



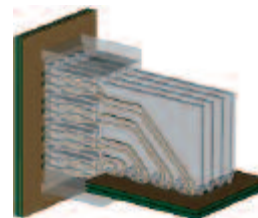
High Speed Fine Pitch Connectors (MICTOR, MICTOR SB, Micro-Strip and STEP-Z Interconnection Systems)



Signal Integrity Services: Taking SI to the Next Level

Solutions

Our goal is to apply system-level expertise to design, simulate, and verify a system that meets your performance goals. We have completed hundreds of system designs and have years of experience in system layout, design, simulation and product selection. Our modeling skills and techniques are second to none with an extensive library of Tyco Electronics product models ready to go to work on your design.



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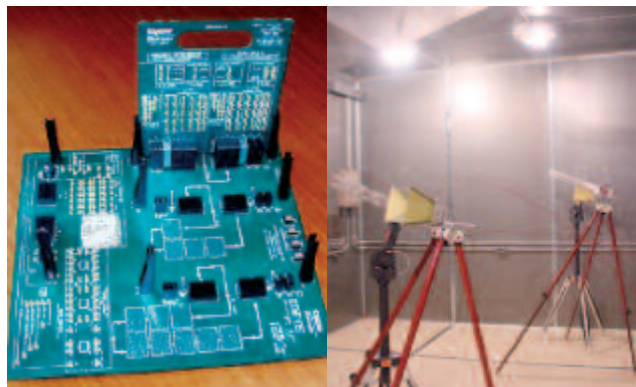
models@tycoelectronics.com

simulation@tycoelectronics.com

www.tycoelectronics.com/products/simulation/

Simulation

Signal Integrity engineers use very sophisticated suite of tools to provide accurate connector and system models to 20 GHz and beyond. Whether we are analyzing a connector or an entire system, Tyco Electronics has the tools and expertise to get the right answer. Our tool suite includes 2D and 3D full-wave analysis, with solutions in both the time and frequency domains.



Models

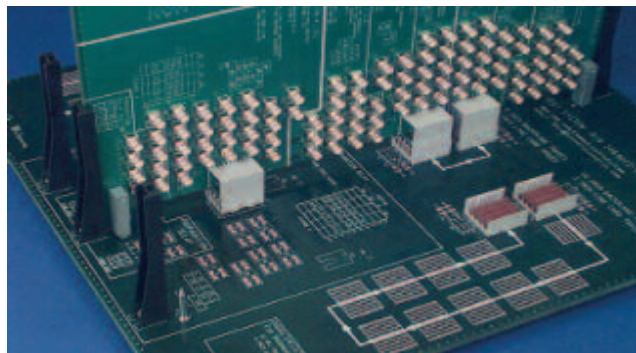
Tyco Electronics provides a variety of tools to aid customers in their design:

- SPICE single-line and multi-line models
- S-parameter models
- Customer evaluation boards using realistic system implementations
- Electrical Performance Reports (EPRs) with information on many high speed products.



Testing

With measurement capabilities beyond 10 Gbps and 50 GHz, Tyco Electronics can characterize and provide detailed measurements of various products. Measurements of a product within a system can be invaluable to assure the successful implementation of a design. These measurements can include silicon from companies that have partnered with Tyco Electronics.



High Speed Stacking Connectors (Parallel and Right-Angle Board-to-Board)

Stacking Height Guide for Parallel Board-to-Board Applications

Stacking Height mm inch		Connector Description	Pitch	Catalog Pages Shown On	Connector Sizes (No. of Positions)																			
					38	40	60	76	80	100	104	114	120	140	152	160	180	190	200	220	228	240	266	296
5.00	[.197]	MICTOR SB 0.50 CL Plugs and Receptacles	0.50mm	56, 57																				
5.00	[.197]	MICTOR SB 0.80mm CL Plugs and Receptacles	0.80mm	46, 47																				
6.60	[.260]	MICTOR Plugs and Receptacles	.025 inch	19, 20, 36-41																				
8.00	[.315]	MICTOR SB 0.50 CL Plugs and Receptacles	0.50mm	56, 58																				
8.00	[.315]	MICTOR SB 0.80mm CL Plugs and Receptacles	0.80mm	46, 48																				
9.00	[.354]	MICTOR Plugs and Receptacles	.025 inch	21, 22, 36-41																				
10.92	[.430]	Micro-Strip Plugs and Receptacles	.050 inch	68-70, 73-76																				
11.00	[.433]	MICTOR Plugs and Receptacles	.025 inch	23, 24, 36-41																				
11.00	[.433]	MICTOR SB 0.50 CL Plugs and Receptacles	0.50mm	56, 59																				
11.00	[.433]	MICTOR SB 0.80mm CL Plugs and Receptacles	0.80mm	46, 49																				
12.57	[.495]	MICTOR Plugs and Receptacles	.025 inch	25, 26, 36-41																				
14.00	[.551]	MICTOR SB 0.50 CL Plugs and Receptacles	0.50mm	56, 60																				
14.00	[.551]	MICTOR SB 0.80mm CL Plugs and Receptacles	0.80mm	46, 50																				
15.00	[.591]	STEP-Z Grid Array Plugs and Receptacles	Grid	6, 8																				
15.60	[.615]	MICTOR Plugs and Receptacles	.025 inch	19, 20, 36-41																				
16.00	[.630]	MICTOR SB 0.50 CL Plugs and Receptacles	0.50mm	56, 61																				
16.00	[.630]	MICTOR SB 0.80mm CL Plugs and Receptacles	0.80mm	46, 51																				
17.00	[.669]	STEP-Z Grid Array Plugs and Receptacles	Grid	6, 9																				
18.00	[.709]	MICTOR Plugs and Receptacles	.025 inch	21, 22, 27, 28, 36-41																				
18.00	[.709]	STEP-Z Grid Array Plugs and Receptacles	Grid	6, 10																				
18.75	[.738]	MICTOR Plugs and Receptacles	.025 inch	29, 36-41																				
18.75	[.738]	Micro-Strip Plugs and Receptacles	.050 inch	71-74, 76																				
19.00	[.748]	MICTOR SB 0.50 CL Plugs and Receptacles	0.50mm	56, 62																				
19.00	[.748]	MICTOR SB 0.80mm CL Plugs and Receptacles	0.80mm	46, 52																				
20.00	[.785]	MICTOR Plugs and Receptacles	.025 inch	23, 24, 30, 31, 36-41																				
20.00	[.785]	STEP-Z Grid Array Plugs and Receptacles	Grid	6, 11																				
21.60	[.850]	MICTOR Plugs and Receptacles	.025 inch	25, 26, 36-41																				
22.00	[.866]	MICTOR SB 0.50 CL Plugs and Receptacles	0.50mm	56, 63																				
22.00	[.866]	MICTOR SB 0.80mm CL Plugs and Receptacles	0.80mm	46, 53																				
22.86	[.900]	MICTOR Plugs and Receptacles	.025 inch	32, 33, 36-41																				
25.00	[.984]	STEP-Z Grid Array Plugs and Receptacles	Grid	6, 12, 13 or 7, 8																				
25.00	[.984]	MICTOR SB 0.50 CL Plugs and Receptacles	0.50mm	56, 64																				
25.00	[.984]	MICTOR SB 0.80mm CL Plugs and Receptacles	0.80mm	46, 54																				
27.00	[1.062]	STEP-Z Grid Array Plugs and Receptacles	Grid	7, 9																				
27.00	[1.062]	MICTOR Plugs and Receptacles	.025 inch	27, 28, 36-41																				
27.80	[1.093]	MICTOR Plugs and Receptacles	.025 inch	29, 36-41																				
28.00	[1.102]	STEP-Z Grid Array Plugs and Receptacles	Grid	7, 10																				
29.00	[1.143]	MICTOR Plugs and Receptacles	.025 inch	30, 31, 36-41																				
30.00	[1.181]	STEP-Z Grid Array Plugs and Receptacles	Grid	7, 11																				
30.00	[1.181]	MICTOR SB 0.50 CL Plugs and Receptacles	0.50mm	56, 65																				

Guide for Right-Angle Board-to-Board Applications

MICTOR R/A Plugs and MICTOR Receptacles	.025 inch	34-39	Right-angle board-to-board configuration may be accomplished by mating any MICTOR R/A plug with any vertical MICTOR receptacle of the same position size.
MICTOR R/A Receptacles and MICTOR Plugs	.025 inch	19-33, 40, 41	Right-angle board-to-board configuration may be accomplished by mating any MICTOR R/A receptacle with any vertical MICTOR plug of the same position size.
Micro-Strip R/A Receptacles and Micro-Strip Plugs	.050 inch	68-72, 74, 75	Right-angle board-to-board configuration may be accomplished by mating Micro-Strip R/A receptacles to any vertical Micro-Strip plug of the same position size, but guide ear configurations should be given consideration.

Stacking Height Guide for Coplanar Board-to-Board Applications

MICTOR R/A Plugs and MICTOR R/A Receptacles	.025 inch	34, 35, 40, 41	Coplanar board-to-board configurations may be accomplished by mating any MICTOR R/A receptacle to any MICTOR R/A plug of the same position size.
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Introduction

STEP-Z Connector Family

- Controlled impedance design with ground contacts disbursed throughout the signal contact field to provide for very low noise levels at signal rise times of 100 ps or faster. The connector can be wired for either differential pair of single ended performance.
- High density design providing an array of high speed signal contacts enabling high signal pin counts in a relatively small footprint versus convention 2 row 2 piece connector alternatives. High speed signal contact counts of 104, 200, and 296 available.
- Provides for multiple stack heights within the range of 15.00 [.590] to 35.00 [1.378].
- Typical applications include CPU/memory module interconnection, I/O port module interconnection, and interconnecting adjacent daughtercards.

MICTOR Connector Family and MICTOR SB Connector Family

- Controlled impedance design achieved through a matched impedance connector configuration of signal contacts and ground blades, provides excellent electrical performance at rise times as fast as 50 picoseconds
- High density two-piece connector family designed for high performance applications for motherboard/daughter-card and backplane/daughter-card interconnections from 38 to 300 positions
- Provides for 23 levels of mezzanine stacking (5.00 [.197] to 31.90 [1.256])
- Straddle mount plugs and receptacles available for coplanar or traditional right-angle paddlecard applications
- High performance cable assemblies available from 38 to 266 positions for plugging into vertical or right-angle receptacle connectors
- Typical applications include CPU/memory module interconnection, video board interconnection and interconnecting adjacent daughtercards

Micro-Strip Connector Family

- Controlled impedance design achieved through a microstrip configuration of signal contacts and ground blades, provides excellent electrical performance at rise times as fast as 100 picoseconds
- High density two-piece connector family designed for high performance applications for motherboard/daughter-card and backplane/daughter-card interconnections from 40 to 240 positions.
- Provides for mezzanine stacking (10.92 [.430] to 38.94 [1.533]) from 40 through 200 positions
- High performance cable assemblies available from 38 to 108 positions for plugging into vertical or right-angle receptacle connectors.
- Typical applications include CPU/memory module interconnection, video board interconnection and interconnecting adjacent daughtercards

Restriction on the use of Hazardous Substances (RoHS)

At Tyco Electronics, we're ready to support your RoHS requirements. We've assessed more than 1.5 million end items/components for RoHS compliance, and issued new part numbers where any change was required to eliminate the restricted materials. Part numbers in this catalog are identified as:

RoHS Compliant — Part numbers in this catalog are RoHS Compliant, unless marked otherwise. These products comply with European Union Directive 2002/95/EC as amended 1 January 2006 that restricts the use of lead, mercury, cadmium, hexavalent chromium, PBB, and PBDE in certain electrical and electronic products sold into the EU as of 1 July 2006.

NOTE: For purposes of this Catalog, included within the definition of RoHS Compliant are products that are clearly "Out of Scope" of the RoHS Directive such as hand tools and other non-electrical accessories.

Non-RoHS Compliant — These part numbers are identified with a "◆" symbol. These products do not comply with the material restrictions of the European Union Directive 2002/95/EC.

5 of 6 Compliant — A "●" symbol identifies these part numbers. These products do not fully comply with the European Union Directive 2002/95/EC because they contain lead in solderable interfaces (they do not contain any of the other five restricted substances above allowable limits). However, these products may be suitable for use in RoHS applications where there is an application-based exception for lead in solders, such as the server, storage, or networking infrastructure exemption.

NOTE: Information regarding RoHS compliance is provided based on reasonable inquiry of our suppliers and represents our current actual knowledge based on the information provided by our suppliers. This information is subject to change. For latest compliance status, refer to our website referenced at right.

Getting the Information You Need

Our comprehensive on-line RoHS Customer Support Center provides a forum to answer your questions and support your RoHS needs. A RoHS FAQ (Frequently Asked Questions) is available with links to more detailed information. You can also submit RoHS questions and receive a response within 24 hours during a normal work week. The Support Center also provides:

- Cross-Reference from Non-compliant to Compliant Products
- Ability to browse RoHS Compliant Products in our on-line catalog
- Downloadable Technical Data Customer Information Presentation
- More detailed information regarding the definitions used above
- So whatever your questions when it comes to RoHS, we've got the answers at www.tycoelectronics.com/leadfree

RoHS
Customer
Support
Center

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Need more information?

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Technical Support is staffed with specialists well versed in all Tyco Electronics products. They can provide you with:

- Technical support
- Catalogs
- Technical Documents
- Product Samples
- Tyco Electronics Authorized Distributor Locations

For current tooling information, call the Tooling Assistance Center:
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A copy of the certificate is available upon request.



Dimensioning:

Dimensions are in millimeters and inches unless specified otherwise. Values in brackets are equivalent U.S. customary units.

Metric symbols used are:

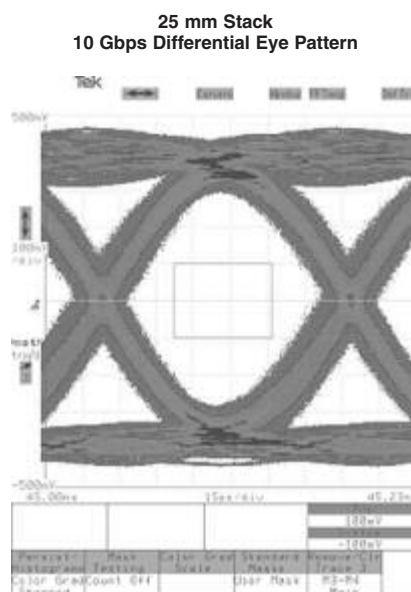
- C (Celsius)
- Kg (Kilogram)
- N (newton)
- m (meter)
- mm (millimeter)
- mm² (square millimeter)

Specifications subject to change. Consult Tyco Electronics for latest design applications.

