7-03

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High Current Connectors, .312 [7.92] Centerline

Housings

Material: White glass-filled polyester, 94V-0 rated

Related Product Data:

Performance Specifications—page 173
Contacts—page 174

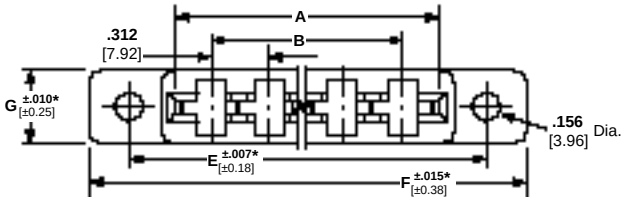
Technical Documents:

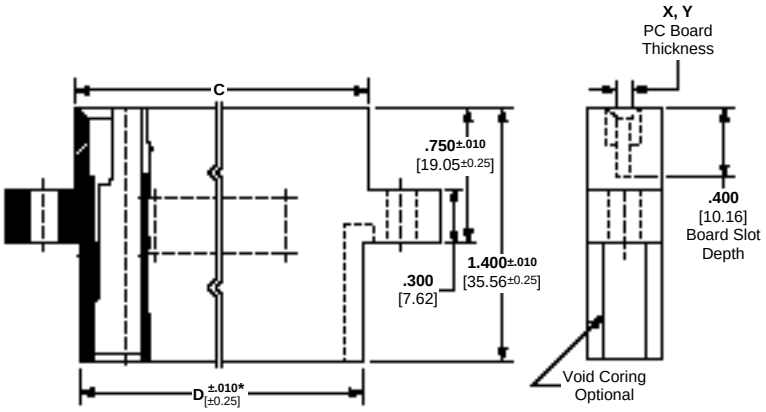
(pages 186, 187):

Product Specification
108-9045

Instruction Sheet 408-9123

With Mounting Ears





No. of Pos.	Dimensions							Housing Part Numbers	
	A	B	C	D	E	F	G	X = .062 [1.57] With Mtg. Ears	Y = .093 [2.36] With Mtg. Ears
3	**1.024** 26.01	**.624** 15.85	**1.164** 29.57	**1.114** 28.3	**1.538** 39.07	**1.972** 50.09	**.500** 12.70	—	531370-2
4	**1.336** 33.93	**.936** 23.77	**1.476** 37.49	**1.426** 36.22	**1.850** 46.99	**2.284** 58.01	**.437** 11.10	530521-3	—
8	**2.584** 65.63	**2.184** 55.47	**2.724** 69.19	**2.674** 67.92	**3.098** 78.69	**3.532** 89.71	**.437** 11.10	530521-6	—
9	**2.896** 73.56	**2.496** 63.40	**3.036** 77.11	**2.986** 75.84	**3.410** 86.61	**3.844** 97.64	**.437** 11.10	530521-7	—
12	**3.832** 97.33	**3.432** 87.17	**3.972** 10.89	**3.922** 99.62	**4.346** 110.39	**4.780** 121.41	**.437** 11.10	530521-9	—

Notes: 1. **X** Housings designed to accept **.055-.070** [1.4-1.78] thick daughter boards; use intercontact Keying Plug No. 530533-1.
2. **Y** Housings designed to accept **.084-.102** [2.13-2.59] thick daughter boards; use intercontact Keying Plug No. 531369-1. + Contact 531373-2.
3. Use Extraction Tool No. 91116-1 to remove contacts. (Refer to Instruction Sheet 408-7782).
4. Other connector sizes can be made available, consult Tyco Electronics.

Catalog 1654080
Issued 7-03

www.tycoelectronics.com

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UK: 44-141-810-8967

High Current Connectors .312 [7.92] Centerline (Continued)

Housings Preloaded with Solder Tail Contacts

Material and Finish:

Housing—White glass-filled polyester, 94V-0 rated

Contacts—
A—Copper alloy CDA-195 plated .000150 [0.00381] bright tin over .000030 [0.00076] nickel

B—Copper alloy CDA-195 plated .000150 [0.00381] silver plate over .000030 [0.00076] thk. nickel

C—Copper alloy CDA-195 plated .000030 [0.00076] gold in contact area, .000150 [0.00381] tin-lead solder post, over .000030 [0.00076] nickel

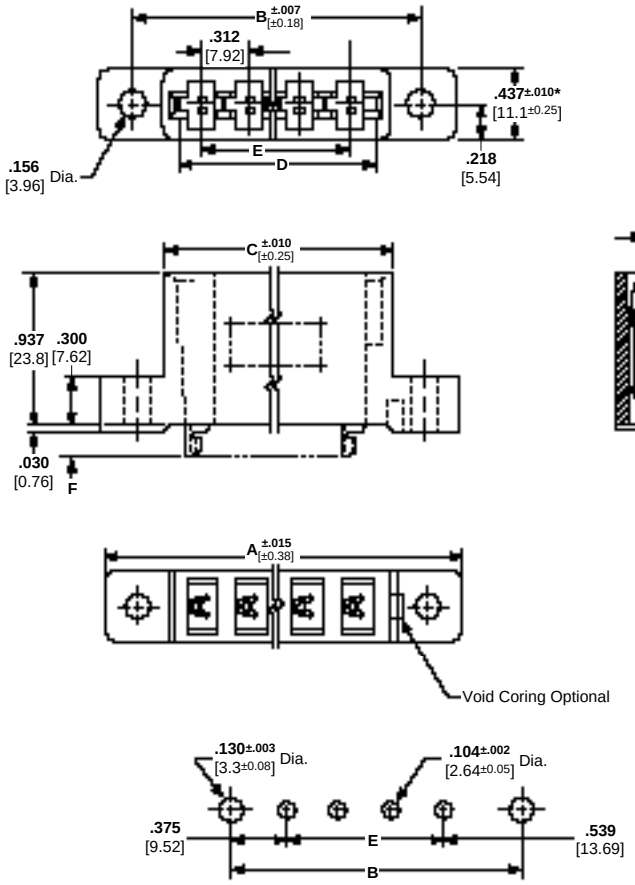
Related Product Data:

Performance Specifications—
page 173

Technical Documents:

(pages 186, 187):

Product Specification
108-9045



PC Board Thickness: **.062** [1.57]

Recommended PC Board Hole Layout

*May go to **.020** [0.51] over nominal at top center of housing.