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STEP-Z Interconnection System

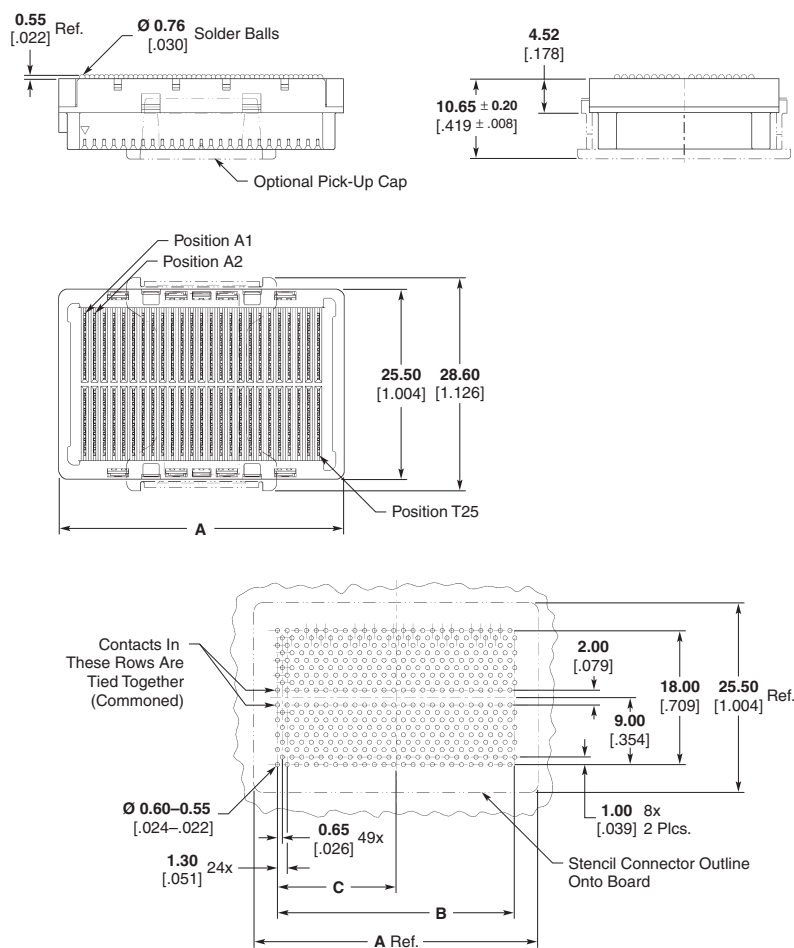
Ball Grid Array attachment for both halves minimizes the performance degradation typically found with through hole connections and improves routing capability. Dual beam signal contacts provide for a highly reliable interface connection. The connector housing is polarized to ensure proper mating.



South America: 55-11-2103-6000
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-8706-080-208

STEP-Z Interconnection System

5.00 [.197] Receptacles



Recommended PC Board Layout

No. of Pos.*	Dimensions			Plating	Part Numbers
	A	B	C		With Pick & Place Cap
104	22.60	16.25	8.13	SnPb	1761613-5◆
	.890	.640	.320	Pb-free	5-1761613-5
200	38.20	31.85	15.93	SnPb	1761615-5◆
	1.504	1.254	.627	Pb-free	5-1761615-5
296	53.75	47.45	23.73	SnPb	1761617-5◆
	2.116	1.868	.934	Pb-free	5-1761617-5

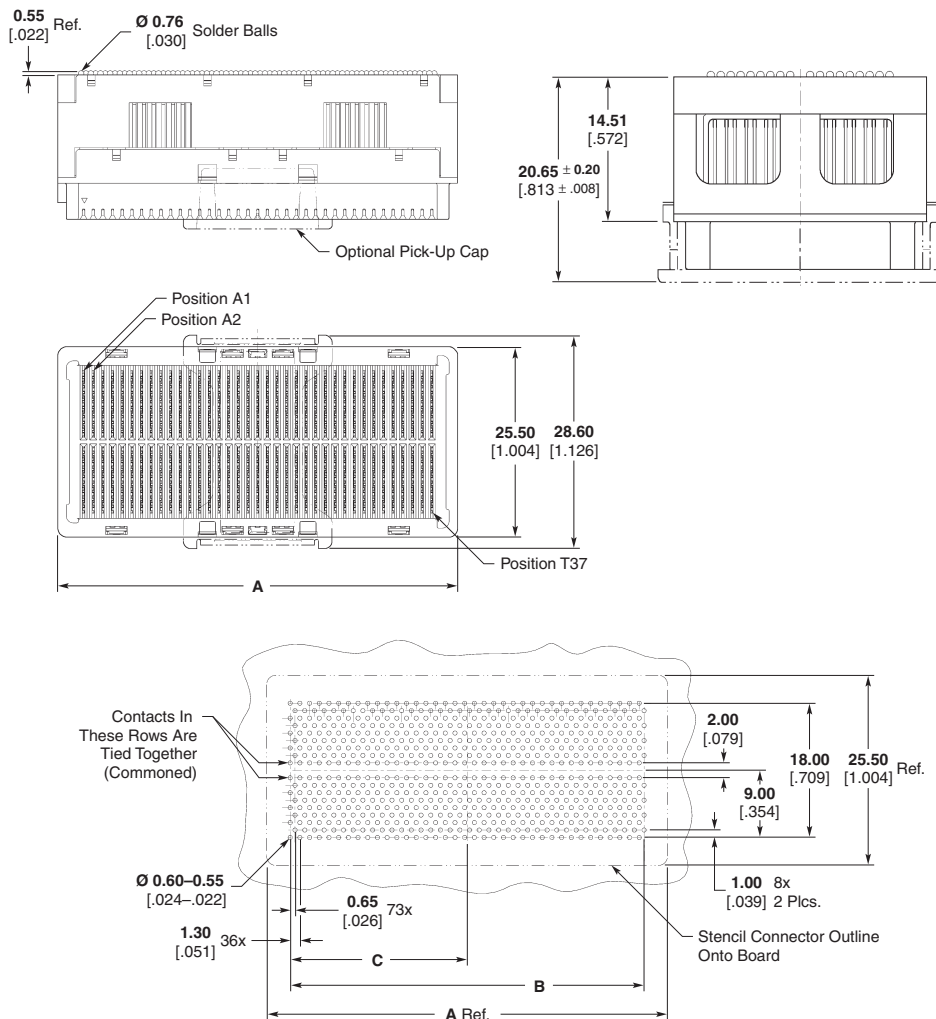
* Signal contacts only, ground contacts not included.

Tray packaged Part Numbers shown. Contact Tyco Electronics Engineering for Tape and Reel packaged versions.

Note: Part Numbers are RoHS compliant except: ◆ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

STEP-Z Interconnection System (Continued)

15.00 [.591] Receptacles



Recommended PC Board Layout

No. of Pos.*	Dimensions			Plating	Part Numbers
	A	B	C		With Pick & Place Cap
104	22.60	16.25	8.13	SnPb	1-1761613-5●
	.890	.640	.320	Pb-free	6-1761613-5
200	38.20	31.85	15.93	SnPb	1-1761615-5●
	1.504	1.254	.627	Pb-free	6-1761615-5
296	53.75	47.45	23.73	SnPb	1-1761617-5●
	2.116	1.868	.934	Pb-free	6-1761617-5

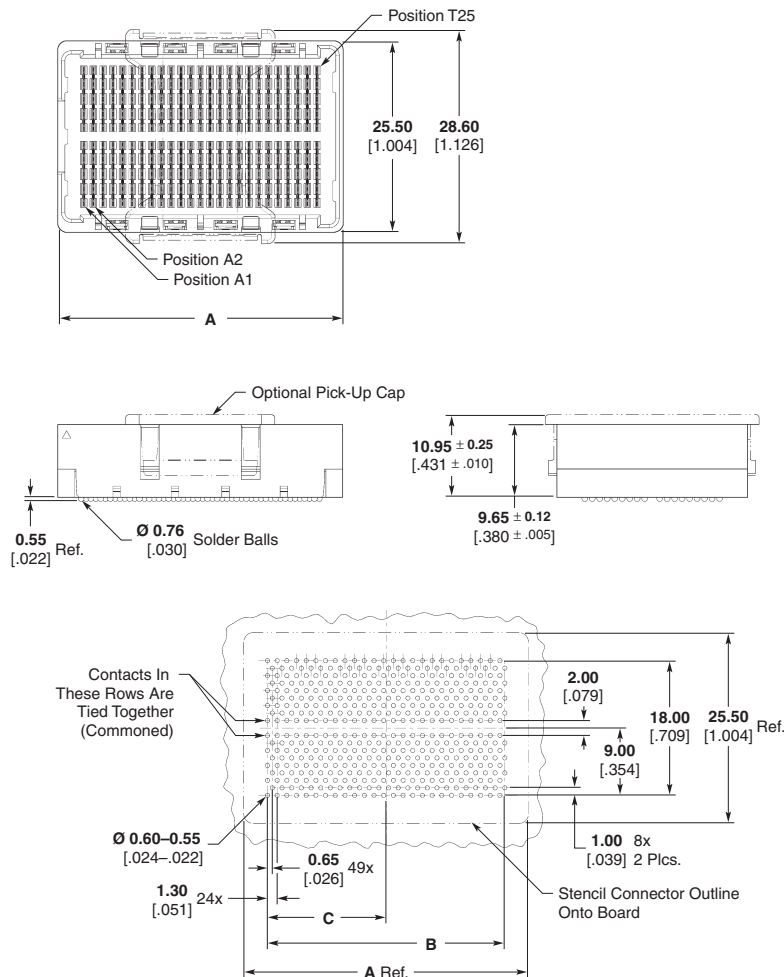
* Signal contacts only, ground contacts not included.

Tray packaged Part Numbers shown. Contact Tyco Electronics Engineering for Tape and Reel packaged versions.

Note: Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

STEP-Z Interconnection System (Continued)

10.00 [.394] Plugs



Recommended PC Board Layout

No. of Pos.*	Dimensions			Plating	Part Numbers
	A	B	C		With Pick & Place Cap
104	22.60	16.25	8.13	SnPb	1-1761612-0●
	.890	.640	.320	Pb-free	6-1761612-0
200	38.20	31.85	15.93	SnPb	1-1761614-0●
	1.504	1.254	.627	Pb-free	6-1761614-0
296	53.75	47.45	23.73	SnPb	1-1761616-0●
	2.116	1.868	.934	Pb-free	6-1761616-0

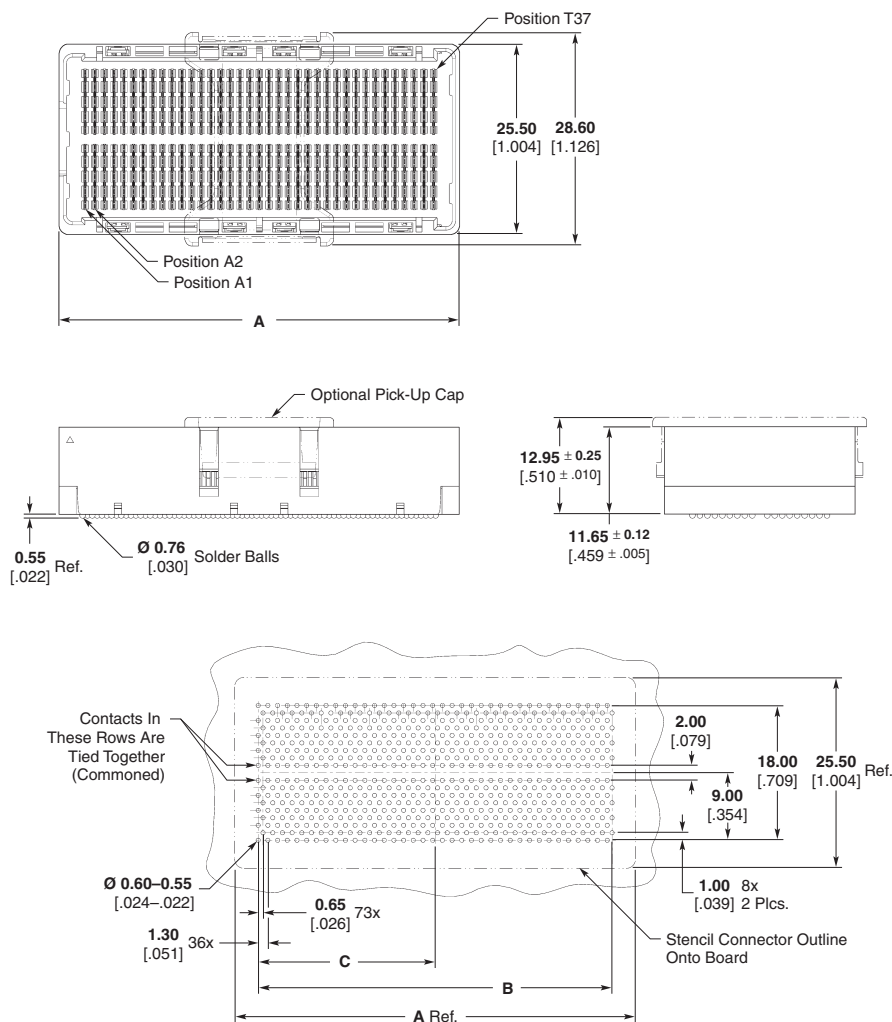
* Signal contacts only, ground contacts not included.

Tray packaged Part Numbers shown. Contact Tyco Electronics Engineering for Tape and Reel packaged versions.

Note: Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

STEP-Z Interconnection System (Continued)

12.00 [.472] Plugs



Recommended PC Board Layout

No. of Pos.*	Dimensions			Plating	Part Numbers
	A	B	C		With Pick & Place Cap
104	22.60	16.25	8.13	SnPb	1-1761612-2◆
	.890	.640	.320	Pb-free	6-1761612-2
200	38.20	31.85	15.93	SnPb	1-1761614-2◆
	1.504	1.254	.627	Pb-free	6-1761614-2
296	53.75	47.45	23.73	SnPb	1-1761616-2◆
	2.116	1.868	.934	Pb-free	6-1761616-2

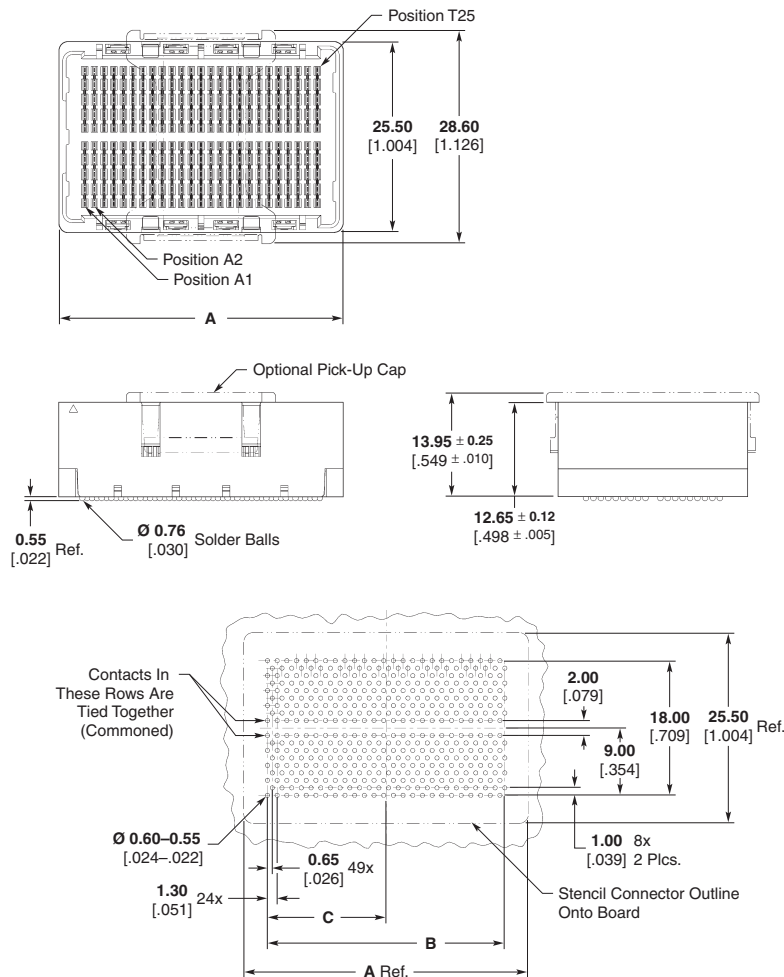
* Signal contacts only, ground contacts not included.

Tray packaged Part Numbers shown. Contact Tyco Electronics Engineering for Tape and Reel packaged versions.

Note: Part Numbers are RoHS compliant except: ◆ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

STEP-Z Interconnection System (Continued)

13.00 [.512] Plugs



Recommended PC Board Layout

No. of Pos.*	Dimensions			Plating	Part Numbers
	A	B	C		With Pick & Place Cap
104	22.60	16.25	8.13	SnPb	1-1761612-3◆
	.890	.640	.320	Pb-free	6-1761612-3
200	38.20	31.85	15.93	SnPb	1-1761614-3◆
	1.504	1.254	.627	Pb-free	6-1761614-3
296	53.75	47.45	23.73	SnPb	1-1761616-3◆
	2.116	1.868	.934	Pb-free	6-1761616-3

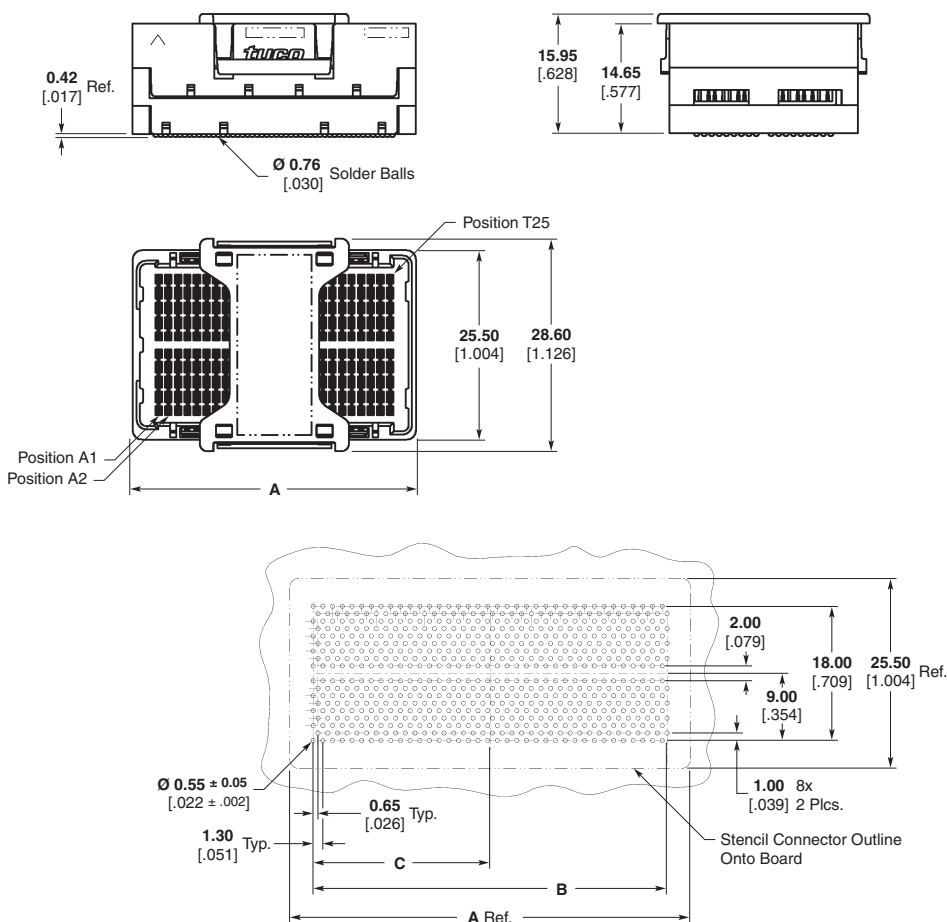
* Signal contacts only, ground contacts not included.

Tray packaged Part Numbers shown. Contact Tyco Electronics Engineering for Tape and Reel packaged versions.

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STEP-Z Interconnection System (Continued)

15.00 [.591] Plugs



Recommended PC Board Layout

No. of Pos.*	Dimensions			Plating	Part Numbers
	A	B	C		With Pick & Place Cap
104	22.60	16.25	8.13	SnPb	1-1761612-5●
	.890	.640	.320	Pb-free	6-1761612-5
200	38.20	31.85	15.93	SnPb	1-1761614-5●
	1.504	1.254	.627	Pb-free	6-1761614-5
296	53.75	47.45	23.73	SnPb	1-1761616-5●
	2.116	1.868	.934	Pb-free	6-1761616-5

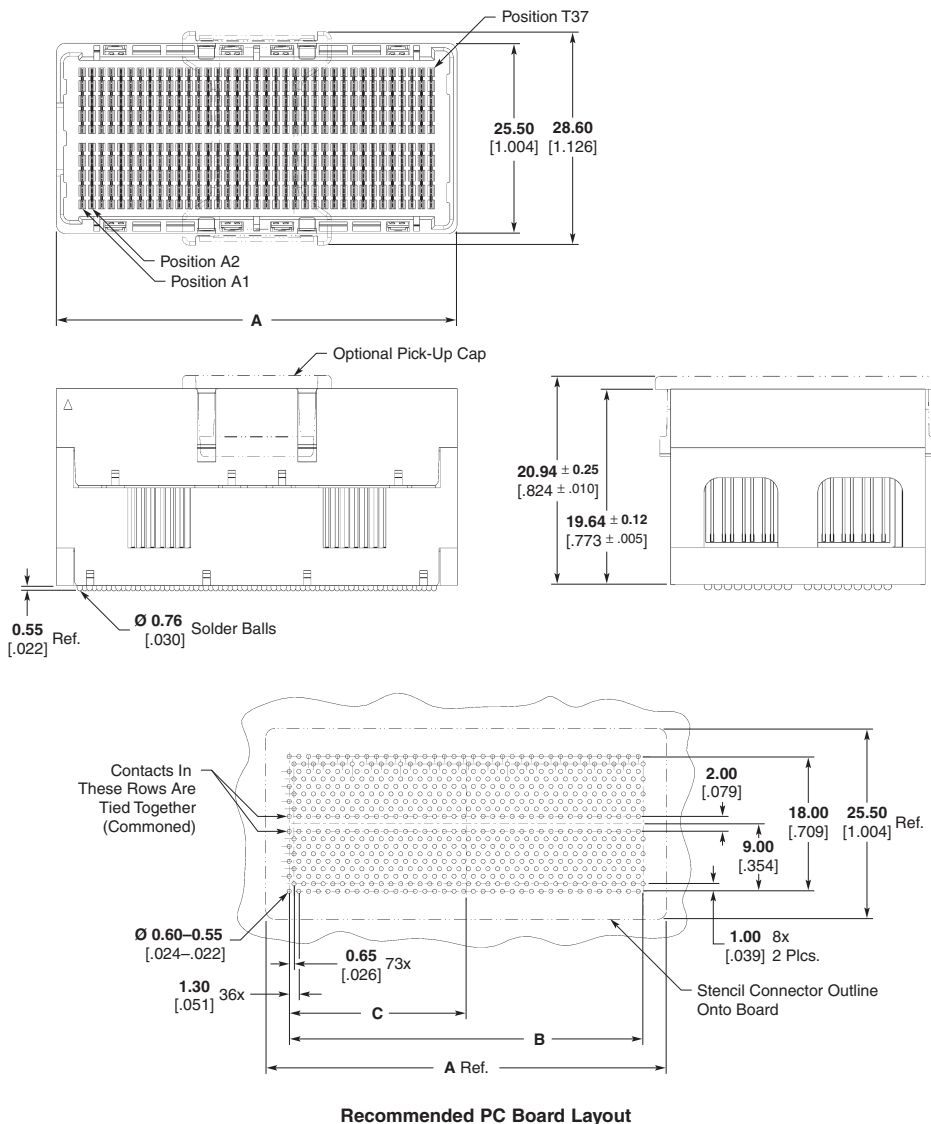
* Signal contacts only, ground contacts not included.

Tray packaged Part Numbers shown. Contact Tyco Electronics Engineering for Tape and Reel packaged versions.

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STEP-Z Interconnection System (Continued)

20.00 [.787] Plugs



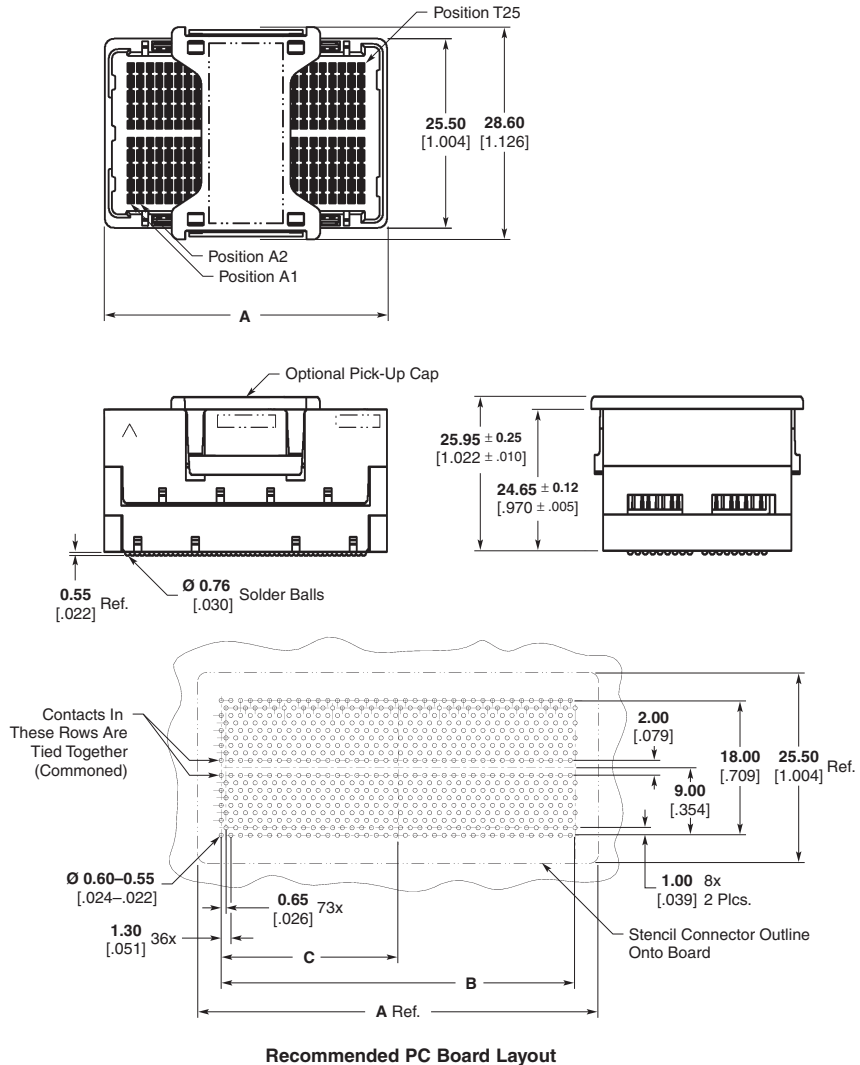
No. of Pos.*	Dimensions			Plating	Part Numbers
	A	B	C		With Pick & Place Cap
104	22.60 .890	16.25 .640	8.13 .320	SnPb	2-1761612-0●
				Pb-free	7-1761612-0
200	38.20 1.504	31.85 1.254	15.93 .627	SnPb	2-1761614-0●
				Pb-free	7-1761614-0
296	53.75 2.116	47.45 1.868	23.73 .934	SnPb	2-1761616-0●
				Pb-free	7-1761616-0

* Signal contacts only, ground contacts not included.
Tray packaged Part Numbers shown. Contact Tyco Electronics Engineering for Tape and Reel packaged versions.

Note: Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

STEP-Z Interconnection System (Continued)

25.00 [.984] Plugs



No. of Pos.*	Dimensions			Plating	Part Numbers
	A	B	C		With Pick & Place Cap
200	38.20 1.504	31.85 1.254	15.93 .627	SnPb	2-1761614-5●
				Pb-free	7-1761614-5
296	53.75 2.116	47.45 1.868	23.725 .934	SnPb	2-1761616-5●
				Pb-free	7-1761616-5

* Signal contacts only, ground contacts not included.

Tray packaged Part Numbers shown. Contact Tyco Electronics Engineering for Tape and Reel packaged versions.

Note: Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

Introduction to the MICTOR Interconnection System (0.64 [.025] Centerline)

Product Facts

- 76 dedicated signal lines per linear inch
- Surface mount family designed for parallel and right-angle board-to-board, flex-to-board and cable-to-board configurations
- 0.64 [.025] centerline contact spacing
- Redundant interfaces on mated contacts
- Fifteen mated stack heights available ranging from 6.60 [.260] to 31.90 [1.256]
- Infrared and forced air convection compatible housing materials
- Designed for 50-ohm systems
- Connector housings polarized for correct mating
- Built-in connector-to-board retention feature
- Connector can be separated by peeling from one end to the other
- Various packaging styles can be made available for automated assembly (tape and reel, tubes)
- Recognized under the Component Program of Underwriter Laboratories Inc.  File No. E28476



The MICTOR connector family is based on the microstrip concept of two rows of signal contacts divided by a center power ground plane. MICTOR connectors are mother-board and daughtercard compatible and include designs for cable-to-board applications.

Various mated heights are available for parallel board-to-board systems. Custom stacking heights can be

provided. The MICTOR connector family is available in 0.64 [.025] centerlines and in sizes ranging from 38 signal positions to 266 positions (in increments of 38 positions). There is a discrete ground bus every 12.7 [.50] of the connector length, which can be assigned to either power or ground in any combination.

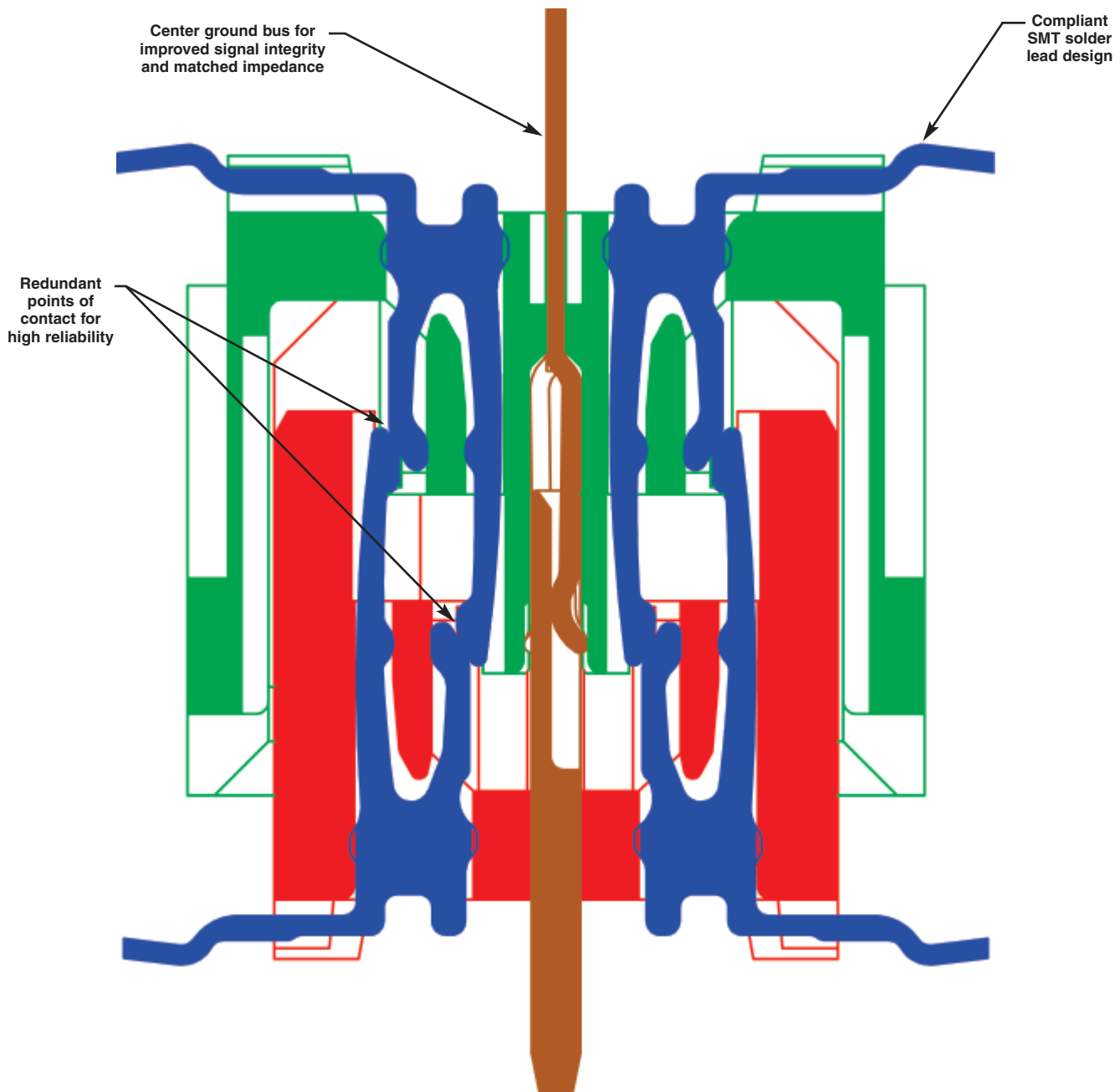
Redundant interfaces on every signal line provide added reliability. Two plating

options are available to meet the needs of various applications.