No. of Positions	Dimensions						Plating	Connector Part Numbers
	A	B	C	D	E	F		
3	**1.972** 50.09	**1.538** 39.07	**1.164** 29.57	**1.024** 26.01	**.624** 15.85	**.180** 4.57	A	531353-2
4	**2.284** 58.01	**1.850** 46.99	**1.476** 37.49	**1.336** 33.93	**.936** 23.77	**.180** 4.57	A	531353-3
5	**2.593** 65.86	**2.162** 54.91	**1.788** 45.42	**1.648** 41.86	**1.248** 31.70	**.180** 4.57	A	531353-4
6	**2.908** 73.86	**2.474** 62.84	**2.100** 53.35	**1.960** 49.78	**1.560** 39.62	**.180** 4.57	A	531353-5
8	**3.532** 89.71	**3.098** 78.69	**2.724** 69.19	**2.584** 66.63	**2.184** 55.47	**.180** 4.57	A	531353-6
							B	145116-3
						.283 7.19	B	146912-2
9	**3.844** 97.64	**3.410** 86.61	**3.036** 77.11	**2.896** 73.56	**2.496** 63.40	**.180** 4.57	A	531353-7
10	**4.156** 105.56	**3.722** 94.54	**3.348** 85.04	**3.208** 81.48	**2.808** 71.32	**.180** 4.57	A	531353-8
							B	145116-1
						.283 7.19	B	146912-3
12	**4.780** 121.41	**4.346** 110.39	**3.972** 100.89	**3.832** 97.33	**3.432** 87.17	**.180** 4.57	A	531353-9
							B	145116-2
							C	645200-3
						.283 7.19	B	146912-1

Notes: 1. A **.062** [1.57] thick dummy PC board should be inserted into the connector during soldering to a mother board.
2. Other connector sizes can be made available, consult Tyco Electronics.

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Issued 7-03

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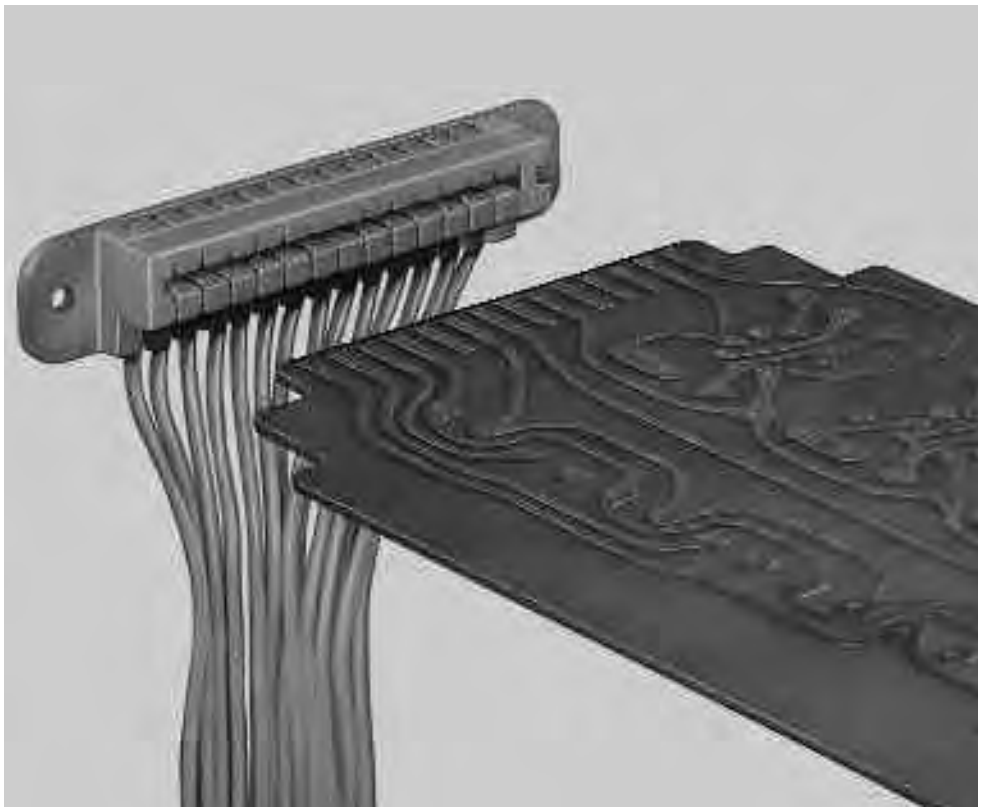
DUO-TYNE Flag Connectors

Product Facts

- **Right angle design permits cabling in close quarters**
- **Recessed contacts help prevent arcing**
- **Sizes and configurations available with or without mounting ears**
- **Lowest installed costs achieved through high-speed compression crimping with AMP matched tooling**
- **Meets quality and reliability requirements for appliance controls, vending machine subassemblies and business machines**
- **Recognized under the Component Program of Underwriters Laboratories Inc. File No. E28476**
- **Certified by Canadian Standards Association File No. LR 7189**



This flag-type connector is designed to meet the quality and reliability of such equipment as appliance controls, vending machine subassemblies, television, stereo, business machines and other applications with similar control needs.

Among its assembly-saving features is a right-angle design which permits cabling in close quarters, where it does not require frame mounting to attach the keyed housing to the card cutout and double locking of the contacts when a PC board is inserted. In addition, contacts are recessed to prevent arcing. All sizes and configurations are available with or without mounting ears. Added to low initial cost, lowest installed costs are achieved through high-speed compression crimping with Tyco Electronics matched tooling.

Performance Specifications

Contact Rating*:
5 amperes

High Potential:
2200 VAC, rms

Operating Temperature:
–40°C to +105°C

Vibration:
10 to 55 cps per MIL-STD-1344, Method 202

***Consult Tyco Electronics engineering when paralleling contacts for power applications.**

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C. America: 52-55-5-729-0425

South America: 55-11-3611-1514
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

DUO-TYNE Flag Connectors (Continued)

Tapered Beam Crimp, Snap-In Contacts

Material and Finish:

Beryllium copper or phosphor bronze (see chart) plated as follows:

Plating A—.000030 [0.00076] gold in mating area, with entire contact underplated .000050 [0.00127] nickel
Plating B—.000015 [0.00127] gold in mating area, with entire contact underplated .000050 [0.00127] nickel
Plating C—.000150 [0.00381] tin

Related Product Data:

Performance Specifications—page 177
Connector Housings—page 179
Application Tooling—pages 184, 185