The housing material is a liquid crystal polymer, compatible with infrared and forced air convection operations.

The connector system uses the solid ground bus between the rows of signals to provide low crosstalk and excellent high-speed signal characteristics.

MICTOR Connector Cross Section



MICTOR
Interconnection System

Connectors are shown at point where signal contact first touch each other.
Connectors are designed to be fully mated when the two "Z" datums meet.

Green = Receptacle housing
Red = Plug housing
Blue = Signal contacts
Brown = Ground bus contacts

Material and Performance Specifications, MICTOR Connectors

Material Specifications

Material

Housing — Liquid crystal polymer, black

Contacts — High reliability copper alloy

Ground Bus — Phosphor bronze

Finish (Gold Plating)

Contacts and Ground Bus — Duplex plated 0.00076 [0.00030] min. gold in mating area, 0.00381 [0.00150] min. tin-lead on leads, with entire contact and ground bus underplated 0.00178 [0.00070] min. nickel

Finish (Palladium-Nickel Plating)

Contacts and Ground Bus — Duplex plated 0.000013 [0.000005] min. gold over 0.00076 [0.00030] min. palladium-nickel in mating area, 0.00381 [0.00150] min. tin-lead on leads, with entire contact and ground bus underplated 0.00178 [0.00070] min. nickel

Finish (Lead-Free Plating)

Contacts and Ground Bus — 0.00076 [0.00030] min. gold on contact area, 0.00381-0.00635 [0.00150-.000250] matte tin per ASTM B 545 on leads, all over 0.00177-0.00445 [0.00070-.000175] nickel.

Or

0.00013 [0.000005] min. gold over, 0.00076 [0.00030] min. palladium nickel on contact area, 0.00381-0.00635 [0.00150-.000250] matte tin per ASTM B 545 on leads, all over 0.00191-0.00445 [0.00075-.000175] nickel.

Performance Specifications

Ratings

Voltage — 30 vac

Current — Signal; rated 1.0 Amps, fully derated 0.5 Amps
Ground; rated 11.5 Amps, fully derated 7.6 Amps

Temperature — -55°C to +125°C

Electrical Characteristics

Characteristic Impedance — 50±5 ohms at 1 ns

Termination Resistance — ΔR 10 milliohms max.; Specification 109-6-1

Insulation Resistance — 10,000 megohms min.; Specification 109-208-1

Dielectric Withstanding Voltage — 500 vac at sea level; Specification 109-29-1

Mechanical Characteristics

Solderability — Solderable area shall have a 95% min. solder coverage; Specification 109-11-1

Vibration (Random) — No discontinuities of 1 μs or longer duration; Specification 109-21-5

Physical Shock — No discontinuities of 1 μs or longer duration; Specification 109-26-1

Durability (Tested to) — Mate and unmate samples at a rate of 600 cycles max. per hour. 25 cycles, gold plating; 500 cycles, palladium-nickel plating; Specification 109-27

Contact Retention — 1 lb min.; Specification 109-30

Mating Force — 152 oz max. per 1/2 inch of connector (1 module). Each module equals 38 signal contacts and 1 ground bus; Specification 109-42

Unmating Force — 19 oz min. per 1/2 inch of connector (1 module). Each module equals 38 signal contacts and 1 ground bus; Specification 109-42

Environmental Characteristics

Thermal Shock — Subject mated samples to 5 cycles between -55°C and +125°C; Specification 109-22

Humidity - Temperature Cycling — Subject mated samples to 10 cycles between +25°C and +65°C at 95% RH; Specification 109-23-3, Condition B

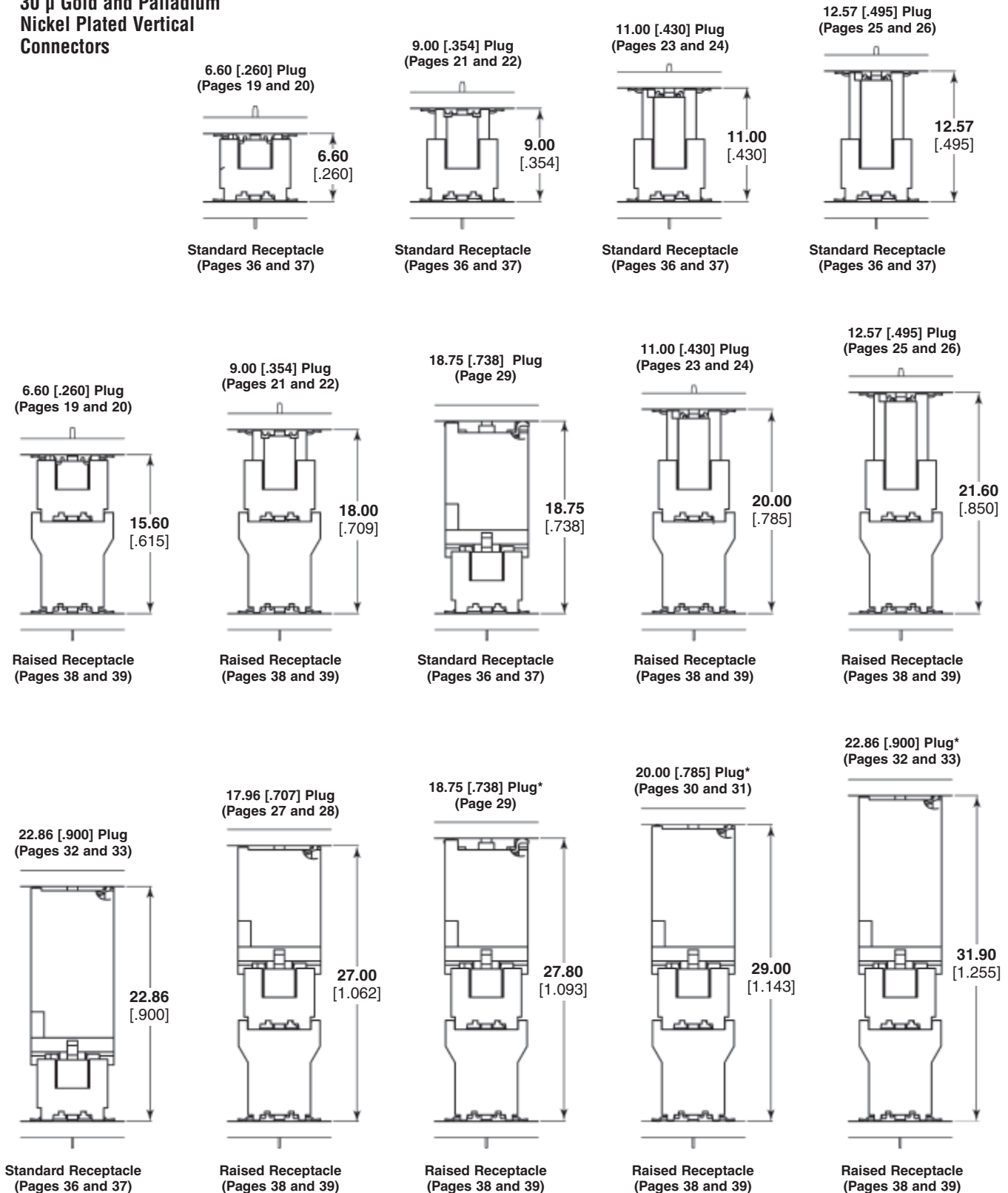
Temperature Cycling — Subject mated samples to 1024 cycles between -40°C and +60°C at 2 hours per cycle; Specification 109-75-1

Temperature Life — Subject mated samples to temperature life at +118°C for 792 hours; Specification 109-43

Mixed Flowing Gas — Subject mated samples to environmental class II for 14 days; Specification 109-85-2

MICTOR Stack Height Combinations

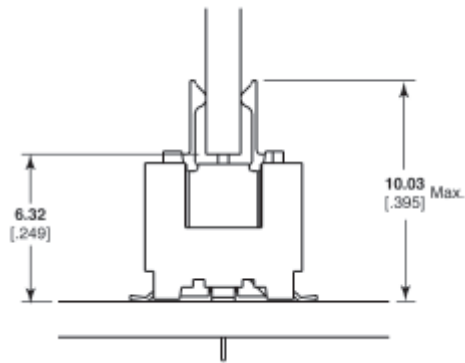
30 μ Gold and Palladium Nickel Plated Vertical Connectors



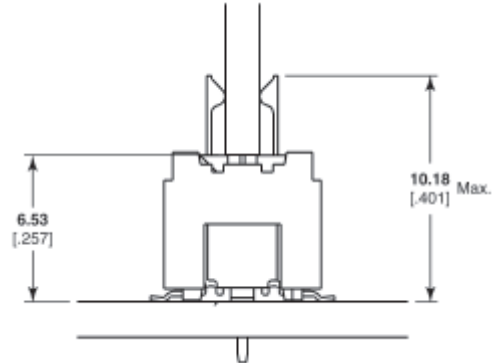
*This connector not available in Palladium Nickel.

MICTOR Right-Angle (Straddle Mount) Combinations

30 μ Gold & Palladium Nickel Connections



**Vertical Receptacle with
Right-Angle Plug**



**Vertical Plug with
Right-Angle Receptacle**

Right-angle versions are designed for paddlecard type applications. It is highly recommended that customers who are considering right-angle applications contact Tyco Electronics

Engineering to review their applications as the potential for tolerancing issues and/or issues of solder joint integrity can be highly application specific.

MICTOR Vertical Plugs

6.60 [.260] Stacking Height*

Related Product Data

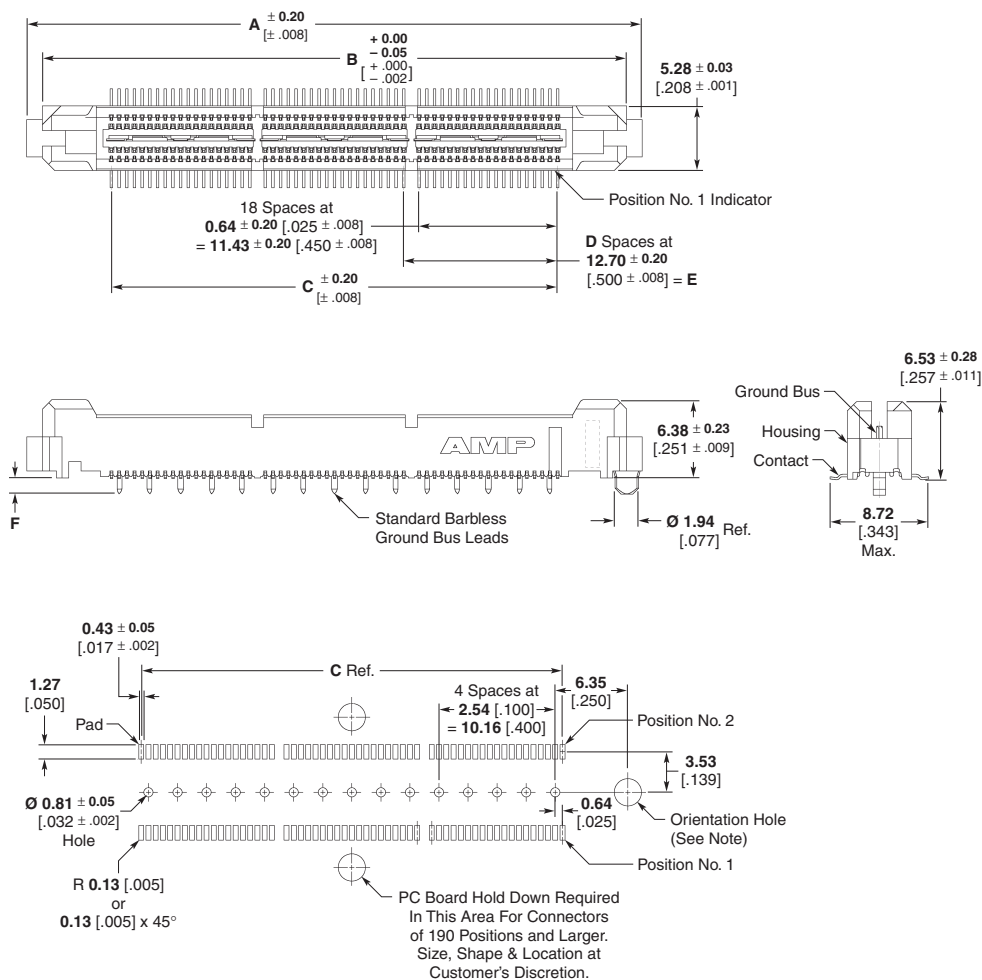
Material and Finish — page 16

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page 16

Mating Receptacles — pages 36-41

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*6.60 [.260] stack height when
mated to vertical receptacle;
15.62 [.615] stack height when
mated to vertical receptacle
(extended height).



**Recommended PC Board Layout
(Viewed from Connector Side)**

Note: For standard applications, the orientation hole must be 2.39 ± 0.05 [.094 ± .002]; For slip-fit applications, the orientation hole must be 2.00 ± 0.03 [.079 ± .001].