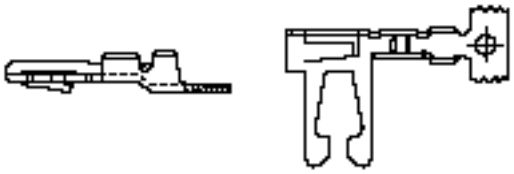
Technical Documents:

(pages 186, 187):

Product Specification
108-9038

Application Specification
114-9002

Instruction Sheets 408-7047, 408-7780, 408-7848, 408-7849



Wire Size Range		Insulation Dia. Range	Material	Contact Finish (Plating)	Contact Part Numbers		Applicator for AMP-O-LECTRIC Machine*	Hand Tool
AWG	mm²				Loose Piece	Strip Form		
26-22	**0.12-0.4**	**.035-.055** 0.89-1.40	**Beryllium** Copper	A	530005-3	530004-6	466586-2	90094-4
				B	—	530004-7		
22-18	0.3-0.9	**.060-.090** 1.52-2.29	Phosphor Bronze	B	—	530002-7	466424-2	90027-4
				C	—	530002-5		
				A	—	530002-3		
			Beryllium Copper	C	—	530006-5		
				A	—	530006-6		
				B	530007-3	—		
				C	—	530006-2		
18-16	0.8-1.4	**.090-.130** 2.29-3.30	Phosphor Bronze	C	—	530505-5	466413-2	—

*Applicators are for AMP-O-LECTRIC Model "K" machines. Consult Tyco Electronics for applicators for other bench machines and lead-making machines.

Hand Crimping Tool

Contact Extraction Tool 810992-1

Catalog 1654080
Issued 7-03

www.tycoelectronics.com

Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

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UK: 44-141-810-8967

DUO-TYNE Flag Connectors (Continued)

Housings, With and Without Mounting Ears

Material: Natural nylon

Related Product Data:

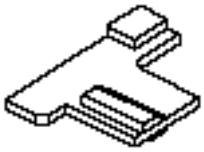
Performance Specifications—page 177
Contacts—page 178
PC Board Layout—page 181

Technical Documents:
(pages 186, 187):

Product Specification
108-9038
Application Specification
114-9002
Instruction Sheet 408-7047

On-Contact Keying Plug

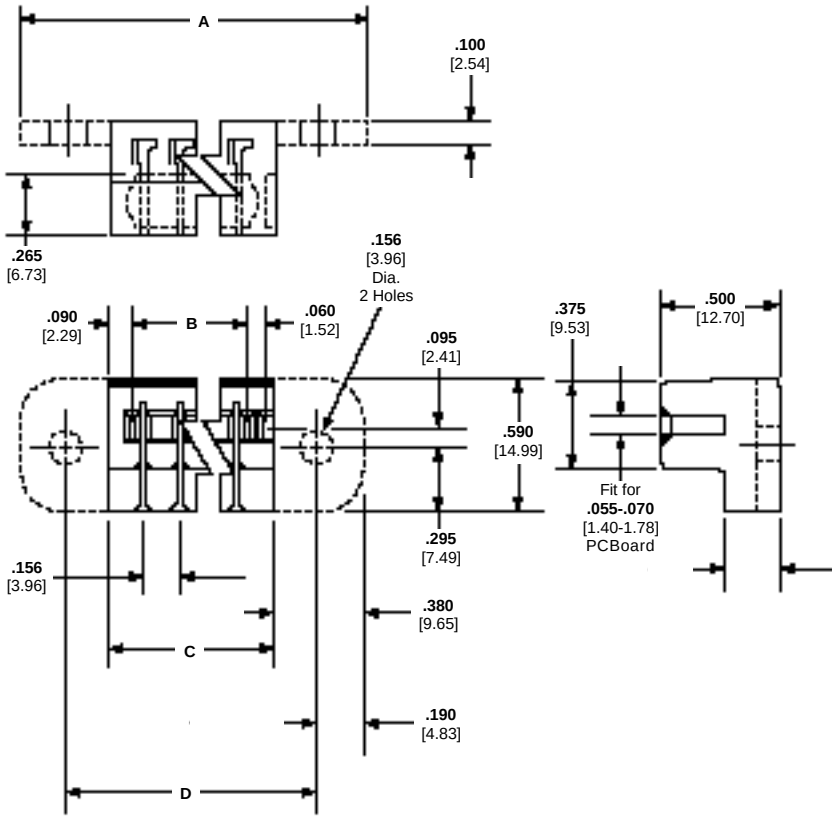
Material: Nylon



Part Number 583661-1

Technical Documents:
(pages 186, 187):

Instruction Sheet 408-7486



No. of Pos.	Dimensions				Part Numbers			
					With Mounting Ears		Without Mounting Ears	
	A	B	C	D	For Ins. Dia. Range .035-.090 [0.89-2.29]	For Ins. Dia. Range .090-.130 [2.29-3.30]	For Ins. Dia. Range .035-.090 [0.89-2.29]	For Ins. Dia. Range .090-.130 [2.29-3.30]
3	**1.384** 35.15	**.414** 10.52	**.624** 15.85	**1.004** 25.50	582380-9	—	—	—
5	—	**.736** 22.40	**.936** 27.74	—	—	—	582370-9	530853-2
6	**1.852** 47.04	**.882** 22.40	**1.092** 27.74	**1.472** 37.39	582382-9	530509-1	582371-9	530853-3
9	**2.320** 58.93	**1.350** 34.29	**1.560** 39.62	**1.940** 49.28	582383-9	530509-2	582375-9	—
12	**2.788** 70.82	**1.818** 46.18	**2.028** 51.51	**2.408** 61.16	582384-9	530509-6	582376-9	530853-5
14	**3.100** 78.74	**2.130** 54.10	**2.340** 59.44	**2.720** 69.09	582385-9	530509-7	582372-9	530853-6
15	**3.256** 82.70	**2.286** 58.06	**2.496** 63.40	**2.876** 73.05	582386-9	530509-3	582377-9	—
18	**3.724** 94.59	**2.754** 69.95	**2.964** 75.29	**3.344** 84.94	582387-9	530509-8	582378-9	530853-8
22	**4.348** 110.44	**3.378** 85.80	**3.588** 91.14	**3.968** 100.79	582388-9	530509-9	582379-9	—

Note: Other connector sizes can be made available, consult Tyco Electronics.