MICTOR Vertical Plugs (Continued)

6.60 [.260] Stacking Height (Continued)

No. of Pos.	Dimensions						Platings		Part Numbers					
	A	B	C	D	E	F	Solder Tail	Contact	Barbed G/B Leads			Barbless G/B Leads		
									Tube	T&R Vacuum Caps		Tube	T&R Vacuum Caps	
										With	Without		With	Without
38	25.40 1.000	22.81 .898	11.43 .450	0	—	1.35 [.053]	SnPb	Gold	767007-8●	767111-8●	767111-1●	767116-1●	767118-1●	767118-8●
						2.72 [.107]		PdNi	767056-1●	—	—	—	—	—
						2.64 [.104]	Pb-free	Gold	5767007-8	5767111-8	5767111-1	5767117-1●	5767119-1●	5767119-8●
						1.35 [.053]		PdNi	5767056-1	—	—	—	—	—
						2.72 [.107]		Gold	5767007-8	5767111-8	5767111-1	5767117-1	5767119-1	5767119-8
						2.64 [.104]		PdNi	—	—	—	5767117-1	5767119-1	5767119-8
76	38.10 1.500	31.70 1.248	24.13 .950	1	12.70 .500	1.35 [.053]	SnPb	Gold	767007-9●	767111-9●	767111-2●	767116-2●	767118-2●	767118-9●
						2.72 [.107]		PdNi	767056-2●	—	—	—	—	—
						2.64 [.104]	Pb-free	Gold	5767007-9	5767111-9	5767111-2	5767117-2●	5767119-2●	5767119-9●
						1.35 [.053]		PdNi	5767056-2	—	—	—	—	—
						2.72 [.107]		Gold	5767007-9	5767111-9	5767111-2	5767117-2	5767119-2	5767119-9
						2.64 [.104]		PdNi	—	—	—	5767117-2	5767119-2	5767119-9
114	50.80 2.000	48.21 1.898	36.83 1.450	2	25.40 1.000	1.35 [.053]	SnPb	Gold	1-767007-0●	1-767111-0●	767111-3●	767116-3●	767118-3●	1-767118-0●
						2.72 [.107]		PdNi	767056-3●	—	—	—	—	—
						2.64 [.104]	Pb-free	Gold	1-5767007-0	1-5767111-0	5767111-3	5767117-3●	5767119-3●	1-5767119-0●
						1.35 [.053]		PdNi	5767056-3	—	—	—	—	—
						2.72 [.107]		Gold	1-5767007-0	1-5767111-0	5767111-3	5767117-3	5767119-3	1-5767119-0
						2.64 [.104]		PdNi	—	—	—	5767117-3	5767119-3	1-5767119-0
152	63.50 2.500	60.91 2.398	49.53 1.950	3	38.10 1.500	1.35 [.053]	SnPb	Gold	1-767007-1●	1-767111-1●	767111-4●	767116-4●	767118-4●	1-767118-1●
						2.72 [.107]		PdNi	767056-4●	—	—	—	—	—
						2.64 [.104]	Pb-free	Gold	1-5767007-1	1-5767111-1	5767111-4	5767117-4●	5767119-4●	1-767119-1●
						1.35 [.053]		PdNi	5767056-4	—	—	—	—	—
						2.72 [.107]		Gold	1-5767007-1	1-5767111-1	5767111-4	5767117-4	5767119-4	1-5767119-1
						2.64 [.104]		PdNi	—	—	—	5767117-4	5767119-4	1-5767119-1
190	76.20 3.000	73.61 2.898	62.23 2.450	4	50.80 2.000	1.35 [.053]	SnPb	Gold	1-767007-2●	1-767111-2●	767111-5●	767116-5●	767118-5●	1-767118-2●
						2.72 [.107]		PdNi	767056-5●	—	—	—	—	—
						2.64 [.104]	Pb-free	Gold	1-5767007-2	1-5767111-2	5767111-5	5767117-5●	5767119-5●	1-767119-2●
						1.35 [.053]		PdNi	5767056-5	—	—	—	—	—
						2.72 [.107]		Gold	1-5767007-2	1-5767111-2	5767111-5	5767117-5	5767119-5	1-5767119-2
						2.64 [.104]		PdNi	—	—	—	5767117-5	5767119-5	1-5767119-2
228	88.90 3.500	86.31 3.398	74.93 2.950	5	63.50 2.500	1.35 [.053]	SnPb	Gold	1-767007-3●	—	—	767116-6●	—	—
						2.72 [.107]		PdNi	767056-6●	—	—	—	—	—
						2.64 [.104]	Pb-free	Gold	1-5767007-3	—	—	767117-6●	—	—
						1.35 [.053]		PdNi	5767056-6	—	—	—	—	—
						2.72 [.107]		Gold	1-5767007-3	—	—	5767116-6	—	—
						2.64 [.104]		PdNi	—	—	—	5767117-6	—	—
266	101.60 4.000	99.01 3.898	87.63 3.450	6	76.20 3.000	1.35 [.053]	SnPb	Gold	1-767007-4●	—	—	767116-7●	—	—
						2.72 [.107]		PdNi	767056-7●	—	—	—	—	—
						2.64 [.104]	Pb-free	Gold	1-5767007-4	—	—	767117-7●	—	—
						1.35 [.053]		PdNi	5767056-7	—	—	—	—	—
						2.72 [.107]		Gold	1-5767007-4	—	—	5767116-7	—	—
						2.64 [.104]		PdNi	—	—	—	5767117-7	—	—

Notes: 1. Contact Product Engineering regarding options not present in this table.

2. T&R vacuum caps are placed on some connectors to allow them to be picked up with robotic placement equipment that uses vacuum pick-up nozzles.

Note: Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

MICTOR Vertical Plugs (Continued)

9.00 [.354] Stacking Height*

Related Product Data

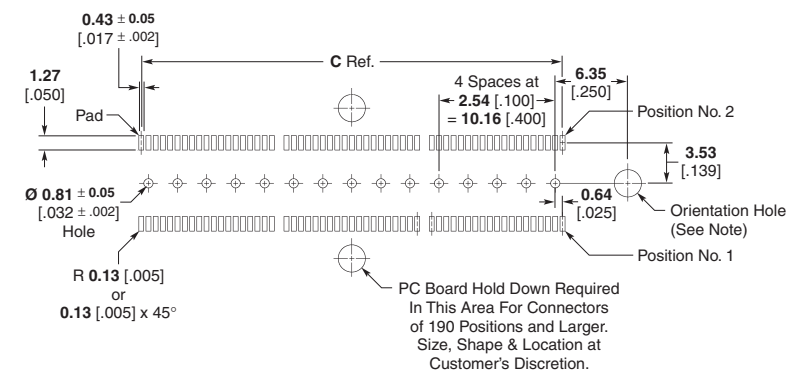
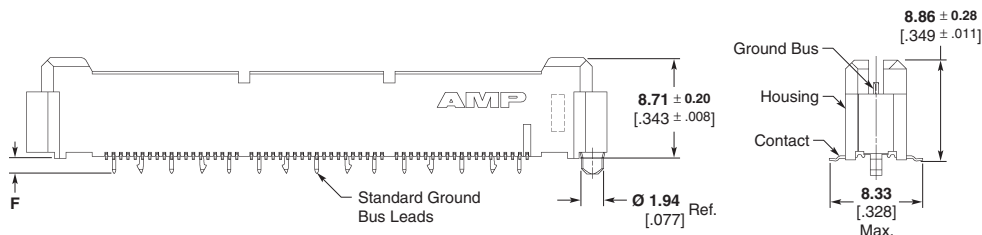
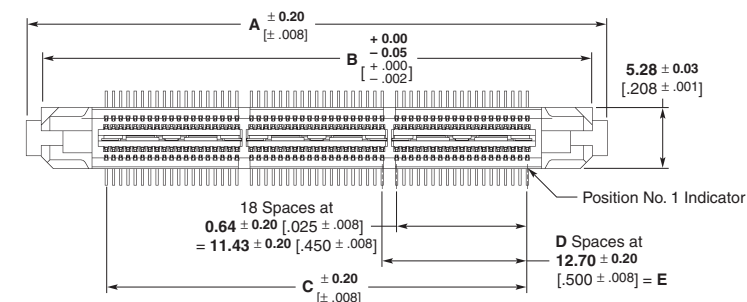
Material and Finish — page 16

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page 16

Mating Receptacles — pages 36-41

Technical Documents — page 81

* 9.00 [.354] stack height when
mated to vertical receptacle;
18.00 [.709] stack height when
mated to vertical receptacle
(extended height).



Recommended PC Board Layout (Viewed from Connector Side)

Note: For standard applications, the orientation hole must be 2.39 ± 0.05 [0.094 ±.002]; For slip-fit applications, the orientation hole must be 2.00 ± 0.03 [0.079 ±.001].

MICTOR Vertical Plugs (Continued)

9.00 [.354] Stacking Height (Continued)

No. of Pos.	Dimensions						Platings		Part Numbers	
	A	B	C	D	E	F	Solder Tail	Contact	Barbed G/B Leads	
									Tube	
38	25.40 1.000	22.81 .898	11.43 .450	0	—	1.52 [.060]	SnPb	Gold	767139-1●	
						2.74 [.108]		PdNi	767140-1●	
						1.52 [.060]	Pb-free	Gold	5767139-1	
						2.74 [.108]		PdNi	5767140-1	
76	38.10 1.500	31.70 1.248	24.13 .950	1	12.70 .500	1.52 [.060]	SnPb	Gold	767139-2●	
						2.74 [.108]		PdNi	767140-2●	
						1.52 [.060]	Pb-free	Gold	5767139-2	
						2.74 [.108]		PdNi	5767140-2	
114	50.80 2.000	48.21 1.898	36.83 1.450	2	25.40 1.000	1.52 [.060]	SnPb	Gold	767139-3●	
						2.74 [.108]		PdNi	767140-3●	
						1.52 [.060]	Pb-free	Gold	5767139-3	
						2.74 [.108]		PdNi	5767140-3	
152	63.50 2.500	60.91 2.398	49.53 1.950	3	38.10 1.500	1.52 [.060]	SnPb	Gold	767139-4●	
						2.74 [.108]		PdNi	767140-4●	
						1.52 [.060]	Pb-free	Gold	5767139-4	
						2.74 [.108]		PdNi	5767140-4	
190	76.20 3.000	73.61 2.898	62.23 2.450	4	50.80 2.000	1.52 [.060]	SnPb	Gold	767139-5●	
						2.74 [.108]		PdNi	767140-5●	
						1.52 [.060]	Pb-free	Gold	5767139-5	
						2.74 [.108]		PdNi	5767140-5	
228	88.90 3.500	86.31 3.398	74.93 2.950	5	63.50 2.500	1.52 [.060]	SnPb	Gold	767139-6●	
						2.74 [.108]		PdNi	767140-6●	
						1.52 [.060]	Pb-free	Gold	5767139-6	
						2.74 [.108]		PdNi	5767140-6	
266	101.60 4.000	99.01 3.898	87.63 3.450	6	76.20 3.000	1.52 [.060]	SnPb	Gold	767139-7●	
						2.74 [.108]		PdNi	767140-7●	
						1.52 [.060]	Pb-free	Gold	5767139-7	
						2.74 [.108]		PdNi	5767140-7	

Note: Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

MICTOR Vertical Plugs (Continued)

11.00 [.430] Stacking Height*

Related Product Data

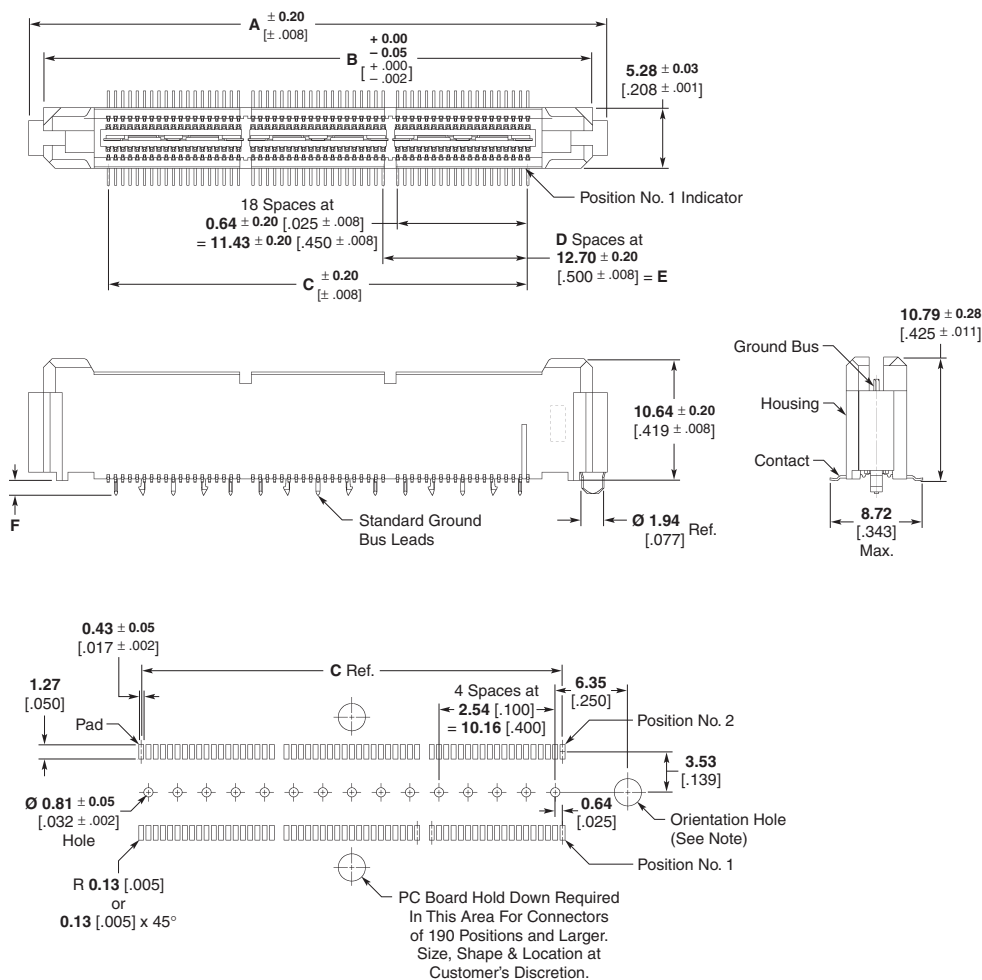
Material and Finish — page 16

Performance Characteristics —
page 16

Mating Receptacles — pages 36-41

Technical Documents — page 81

* 11.00 [.430] stack height when
mated to vertical receptacle;
19.94 [.785] stack height when
mated to vertical receptacle
(extended height).



**Recommended PC Board Layout
(Viewed from Connector Side)**

Note: For standard applications, the orientation hole must be 2.39 ± 0.05 [$.094 \pm .002$]; For slip-fit applications, the orientation hole must be 2.00 ± 0.03 [$.079 \pm .001$].

MICTOR Vertical Plugs (Continued)

11.00 [.430] Stacking Height (Continued)

No. of Pos.	Dimensions						Platings		Part Numbers					
	A	B	C	D	E	F	Solder Tail	Contact	Barbed G/B Leads			Barbless G/B Leads		
									Tube	T&R Vacuum Caps		Tube	T&R Vacuum Caps	
										With	Without		With	Without
38	25.40 1.000	22.81 .898	11.43 .450	0	—	1.52 [.060]	SnPb	Gold	767003-9●	767123-8●	767123-1●	—	—	—
						2.64 [.104]		PdNi	767087-1●	—	—	—	—	—
						1.52 [.060]	Pb-free	Gold	5767003-9	5767123-8	5767123-1	—	—	—
						2.64 [.104]		PdNi	5767087-1	—	—	—	—	—
76	38.10 1.500	31.70 1.248	24.13 .950	1	12.70 .500	1.52 [.060]	SnPb	Gold	1-767003-0●	767123-9●	767123-2●	—	—	—
						2.64 [.104]		PdNi	767087-2●	—	—	—	—	—
						1.52 [.060]	Pb-free	Gold	1-5767003-0	5767123-9	5767123-2	—	—	—
						2.64 [.104]		PdNi	5767087-2	—	—	—	—	—
114	50.80 2.000	48.21 1.898	36.83 1.450	2	25.40 1.000	1.52 [.060]	SnPb	Gold	1-767003-1●	1-767123-0●	767123-3●	1-767182-3●	1-767183-0●	—
						2.64 [.104]		PdNi	767087-3●	—	—	—	—	—
						1.52 [.060]	Pb-free	Gold	1-5767003-1	1-5767123-0	5767123-3	1-5767182-3	1-5767183-0	—
						2.64 [.104]		PdNi	5767087-3	—	—	—	—	—
152	63.50 2.500	60.91 2.398	49.53 1.950	3	38.10 1.500	1.52 [.060]	SnPb	Gold	767003-8●	—	—	—	—	—
						2.64 [.104]		PdNi	767087-4●	—	—	—	—	—
						1.52 [.060]	Pb-free	Gold	5767003-8	—	—	—	—	—
						2.64 [.104]		PdNi	5767087-4	—	—	—	—	—
190	76.20 3.000	73.61 2.898	62.23 2.450	4	50.80 2.000	1.52 [.060]	SnPb	Gold	1-767003-2●	1-767123-2●	767123-5●	—	—	—
						2.64 [.104]		PdNi	767087-5●	—	—	—	—	—
						1.52 [.060]	Pb-free	Gold	1-5767003-2	1-5767123-2	5767123-5	—	—	—
						2.64 [.104]		PdNi	5767087-5	—	—	—	—	—
228	88.90 3.500	86.31 3.398	74.93 2.950	5	63.50 2.500	1.52 [.060]	SnPb	Gold	1-767003-3●	—	—	—	—	—
						2.64 [.104]		PdNi	767087-6●	—	—	—	—	—
						1.52 [.060]	Pb-free	Gold	1-5767003-3	—	—	—	—	—
						2.64 [.104]		PdNi	5767087-6	—	—	—	—	—
266	101.60 4.000	99.01 3.898	87.63 3.450	6	76.20 3.000	1.52 [.060]	SnPb	Gold	1-767003-4●	—	—	—	—	—
						2.64 [.104]		PdNi	767087-7●	—	—	—	—	—
						1.52 [.060]	Pb-free	Gold	1-5767003-4	—	—	—	—	—
						2.64 [.104]		PdNi	5767087-7	—	—	—	—	—

Note: Contact Product Engineering regarding options not present in this table.