Catalog 1654080
Issued 7-03

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DUO-TYNE Flag Connectors (Continued)

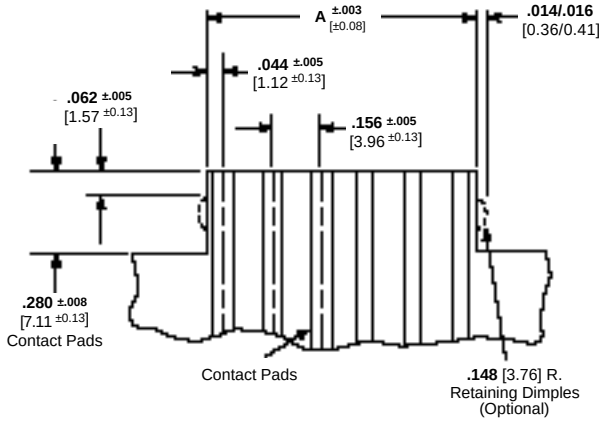
Recommended PC Board Layouts

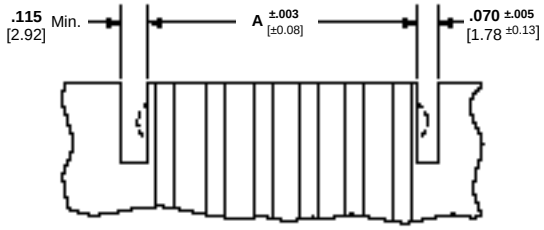
Related PC Board Data:

Recommended Board Thickness—.055-.070 [1.40-1.78]

Recommended Chamfer of Mating Edge of Boards—.015 [0.38] x 45°

Recommended Pad Plating—Tin .000150-.000400 [0.00381-0.01016] thick





No. of Positions	Dimension A
3	**.400** 10.16
5	**.712** 18.09
6	**.868** 22.05
9	**1.337** 33.96
12	**1.805** 45.85
14	**2.117** 53.77
15	**2.272** 57.71
18	**2.741** 69.62
22	**3.365** 85.47

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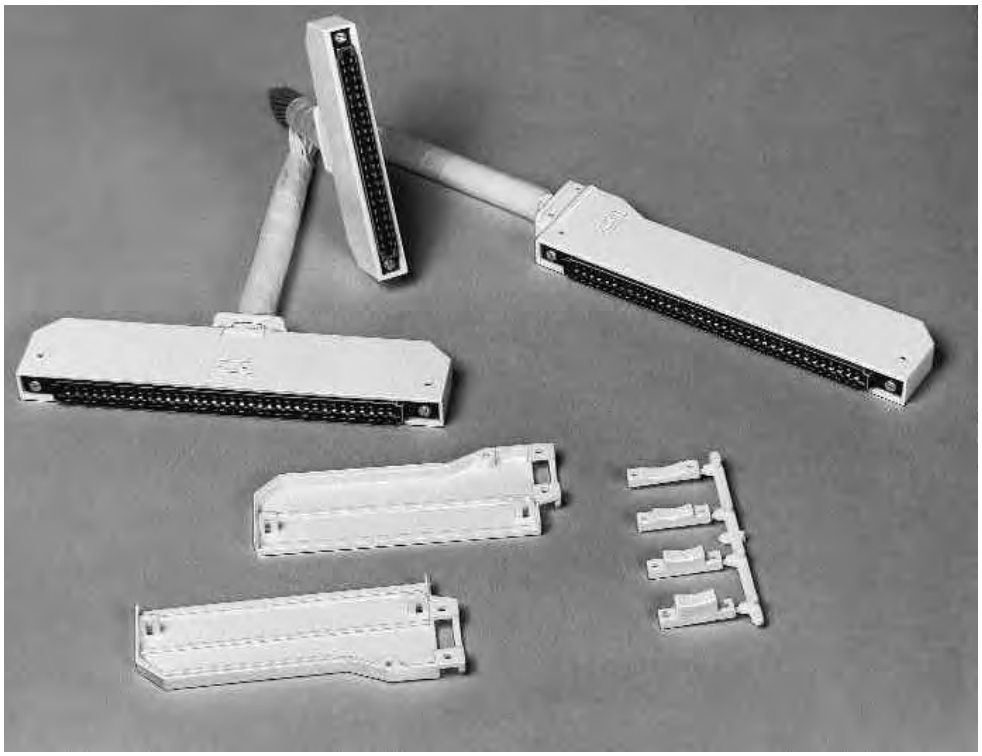
Printed Circuit Board Connector Hood Assemblies

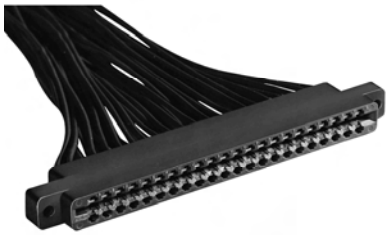
Product Facts

- **Can be used with the highly versatile AMP-LEAF and Crimp Snap Twin Leaf printed circuit edge connectors**
- **Clamping capabilities for wire bundles to .550 [13.97] maximum diameter**
- **Available with 90° or 180° cable outlet**
- **All plastic construction—thermoplastic material UL rated 94V-0 for electrical and mechanical applications up to + 105°C**
- **Thermoplastic material has excellent resistance to common commercial cleaners when used at moderate temperatures**
- **Separate hood assembly halves permit easy cable dressing**
- **Furnished in convenient kit form—each kit includes four cable clamp sizes**



For use with the following connectors:

Crimp Snap Twin Leaf Connectors
(Pages 154-163)



AMP-LEAF Connectors
(Pages 164-172)

Catalog 1654080
Issued 7-03

www.tycoelectronics.com

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Dimensions are shown for reference purposes only. Specifications subject to change.

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Japan: 81-44-844-8013
UK: 44-141-810-8967

Specific Product Name_12 Hel. Con. (Continued)_9pt Helvetica Lt Condensed

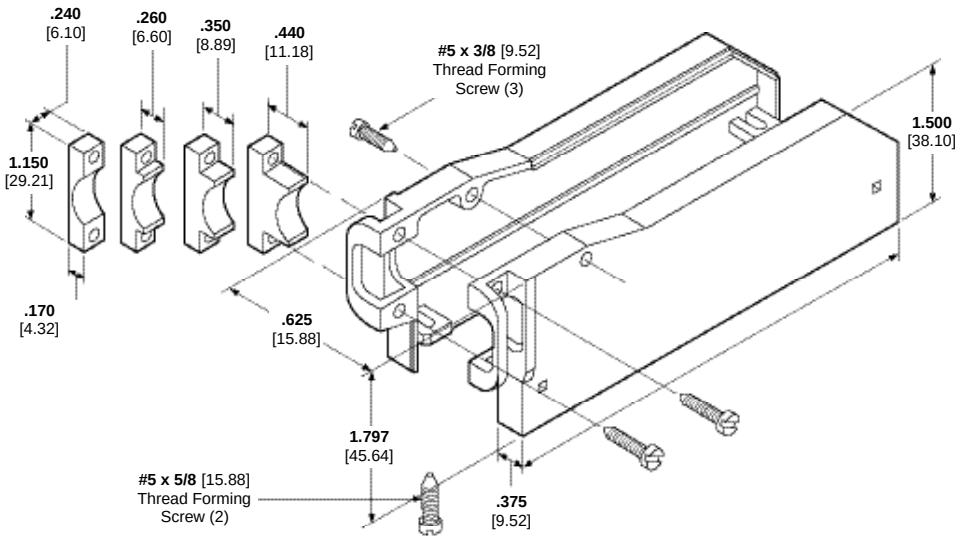
90° Cable Outlet

Material: Natural color thermoplastic

Related Product Data:

Crimp Snap Twin Leaf Connectors—pages 154-163
AMP-LEAF Connectors—pages 164-172

Technical Documents:
(pages 186, 187):
Instruction Sheet 408-7719



Connector Size				Hood L Dim. (Max.)	Connector Width .380 [9.65] Max.		Connector Width .437 [11.10]	
No. of Pos.	Contact Centers	Mtg. Hole Centers	Length (Max.)		AMP Connector Family	Hood Assembly Kit Number*	AMP Connector Family	Hood Assembly Kit Number*
18	**1.56** 3.96	**3.406** 86.51	**3.685** 93.60	**3.826** 97.18	AMP-LEAF	530088-3	—	—
22	**.156** 3.96	**4.031** 102.39	**4.296** 109.12	**4.451** 113.06	—	—	Crimp Snap Twin Leaf	1-530088-4

*All screws and four sizes of cable clamps are supplied with each kit.
Note: Other hood sizes can be made available, consult Tyco Electronics.

Catalog 1654080
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UK: 44-141-810-8967

Printed Circuit Board Connector Hood Assemblies (Continued)

180° Cable Outlet

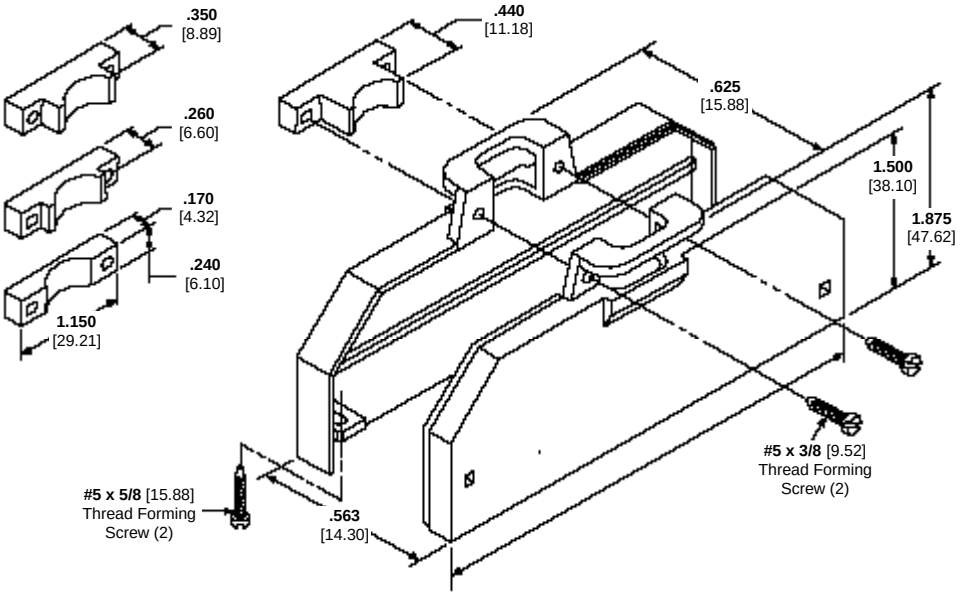
Material: Natural color thermoplastic

Related Product Data:

AMP-LEAF Connectors—
pages 164-172

Technical Documents:
(pages 186, 187):

Instruction Sheet 408-7719



No. of Pos.	Connector Size			Hood L Dim. (Max.)	Connector Width .380 [9.65] Max.	
	Contact Centers	Mtg. Hole Centers	Length (Max.)		AMP Connector Family	Hood Assembly Kit Number*
22	**.156** 3.96	**4.031** 102.39	**4.321** 109.76	**4.451** 113.06	AMP-LEAF	530087-4

*All screws and four sizes of cable clamps are supplied with each kit.

Note: Other hood sizes can be made available, consult Tyco Electronics.

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Application Tooling for Wire Crimp Contacts

Tooling shown on this page is designed to terminate wire crimp contacts used in various wire-to-board connectors.

AMP-O-LECTRIC Model "G" Terminating Machine (Shown with Optional Crimp Quality Monitor)

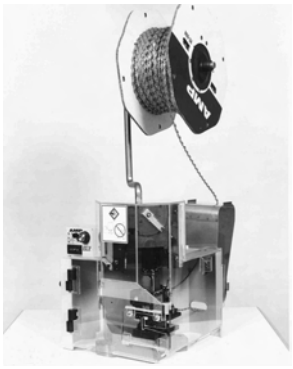
The AMP-O-LECTRIC Model "G" is a semi-automatic bench-top machine for terminating wire using reeled terminals and contacts. It features a quiet and reliable direct motor drive, microprocessor controls for ease of setup and operation, and guarding and lighting designed for operator convenience and safety. Three versions are available: with automatic precision adjust and machine-mounted sensors, or with manual precision adjust with or without sensors. All versions will accept existing Tyco Electronics ministyle applicators with minor modifications.

For further details, request Tyco Electronics Catalog 65828.

AMP-O-MATIC Model II Stripper/Crimper Machine (Shown with Optional Crimp Quality Monitor)

This machine also strips wire, and is therefore used to terminate jacketed cable. It features manual precision adjust, keyed strip blades for faster, more accurate setups, and an efficient scrap removal system. Applicators are interchangeable. All adjustments can be made from the front of the machine without special tools.