Note: Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

MICTOR Vertical Plugs (Continued)

12.57 [.495] Stacking Height*

Related Product Data

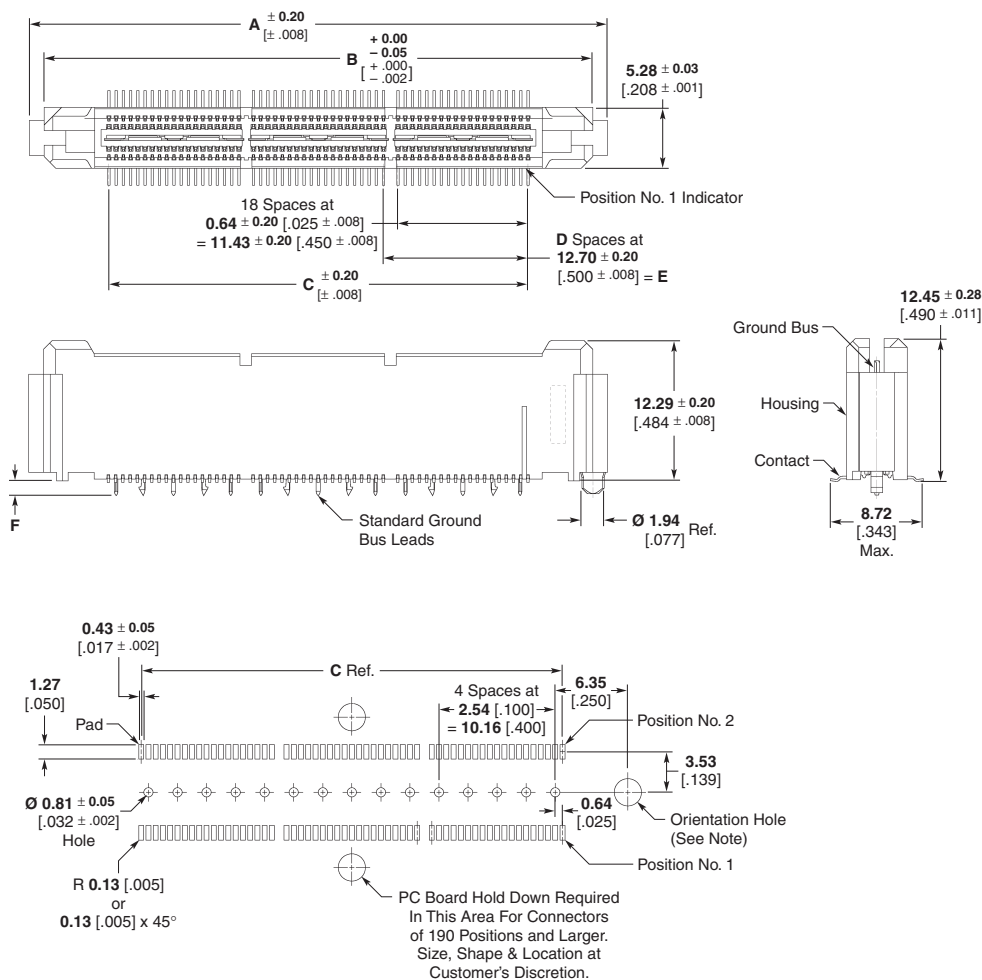
Material and Finish — page 16

Performance Characteristics —
page 16

Mating Receptacles — pages 36-41

Technical Documents — page 81

* 12.57 [.495] stack height when
mated to vertical receptacle;
21.59 [.850] stack height when
mated to vertical receptacle
(extended height).



**Recommended PC Board Layout
(Viewed from Connector Side)**

Note: For standard applications, the orientation hole must be 2.39 ± 0.05 [$.094 \pm .002$]; For slip-fit applications, the orientation hole must be 2.00 ± 0.03 [$.079 \pm .001$].

MICTOR Vertical Plugs (Continued)

12.57 [.495] Stacking Height (Continued)

No. of Pos.	Dimensions						Platings		Part Numbers					
									Barbed G/B Leads			Barbless G/B Leads		
	A	B	C	D	E	F	Solder Tail	Contact	Tube	T&R Vacuum Caps		Tube	T&R Vacuum Caps	
										With	Without		With	Without
38	25.40 1.000	22.81 .898	11.43 .450	0	—	1.52 [.060]	SnPb	Gold	767005-8●	767149-1●	767149-8●	767120-1●	767121-1●	767121-8●
						2.64 [.104]		PdNi	767057-1●	—	—	767082-1●	—	—
						1.52 [.060]	Pb-free	Gold	5767005-8	5767149-1	5767149-8	5767120-1	5767121-1	5767121-8
						2.64 [.104]		PdNi	5767057-1	—	—	5767082-1	—	—
76	38.10 1.500	31.70 1.248	24.13 .950	1	12.70 .500	1.52 [.060]	SnPb	Gold	767005-9●	767149-2●	767149-9●	767120-2●	767121-2●	767121-9●
						2.64 [.104]		PdNi	767057-2●	—	—	767082-2●	—	—
						1.52 [.060]	Pb-free	Gold	5767005-9	5767149-2	5767149-9	5767120-2	5767121-2	5767121-9
						2.64 [.104]		PdNi	5767057-2	—	—	5767082-2	—	—
114	50.80 2.000	48.21 1.898	36.83 1.450	2	25.40 1.000	1.52 [.060]	SnPb	Gold	1-767005-0●	767149-3●	1-767149-0●	767120-3●	767121-3●	1-767121-0●
						2.64 [.104]		PdNi	767057-3●	—	—	767082-3●	—	—
						1.52 [.060]	Pb-free	Gold	1-5767005-0	5767149-3	1-5767149-0	5767120-3	5767121-3	1-5767121-0
						2.64 [.104]		PdNi	5767057-3	—	—	5767082-3	—	—
152	63.50 2.500	60.91 2.398	49.53 1.950	3	38.10 1.500	1.52 [.060]	SnPb	Gold	1-767005-1●	767149-4●	1-767149-1●	767120-4●	767121-4●	1-767121-1●
						2.64 [.104]		PdNi	767057-4●	—	—	767082-4●	767127-4●	1-767127-1●
						1.52 [.060]	Pb-free	Gold	1-5767005-1	5767149-4	1-5767149-1	5767120-4	5767121-4	1-5767121-1
						2.64 [.104]		PdNi	5767057-4	—	—	5767082-4	5767127-4	1-5767127-1
190	76.20 3.000	73.61 2.898	62.23 2.450	4	50.80 2.000	1.52 [.060]	SnPb	Gold	1-767005-2●	767149-5●	1-767149-2●	767120-5●	—	—
						2.64 [.104]		PdNi	767057-5●	—	—	767082-5●	767127-5●	1-767121-2●
						1.52 [.060]	Pb-free	Gold	1-5767005-2	5767149-5	1-5767149-2	5767120-5	—	—
						2.64 [.104]		PdNi	5767057-5	—	—	5767082-5	5767127-5	1-5767121-2
228	88.90 3.500	86.31 3.398	74.93 2.950	5	63.50 2.500	1.52 [.060]	SnPb	Gold	1-767005-3●	—	—	767120-6●	—	—
						2.64 [.104]		PdNi	767057-6●	—	—	767082-6●	—	—
						1.52 [.060]	Pb-free	Gold	1-5767005-3	—	—	5767120-6	—	—
						2.64 [.104]		PdNi	5767057-6	—	—	5767082-6	—	—
266	101.60 4.000	99.01 3.898	87.63 3.450	6	76.20 3.000	1.52 [.060]	SnPb	Gold	1-767005-4●	—	—	767120-7●	—	—
						2.64 [.104]		PdNi	767057-7●	—	1-767151-4●	767082-7●	—	—
						1.52 [.060]	Pb-free	Gold	1-5767005-4	—	—	5767120-7	—	—
						2.64 [.104]		PdNi	5767057-7	—	1-5767151-4	5767082-7	—	—

Note: Contact Product Engineering regarding options not present in this table.

Note: Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

MICTOR Vertical Plugs (Continued)

17.96 [.707] Stacking Height*

Related Product Data

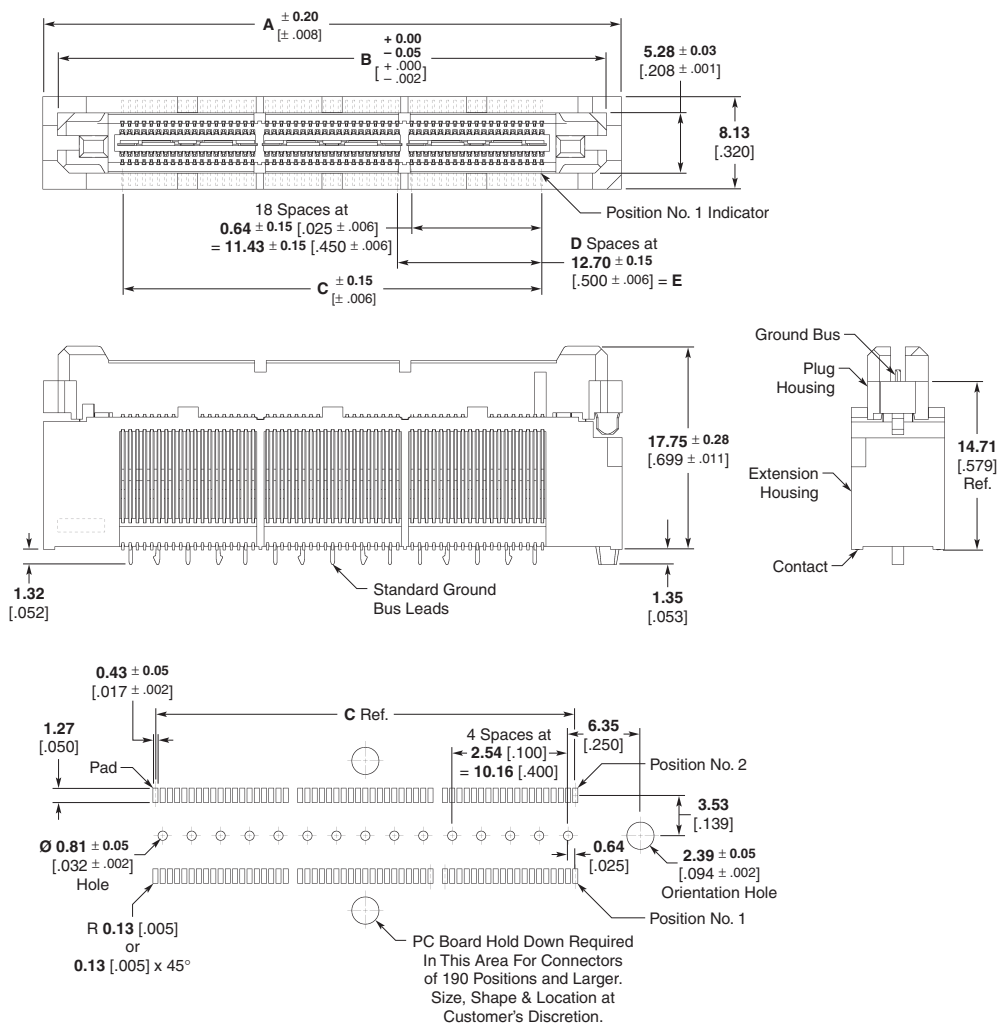
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* 17.96 [.707] stack height when
mated to vertical receptacle;
27.00 [1.062] stack height when
mated to vertical receptacle
(extended height).



Recommended PC Board Layout (Connector Side of Board Shown)

- Notes:** 1. For dual application, the orientation hole must be 1.98 ± 0.03 [.078 ± .001]. See Application Specification 114-11004 for details.
2. Connectors with extended ground bus leads can be made available, consult Tyco Electronics.

MICTOR Vertical Plugs (Continued)

17.96 [.707] Stacking Height (Continued)

No. of Pos.	Dimensions					Plating	Part Numbers
	A	B	C	D	E		
38	25.40	22.81	11.43	0	0.00	SnPb	767025-1●
	1.000	.898	.450			Pb-free	5767025-1
76	38.10	35.51	24.13	1	12.70	SnPb	767025-2●
	1.500	1.398	.950			Pb-free	5767025-2
114	50.80	48.21	36.83	2	25.40	SnPb	767025-3●
	2.000	1.898	1.450			Pb-free	5767025-3
152	63.50	60.91	49.53	3	38.10	SnPb	767025-4●
	2.500	2.398	1.950			Pb-free	5767025-4
190	76.20	73.61	62.23	4	50.80	SnPb	767025-5●
	3.000	2.898	2.450			Pb-free	5767025-5
228	88.90	86.31	74.93	5	63.50	SnPb	767025-6●
	3.500	3.398	2.950			Pb-free	5767025-6
266	101.60	99.00	87.63	6	76.20	SnPb	767025-7●
	4.000	3.898	3.450			Pb-free	5767025-7

Note: Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

MICTOR Vertical Plugs (Continued)

18.75 [.738] Stacking Height*

Related Product Data

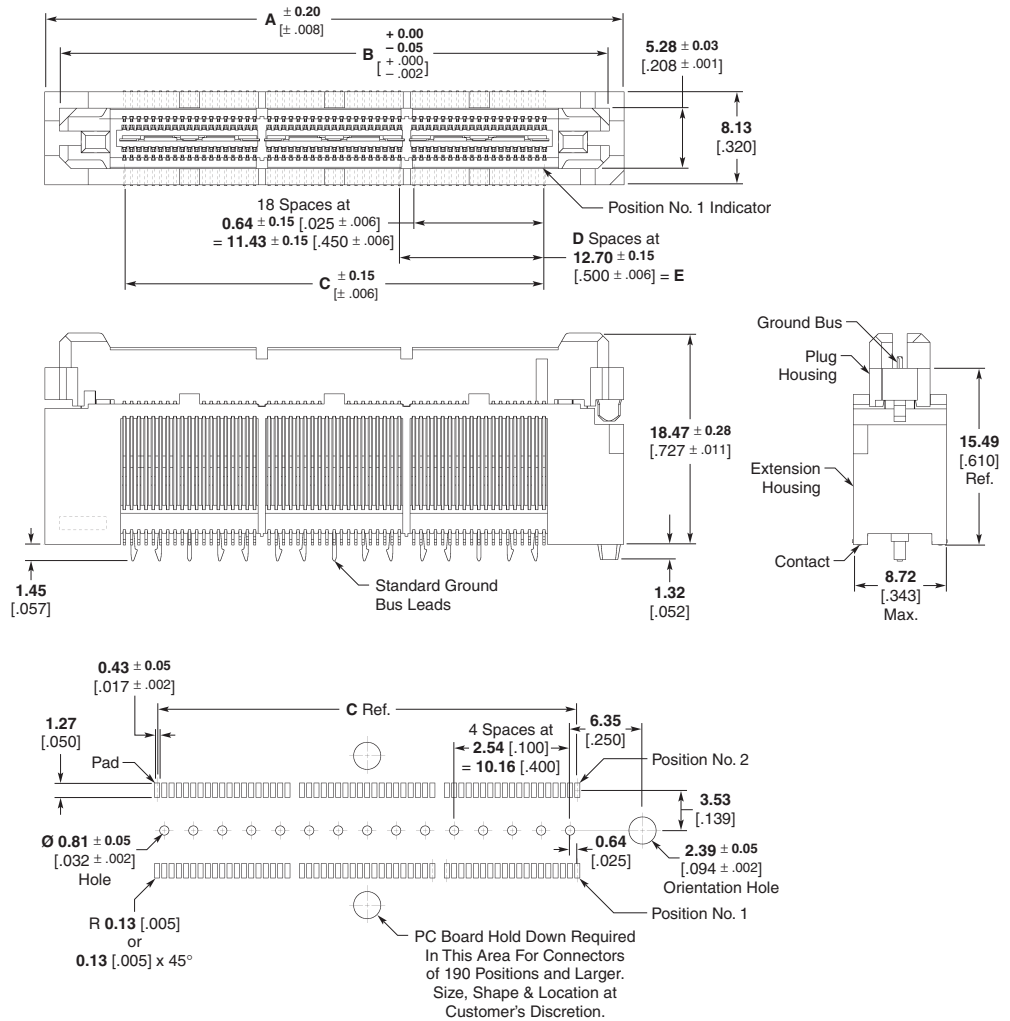
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* 18.75 [.738] stack height when
mated to vertical receptacle;
27.80 [1.093] stack height when
mated to vertical receptacle
(extended height).