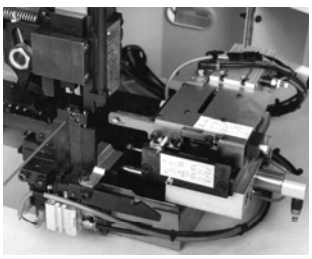
Entry Level Terminator (ELT), 1338600-(x)



Semiautomatic Bench Terminator for side- and end-feed reeled terminals and contacts. The ELT uses a DC motor with gear box drive. The result is a small-footprint design that is fast and quiet. Cycle time is less than 0.400 sec. with an operation sound level of 76dBa. With a crimp force capacity of 3,000 pounds, the ELT is available for all but the highest crimp force applications. Optional equipment is also available to meet your specific application requirements.

For more information, request catalog 1308382.

Optional Stripping Module for the ELT and AMP-O-LECTRIC Model G



The combination of the Stripping Module with the AMP-O-LECTRIC Model G Terminator or the Entry Level Terminator provides an economical, proficient method of stripping wire and crimping terminals on the same machine. Wires are stripped moments before crimping, meaning there is virtually no chance of damaging wire conductors during handling or storage. Once the wire is fed into the start sensor the Stripping Module does the rest, improving placement accuracy.

For more information, request catalog 1309085.

Catalog 1654080
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Application Tooling for Wire Crimp Contacts (Continued)

AMPOMATOR CLS IV+ Lead-Making Machines, 356500-1, -2

Fully-automatic machines that measure, cut, strip and terminate single leads. Microprocessor-controlled, and programmed and operated using an easy-to-follow, menu-driven touchscreen. Features include direct-drive terminating units with precision crimp height adjustment, fully programmable setups, wire runout and splice detection, and motorized pre-feed with wire straightener. Crimp quality monitoring is also available.

For more information, request catalog 124324.

Crimp Quality Monitor (CQM), 1320420-1, -2

This unique system provides 100% on-the-fly crimp inspection. It measures the crimp height of each termination, and evaluates the quality of each crimp. If a crimp is questionable, the monitor alerts the operator with both visual and audible alarms. It also provides ports for printing and networking. When used with AMP-O-LECTRIC Model "G" Termination Machines, the monitor is mounted to the machine. When used with AMPOMATOR CLS IV Lead-Making Machines, it is integrated into the machine's operating system.

For more information, request catalog 82275.

CERTI-CRIMP Straight Action Hand Tools (SAHT)

Premium grade hand tools. Feature ratchet control to provide complete crimp cycle. Die sets close in a straight line. Include a contact locator and wire stop, plus an insulation crimp adjustment lever, when applicable. Approximate weight 1.3 lb [0.59 kg].

For more information, request catalog 65780.

626 Pneumatic Tool System

Lightweight, air-operated modular tooling system. Accepts a wide variety of interchangeable heads for crimping various types of contacts, terminals and splices onto wires ranging 6-26 AWG [13-0.12 mm^2], plus coaxial and fiber optic cable. Available with either hand- or foot-actuation switch. Optional ratchet control available to provide complete crimp cycle.

For more information, request catalog 124208.

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Technical Documents

The following is a list of technical documents covering the application, performance and maintenance of the AMP Card Edge Connectors presented in this catalog.

Product Specifications describe technical performance characteristics and verification tests. They are intended for the Design, Component and Quality Engineer.

Application Specifications describe requirements for using the product in its intended application and/or crimping information. They are intended for the Packaging and Design Engineer and the Setup person.

Instruction Sheets provide instructions for assembling or applying the product. They are intended for the Manufacturing Assembler or Operator.

Solder Type Board-to-Board Connectors

Standard Edge .050 Series PCI Connectors

Product Specification:
108-14034 Standard Edge .050 Series PCI Connector

Application Specification:
114-26012 Standard Edge .050 Series PCI Connector

Standard Edge .050 Series Connectors

Product Specification:
108-14034 Standard Edge .050 Series Connector

Application Specification:
114-26012 Standard Edge .050 Series Connector

Standard Edge II Connectors

Product Specification:
108-9039 Standard Edge II Connector

Low Profile Connectors

Product Specification:
108-9044 Low Profile Edge Connector

Instruction Sheet:
408-7772 Contact Replacement, Low Profile Edge Connector

Twin Leaf Mother Board Connectors

Product Specification:
108-9027 Twin Leaf Mother Board Connector

Instruction Sheets:
408-7479 Keying Plugs, Twin Leaf Mother Board Connector
408-7498 Connector Layout, Twin Leaf Mother Board Connector
408-7506 Card Guides, Twin Leaf Mother Board Connector

Rotary Cam ZIF Connectors

Product Specification:
108-9048 Rotary Cam PC Board Edge Connector

Instruction Sheet:
408-7911 Rotary Cam ZIF Connectors

Linear ZIF Connectors

Product Specifications:
108-14015 Linear ZIF PC Board Edge Connector, .100 [2.54] Centerline
108-26003 ACTION PIN Contacts

Application Specification:
114-26003 Linear ZIF PC Board Edge Connector, .100 [2.54] Centerline

Instruction Sheets:
408-2665 Linear ZIF, Carrier Removal Tool Series 265924
408-2995 Linear ZIF, Housing Wing Removal and Replacement Tool 266233-1
408-2999 Linear ZIF, T-Bar Insertion Tool Series 266267
408-6915 Linear ZIF, Housing Assembly Insertion Tool Series 313136
408-6916 Linear ZIF, T-Bar Insertion Tool Series 313139

Press-Fit Board-to-Board Connectors

AMP PACE Connectors

Product Specifications:
108-14019 AMP PACE Connector, .125 x .250 [3.18 x 6.35] Centerline
108-26003 ACTION PIN Contacts

Application Specification:
114-26002 AMP PACE Connector

Instruction Sheets:
408-2933 Contact Replacement Tool .100 x .200 [2.54 x 5.08] and .125 x .250 [3.18 x 6.35], AMP PACE Connector
408-2978 Seating Tool Ground Module, AMP PACE Connector
408-2979 Seating Tool Power Module, AMP PACE Connector
408-6726 Seating Tool, .156 x .200 [3.96 x 5.08] Part No. 59955, AMP PACE Connector
408-6727 Seating Tool, .125 x .125 [3.18 x 3.18] Part No. 59953, AMP PACE Connector
408-6881 Contact Replacement Tool .100 x .100 [2.54 x 2.54] with and without Scoops AMP PACE Connector
408-9058 Seating Tool .100 x .200 [2.54 x 5.08] with Card Scoops, Part No. 58150, AMP PACE Connector
408-9063 Seating Tool .125 x .250 [3.18 x 6.35] Part No. 58142, AMP PACE Connector
408-9067 Seating Tool .100 x .200 [2.54 x 5.08] Part No. 58140, AMP PACE Connector
408-9091 Accessories and Tooling, .100 x .200 [2.54 x 5.08] AMP PACE Connector
408-9119 Seating Tool, .125 x .250 [3.18 x 6.35] with Card Scoops, Part No. 58184, AMP PACE Connector
408-9186 Contact Replacement Tool; .100 x .200 [2.54 x 5.08], .125 x .125 [3.18 x 3.18], .125 x .250 [3.18 x 6.35] with Scoops, .156 x .200 [3.96 x 5.08], AMP PACE Connector
408-9188 Seating Tool .100 x .100 [2.54 x 2.54] Part No. 58200, AMP PACE Connector

ECONOMATE Connectors

Product Specification:
108-26002 ECONOMATE Connector

Instruction Sheet:
408-9091 Accessories and Tooling, .100 x .200 [2.54 x 5.08] AMP PACE Connector

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Issued 7-03
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UK: 44-141-810-8967

Technical Documents (Continued)

Wire-to-Board Connectors

Crimp Snap Twin Leaf Connectors

Product Specification:
108-9031 Crimp Snap Twin Leaf Connector (Bifurcated Contacts)

Application Specification:
114-9004 Contact, Twin Leaf Connector

Instruction Sheets:
408-7527 Accessories and Contacts, Crimp Snap Twin Leaf Connector
408-7529 Extraction Tool 91073-1
408-7531 Hand Tool 90268-1, Single Crimp, 28-24 AWG [0.08-0.2 mm^2] Wire
408-7551 Hand Tool 90264-1, Double Crimp, 22-20 AWG [0.3-0.6 mm^2] and 18 AWG [0.8-0.9 mm^2] Wire
408-7583 Hand Tool 90285-1, Double Crimp, 20-18 AWG [0.5-0.9 mm^2] and 16 AWG [1.25-1.4 mm^2] Wire
408-8547 CERTI-CRIMP II Straight Action Hand Tools

AMP-LEAF Connectors

Product Specifications:
108-9013 AMP-LEAF Connector
108-9043 AMP-LEAF Connector, Tin Plated Contacts

Application Specification:
114-9003 Contact, AMP-LEAF Connector

Instruction Sheets:
408-6951 Lubricant for tin plating, fretting, corrosion
408-7035 Retaining Spring 42973
408-7036 On-Contact Keying Plugs 480143 and 582756
408-7037 Accessories and Contacts, AMP-LEAF Connector
408-7045 Extraction Tool 465195
408-7068 Intercontact Keying Plug 582501
408-7339 Intercontact Keying Plug 583274
408-7419 Commoning Springs
408-7622 Hand Tool 90017-3, 22-20 AWG [0.3-0.6 mm^2], Two 22 AWG [0.3-0.4 mm^2] or One 18 AWG [0.8-0.9 mm^2] Wire
408-7623 Hand Tool 90028-3, 26-22 AWG [0.12-0.4 mm^2], Two 22 AWG [0.3-0.4 mm^2] Wires
408-7624 Hand Tool 90031-8, Two 18 AWG [0.8-0.9 mm^2] Wires
408-7626 Hand Tool 90101-3, 20 AWG [0.5-0.6 mm^2] or Two 20 AWG [0.5-0.6 mm^2] Wires

High Current Connectors

Product Specification:
108-9045 High Current Edge Connector

Application Specification:
114-9005 Contact, High Current Edge Connector

Instruction Sheets:
408-7782 Extraction Tool 91116-1, High Current Connector
408-7783 Die Inserts 90332-1 and 90332-2
408-7802 Die Inserts 90333-1 and 90333-2
408-9123 High Current Connectors

DUO-TYNE Flag Connectors

Product Specification:
108-9038 DUO-TYNE Flag Connector, Tapered Beam Contact

Application Specification:
114-9002 Contact, DUO-TYNE Flag Connector

Instruction Sheets:
408-7047 DUO-TYNE Flag Right-Angle Connector
408-7486 On-Contact Keying Plug 583661
408-7780 Hand Tool 90335-1, 18-16 AWG [0.8-1.4 mm^2] Wire
408-7848 Hand Tool 90027-4, 22-18 AWG [0.3-0.9 mm^2] Wire
408-7849 Hand Tool 90094-4, 26-22 AWG [0.12-0.4 mm^2] Wire

Printed Circuit Board Connector Hood Assemblies

Instruction Sheet:
408-7719 Printed Circuit Board Connector Hood Assemblies

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Part Number Cross Reference—Tyco Part Number to Acquired Part Number

All Tyco Electronic Part Numbers without a corresponding acquired Part Number are listed as base part numbers only. Complete part numbers (with prefixes and/or suffixes) are shown on the page(s) indicated.

Contact Engineering if no corresponding Tyco Number is available.

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USA: 1-800-522-6752
Canada: 1-905-470-4425
Mexico: 01-800-733-8926
C. America: 52-55-5-729-0425

South America: 55-11-3611-1514
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

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South America: 55-11-3611-1514
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Part Number Cross Reference—Acquired Part Number to Tyco Part Number

Acquired Part Number	Tyco Part Number	Page Number
A8D25DS29B2	7-1437269-0	43
A8D25DS29B3	—	43
A8D25DS29C2	7-1437269-1	43
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C. America: 52-55-5-729-0425

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Hong Kong: 852-2735-1628
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UK: 44-141-810-8967

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Dimensions are in millimeters and inches unless otherwise specified. Values in bold are imperial equivalents.