Recommended PC Board Layout
(Connector Side of Board Shown)

No. of Pos.	Dimensions					Plating	Part Numbers
	A	B	C	D	E		
38	25.40	22.81	11.43	0	0.00	SnPb	767042-1◆
	1.000	.898	.450		.000	Pb-free	5767042-1
76	38.10	35.51	24.13	1	12.70	SnPb	767042-2◆
	1.500	1.398	.950		.500	Pb-free	5767042-2
114	50.80	48.21	36.83	2	25.40	SnPb	767042-3◆
	2.000	1.898	1.450		1.000	Pb-free	5767042-3
152	63.50	60.91	49.53	3	38.10	SnPb	767042-4◆
	2.500	2.398	1.950		1.500	Pb-free	5767042-4
190	76.20	73.61	62.23	4	50.80	SnPb	767042-5◆
	3.000	2.898	2.450		2.000	Pb-free	5767042-5
228	88.90	86.31	74.93	5	63.50	SnPb	767042-6◆
	3.500	3.398	2.950		2.500	Pb-free	5767042-6
266	101.60	99.00	87.63	6	76.20	SnPb	767042-7◆
	4.000	3.898	3.450		3.000	Pb-free	5767042-7

Note: Part Numbers are RoHS compliant except: ◆ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

MICTOR Vertical Plugs (Continued)

20.00 [.785] Stacking Height*

Related Product Data

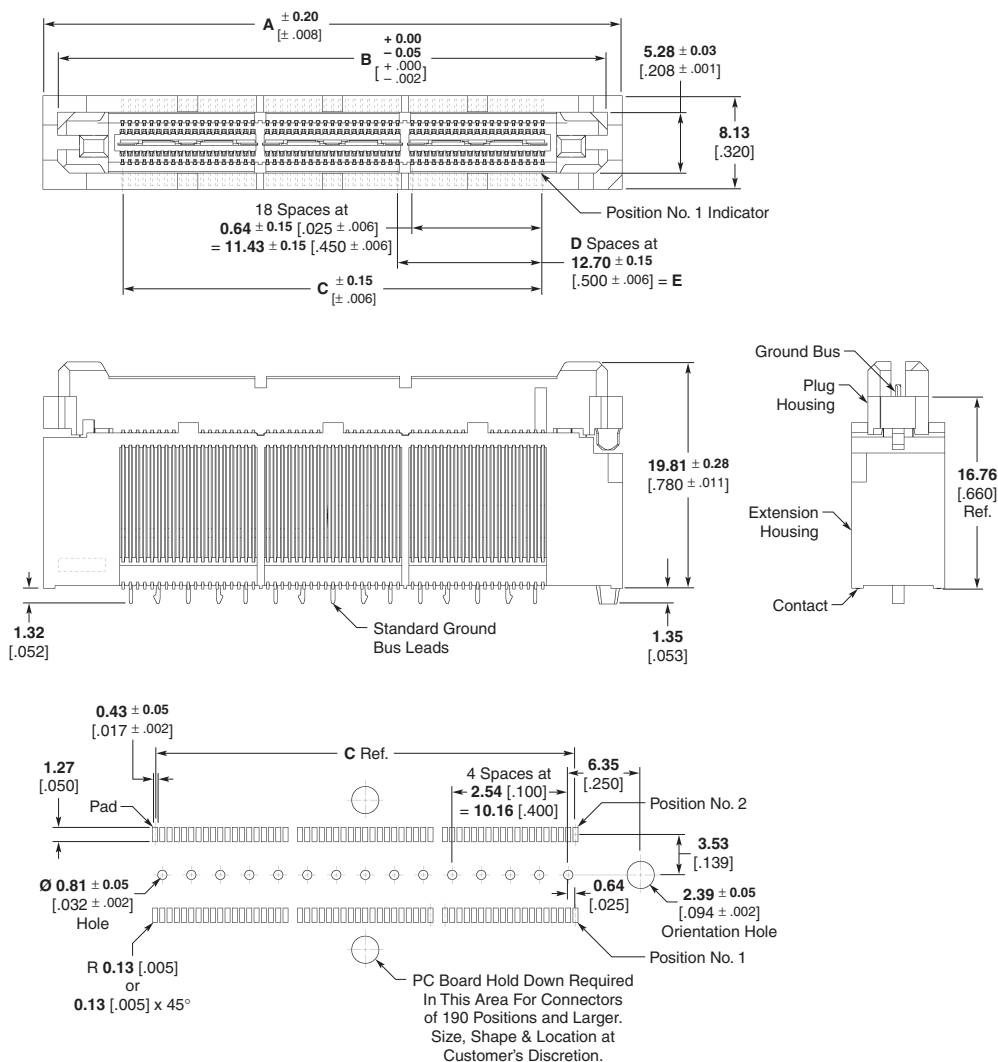
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* 20.02 [.788] stack height when
mated to vertical receptacle;
29.00 [1.143] stack height when
mated to vertical receptacle
(extended height).



Recommended PC Board Layout (Connector Side of Board Shown)

Notes: 1. For dual application, the orientation hole must be 1.98 ± 0.03 [.078 $\pm .001$].

See Application Specification 114-11004 for details.

2. Connectors with extended ground bus leads can be made available, consult Tyco Electronics.

MICTOR Vertical Plugs (Continued)

20.00 [.785] Stacking Height (Continued)

No. of Pos.	Dimensions					Plating	Part Numbers
	A	B	C	D	E		
38	25.40	22.81	11.43	0	0.00	SnPb	767032-1●
	1.000	.898	.450		.000	Pb-free	5767032-1
76	38.10	35.51	24.13	1	12.70	SnPb	767032-2●
	1.500	1.398	.950		.500	Pb-free	5767032-2
114	50.80	48.21	36.83	2	25.40	SnPb	767032-3●
	2.000	1.898	1.450		1.000	Pb-free	5767032-3
152	63.50	60.91	49.53	3	38.10	SnPb	767032-4●
	2.500	2.398	1.950		1.500	Pb-free	5767032-4
190	76.20	73.61	62.23	4	50.80	SnPb	767032-5●
	3.000	2.898	2.450		2.000	Pb-free	5767032-5
228	88.90	86.31	74.93	5	63.50	SnPb	767032-6●
	3.500	3.398	2.950		2.500	Pb-free	5767032-6
266	101.60	99.00	87.63	6	76.20	SnPb	767032-7●
	4.000	3.898	3.450		3.000	Pb-free	5767032-7

Note: Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

MICTOR Vertical Plugs (Continued)

22.86 [.900] Stacking Height*

Related Product Data

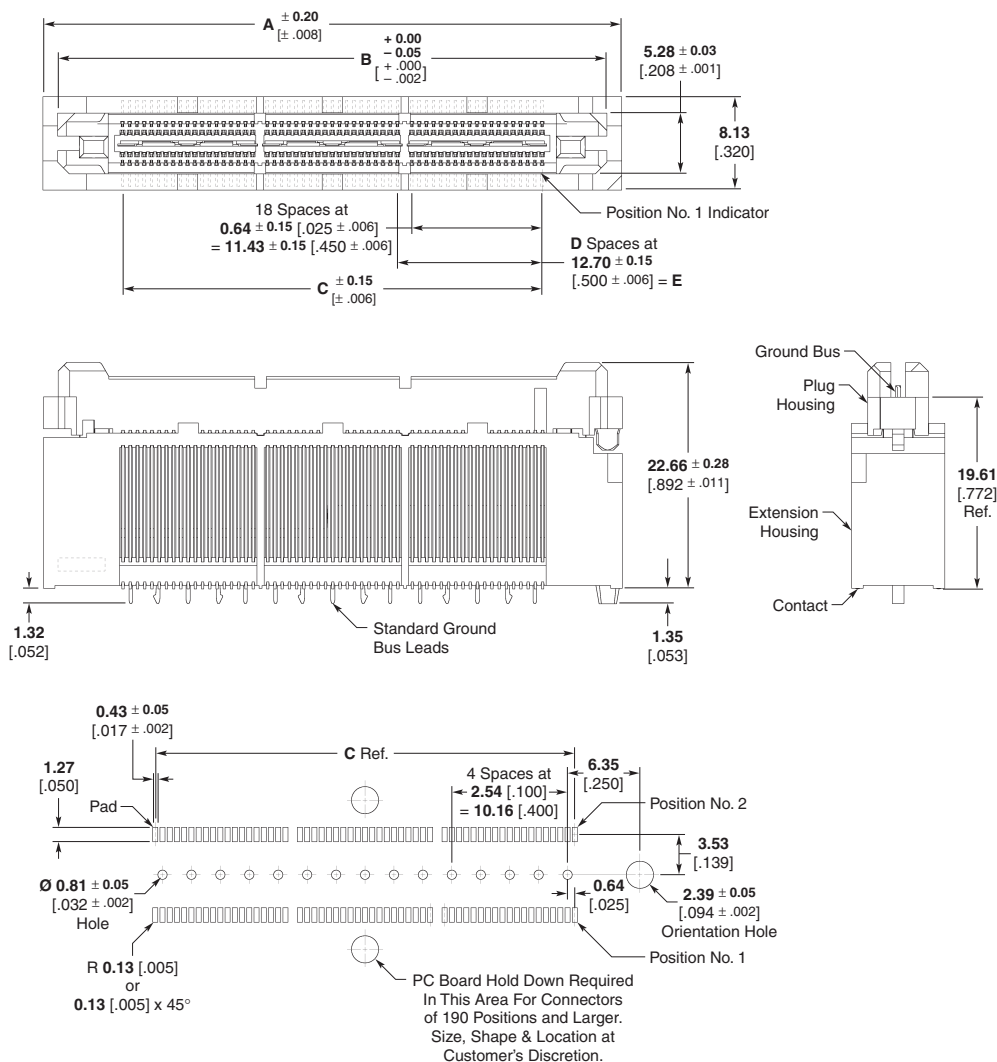
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* 22.86 [.900] stack height when
mated to vertical receptacle;
31.90 [1.255] stack height when
mated to vertical receptacle
(extended height).



Recommended PC Board Layout (Connector Side of Board Shown)

Notes: 1. For dual application, the orientation hole must be 1.98 ± 0.03 [.078 ± .001].

See Application Specification 114-11004 for details.

2. Connectors with extended ground bus leads can be made available, consult Tyco Electronics.

MICTOR Vertical Plugs (Continued)

22.86 [.900] Stacking Height (Continued)

No. of Pos.	Dimensions					Plating	Part Numbers
	A	B	C	D	E		
38	25.40	22.81	11.43	0	0.00	SnPb	767017-1●
	1.000	.898	.450		.000	Pb-free	5767017-1
76	38.10	35.51	24.13	1	12.70	SnPb	767017-2●
	1.500	1.398	.950		.500	Pb-free	5767017-2
114	50.80	48.21	36.83	2	25.40	SnPb	767017-3●
	2.000	1.898	1.450		1.000	Pb-free	5767017-3
152	63.50	60.91	49.53	3	38.10	SnPb	767017-4●
	2.500	2.398	1.950		1.500	Pb-free	5767017-4
190	76.20	73.61	62.23	4	50.80	SnPb	767017-5●
	3.000	2.898	2.450		2.000	Pb-free	5767017-5
228	88.90	86.31	74.93	5	63.50	SnPb	767017-6●
	3.500	3.398	2.950		2.500	Pb-free	5767017-6
266	101.60	99.00	87.63	6	76.20	SnPb	767017-7●
	4.000	3.898	3.450		3.000	Pb-free	5767017-7

Note: Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

MICTOR Right-Angle Plugs

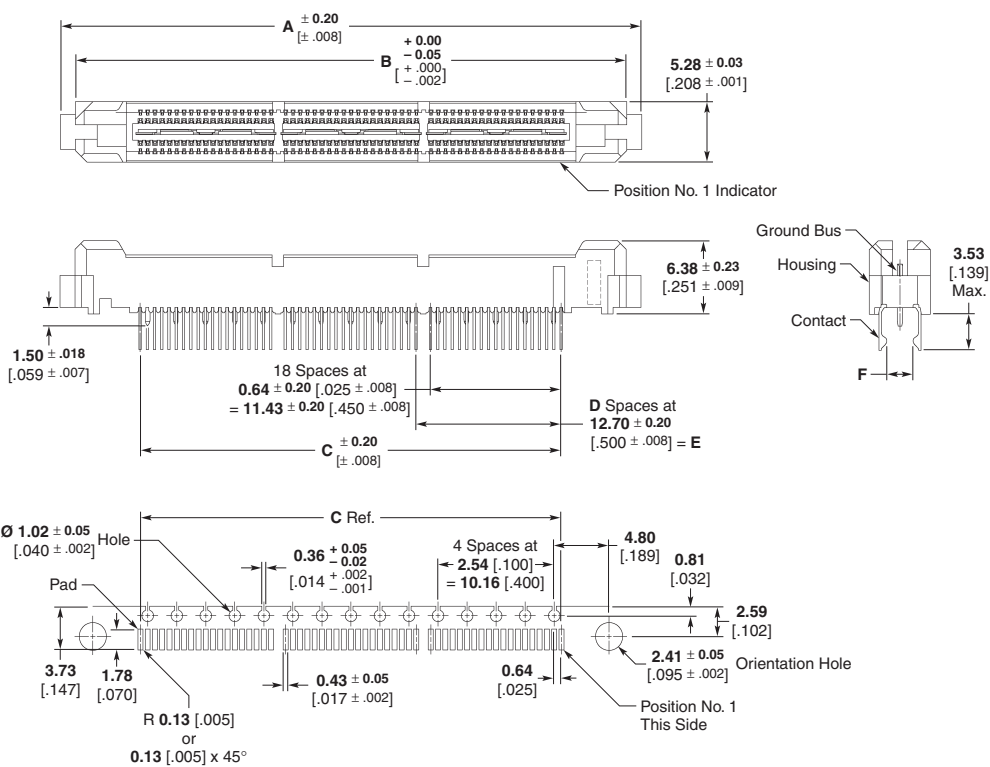
Related Product Data

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**Recommended PC Board Layout
(Mirror Image on Opposite Side)**

MICTOR Right-Angle Plugs (Continued)

No. of Pos.	Dimensions						Platings		Part Numbers
	A	B	C	D	E	F	Solder Tail	Contact	
38	25.40 1.000	22.81 .898	11.43 .450	0	0.00 .000	1.52 .060	SnPb	Gold	767006-1●
							Pb-free		5767006-1
							SnPb	PdNi	767055-1●
						2.31 .091	Pb-free		5767055-1
							SnPb	PdNi	767039-1●
							Pb-free		5767039-1
76	38.10 1.500	35.51 1.398	24.13 .950	1	12.70 .500	1.52 .060	SnPb	Gold	767006-2●
							Pb-free		5767006-2
							SnPb	PdNi	767055-2●
						2.31 .091	Pb-free		5767055-2
							SnPb	PdNi	767039-2●
							Pb-free		5767039-2
114	50.80 2.000	48.21 1.898	36.83 1.450	2	25.40 1.000	1.52 .060	SnPb	Gold	767006-3●
							Pb-free		5767006-3
							SnPb	PdNi	767055-3●
						2.31 .091	Pb-free		5767055-3
							SnPb	PdNi	767039-3●
							Pb-free		5767039-3
152	63.50 2.500	60.91 2.398	49.53 1.950	3	38.10 1.500	1.52 .060	SnPb	Gold	767006-4●
							Pb-free		5767006-4
							SnPb	PdNi	767055-4●
						2.31 .091	Pb-free		5767055-4
							SnPb	PdNi	767039-4●
							Pb-free		5767039-4
190	76.20 3.000	73.61 2.898	62.23 2.450	4	50.80 2.000	1.52 .060	SnPb	Gold	767006-5●
							Pb-free		5767006-5
							SnPb	PdNi	767055-5●
						2.31 .091	Pb-free		5767055-5
							SnPb	PdNi	767039-5●
							Pb-free		5767039-5
228	88.90 3.500	86.31 3.398	74.93 2.950	5	63.50 2.500	1.52 .060	SnPb	Gold	767006-6●
							Pb-free		5767006-6
							SnPb	PdNi	767055-6●
						2.31 .091	Pb-free		5767055-6
							SnPb	PdNi	767039-6●
							Pb-free		5767039-6
266	101.60 4.000	99.00 3.898	87.63 3.450	6	76.20 3.000	1.52 .060	SnPb	Gold	767006-7●
							Pb-free		5767006-7
							SnPb	PdNi	767055-7●
						2.31 .091	Pb-free		5767055-7
							SnPb	PdNi	767039-7●
							Pb-free		5767039-7

S = Printed circuit board thickness connector is intended to be used on.