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Hong Kong: 852-2735-1628
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UK: 44-141-810-8967

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Related Product Information

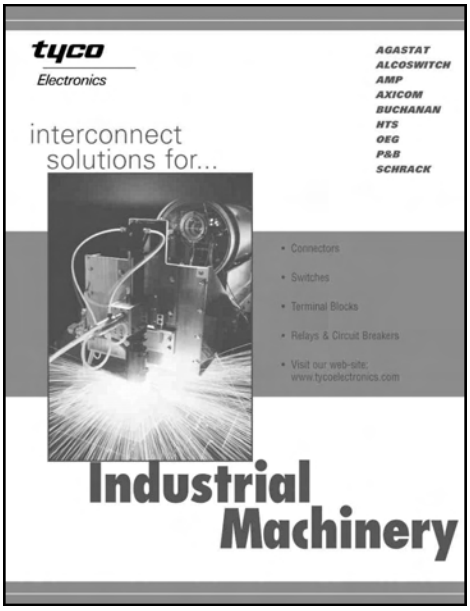
For additional component solutions for Industrial Machinery, Instrumentation, Security, and related applications, request the following brochures:

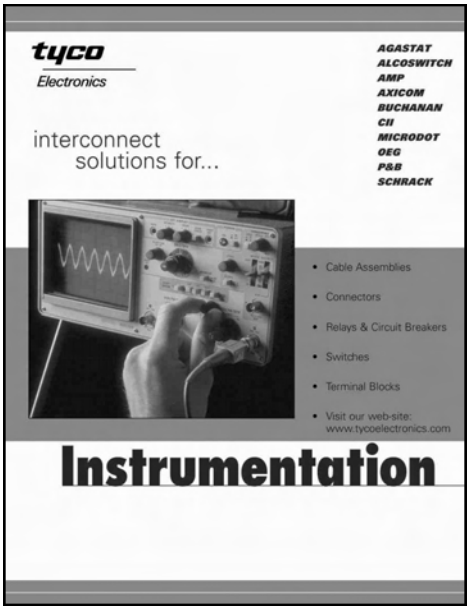
Brochure No. 889439 – Industrial Machinery

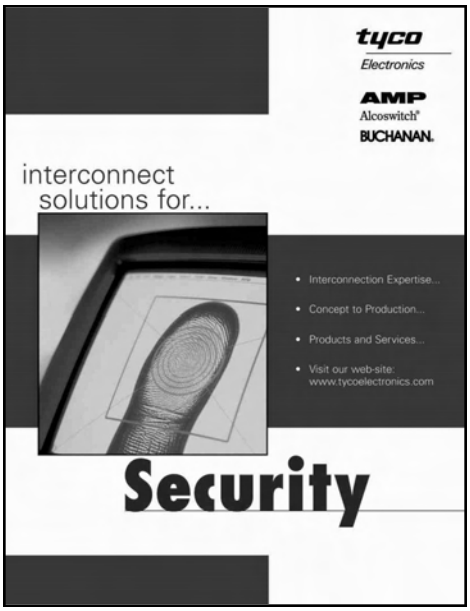
Brochure No. 1307285 – Instrumentation

Brochure No. 1308325 – Security

These brochures list catalog sources for connectors, switches, terminal blocks, relays, timers, circuit breakers, and cable assemblies available from Tyco Electronics.







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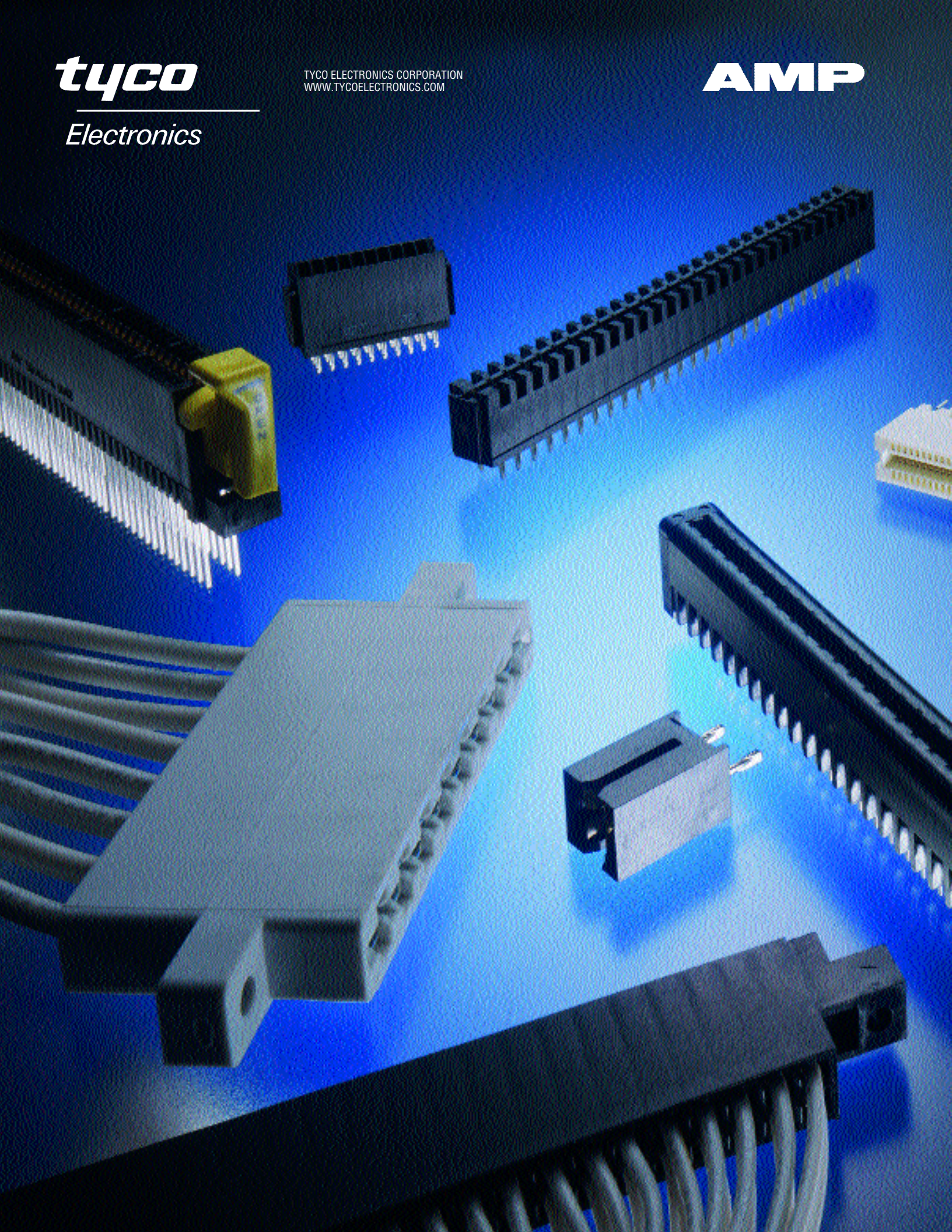
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