Note: Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

MICTOR Vertical Receptacles

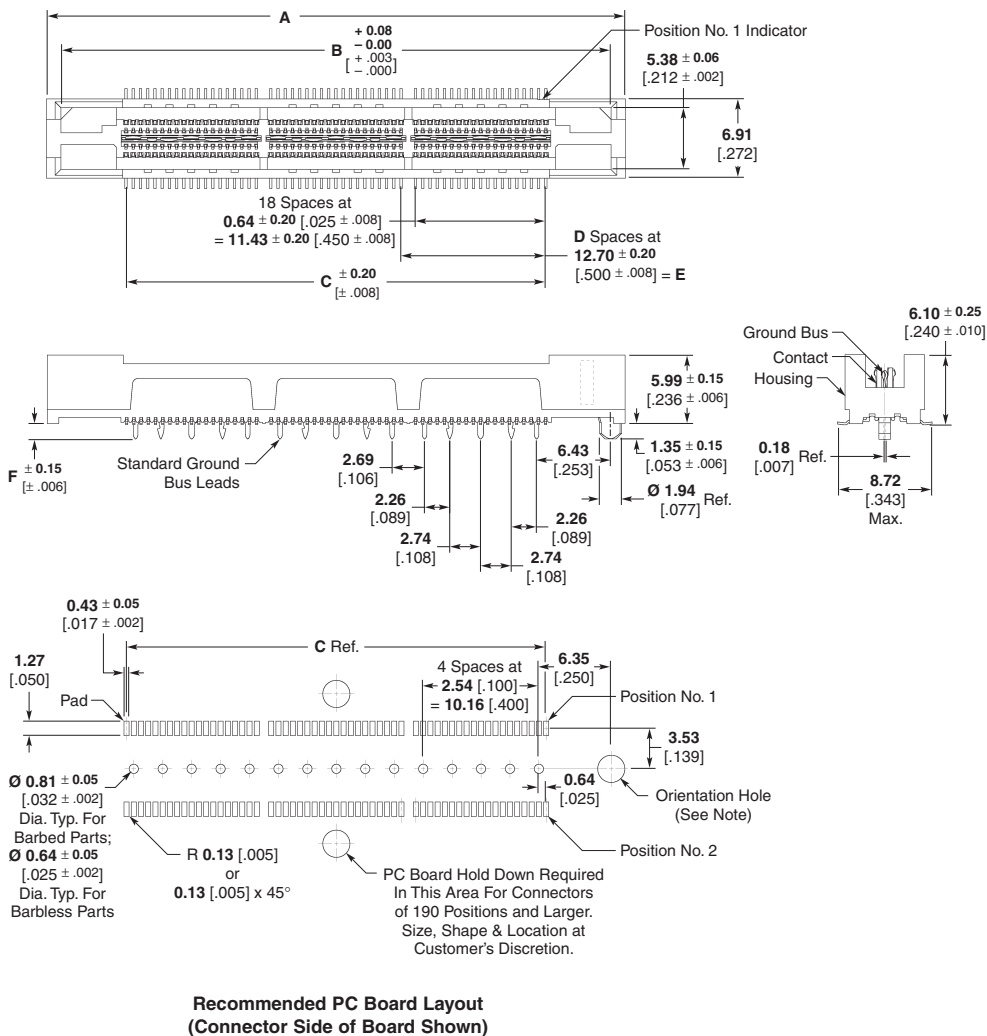
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Note: For standard applications, orientation hole to be $\varnothing 2.39 \pm 0.05$ / $[-.094 \pm .002]$; For slip-fit applications, orientation hole to be $\varnothing 2.00 \pm 0.03$ / $[-.079 \pm .001]$.

MICTOR Vertical Receptacles (Continued)

No. of Pos.	Dimensions						Platings		Part Numbers					
									Barbed G/B Leads			Barbless G/B Leads		
							Solder Tail	Contact	Tube	T&R Vacuum Caps		Tube	T&R Vacuum Caps	
	A	B	C	D	E	F				With	Without		With	Without
38	25.40 1.000	22.86 .900	11.43 .450	0	—	1.40	SnPb	Gold	2-767004-2	767096-8	767096-1	767110-1	767114-1	767114-8
						.055			767181-1	—	—	—	—	—
						2.74	SnPb	PdNi	767054-1	767171-1	—	767081-1	767115-1	—
						.108			—	—	—	—	—	—
						1.40	Pb-free	Gold	2-5767004-2	5767096-8	5767096-1	5767110-1	5767114-1	5767114-8
						.055			5767181-1	—	—	—	—	—
76	38.10 1.500	35.56 1.400	24.13 .950	1	12.70 .500	2.74	SnPb	PdNi	767054-1	5767171-1	—	5767081-1	5767115-1	—
						.108			—	—	—	—	—	—
						1.40	Pb-free	Gold	2-5767004-3	5767096-9	5767096-2	5767110-2	5767114-2	5767114-9
						.055			5767181-2	—	—	—	—	—
						2.74	Pb-free	PdNi	5767054-2	—	—	5767081-2	5767115-2	—
						.108			—	—	—	—	—	—
114	50.80 2.000	48.26 1.900	36.83 1.450	2	25.40 1.000	1.40	SnPb	Gold	2-767004-4	1-767096-0	767096-3	767110-3	767114-3	1-767114-0
						.055			767181-3	—	—	—	—	—
						2.74	SnPb	PdNi	767054-3	—	—	767081-3	767115-3	—
						.108			—	—	—	—	—	—
						1.40	Pb-free	Gold	2-5767004-4	1-5767096-0	5767096-3	5767110-3	5767114-3	1-5767114-0
						.055			5767181-3	—	—	—	—	—
152	63.50 2.500	60.96 2.400	49.53 1.950	3	38.10 1.500	2.74	SnPb	PdNi	5767054-3	—	—	5767081-3	5767115-3	—
						.108			—	—	—	—	—	—
						1.40	Pb-free	Gold	2-5767004-5	1-5767096-1	5767096-4	5767110-4	5767114-4	1-5767114-1
						.055			5767181-4	—	—	—	—	—
						2.74	Pb-free	PdNi	5767054-4	—	—	5767081-4	5767115-4	—
						.108			—	—	—	—	—	—
190	76.20 3.000	73.66 2.900	62.23 2.450	4	50.80 2.000	1.40	SnPb	Gold	2-767004-6	1-767096-2	767096-5	767110-5	767114-5	1-767114-2
						.055			767181-5	—	—	—	—	—
						2.74	SnPb	PdNi	767054-5	—	—	767081-5	767115-5	—
						.108			—	—	—	—	—	—
						1.40	Pb-free	Gold	2-5767004-6	1-5767096-2	5767096-5	5767110-5	5767114-5	1-5767114-2
						.055			5767181-5	—	—	—	—	—
228	88.90 3.500	86.36 3.400	74.93 2.950	5	63.50 2.500	2.74	SnPb	PdNi	5767054-5	—	—	5767081-5	5767115-5	—
						.108			—	—	—	—	—	—
						1.40	Pb-free	Gold	2-767004-7	1-767096-3	—	767110-6	—	—
						.055			767181-6	—	—	—	—	—
						2.74	Pb-free	PdNi	767054-6	—	—	767081-6	—	—
						.108			—	—	—	—	—	—
266	101.60 4.000	99.06 3.900	87.63 3.450	6	76.20 3.000	1.40	SnPb	Gold	2-767004-8	—	—	767110-7	—	—
						.055			767181-7	—	—	—	—	—
						2.74	SnPb	PdNi	767054-7	—	—	767081-7	—	—
						.108			—	—	—	—	—	—
						1.40	Pb-free	Gold	2-5767004-8	—	—	5767110-7	—	—
						.055			5767181-7	—	—	—	—	—
							Pb-free	PdNi	5767054-7	—	—	5767081-7	—	—
									—	—	—	—	—	—

Note: Contact Product Engineering regarding options not present in this table.

Note: Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

MICTOR Vertical Receptacles (Extended Height)

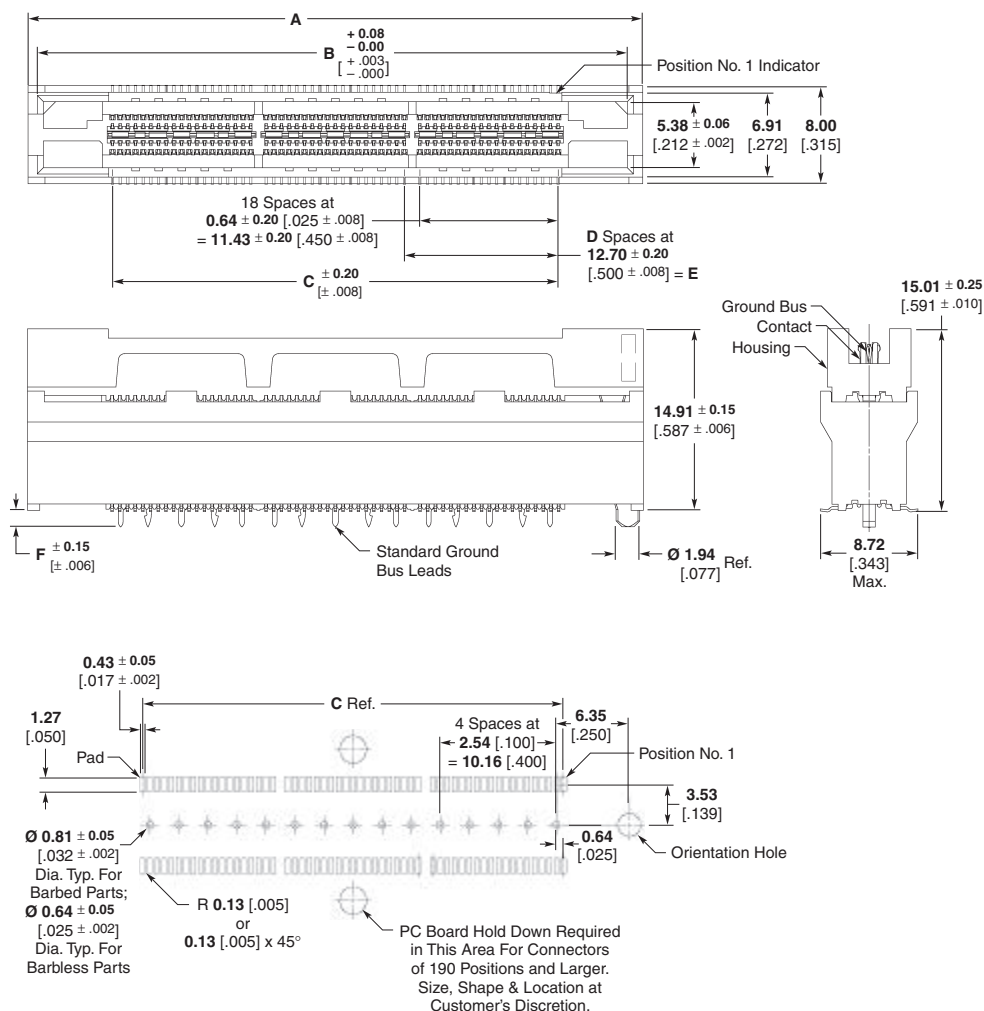
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Recommended PC Board Layout (Connector Side of Board Shown)

MICTOR Vertical Receptacles (Extended Height) (Continued)

No. of Pos.	Dimensions						Platings		Part Numbers					
									Barbed G/B Leads			Barbless G/B Leads		
	A	B	C	D	E	F	Solder Tail	Contact	Tube	T&R Vacuum Caps		Tube	T&R Vacuum Caps	
										With	Without		With	Without
38	25.40 1.000	22.86 .900	11.43 .450	0	—	1.37 [.054]	SnPb	Gold	767130-1●	767146-1●	767146-8●	—	—	—
						1.37 [.054]		PdNi	767094-1●	767178-1●	767178-8●	—	—	—
						2.72 [.107]		—	767154-1●	—	767153-8●	767095-1●	—	—
						1.37 [.054]	Pb-free	Gold	5767130-1	5767146-1	5767146-8	—	—	—
						1.37 [.054]		PdNi	5767094-1	5767178-1	1761316-8	—	—	—
						2.72 [.107]		—	5767154-1	—	5767153-8	5767095-1	—	—
76	38.10 1.500	35.56 1.400	24.13 .950	1	12.70 .500	1.37 [.054]	SnPb	Gold	767130-2●	767146-2●	767146-9●	—	—	—
						1.37 [.054]		PdNi	767094-2●	767178-2●	—	—	—	—
						2.72 [.107]		—	767154-2●	—	767153-9●	767095-2●	—	—
						1.37 [.054]	Pb-free	Gold	5767130-2	5767146-2	5767146-9	—	—	—
						1.37 [.054]		PdNi	5767094-2	5767178-2	—	—	—	—
						2.72 [.107]		—	5767154-2	—	5767153-9	5767095-2	—	—
114	50.80 2.000	48.26 1.900	36.83 1.450	2	25.40 1.000	1.37 [.054]	SnPb	Gold	767130-3●	767146-3●	1-767146-0●	—	—	—
						1.37 [.054]		PdNi	767094-3●	—	—	—	—	—
						2.72 [.107]		—	767154-3●	—	1-767153-0●	767095-3●	767145-3●	1-767145-0●
						1.37 [.054]	Pb-free	Gold	5767130-3	5767146-3	1-5767146-0	—	—	—
						1.37 [.054]		PdNi	5767094-3	—	—	—	—	—
						2.72 [.107]		—	5767154-3	—	1-5767153-0	5767095-3	5767145-3	1-5767145-0
152	63.50 2.500	60.96 2.400	49.53 1.950	3	38.10 1.500	1.37 [.054]	SnPb	Gold	767130-4●	767146-4●	1-767146-1●	—	—	—
						1.37 [.054]		PdNi	767094-4●	—	—	—	—	—
						2.72 [.107]		—	767154-4●	—	1-767153-1●	767095-4●	—	1-767145-1●
						1.37 [.054]	Pb-free	Gold	5767130-4	5767146-4	1-5767146-1	—	—	—
						1.37 [.054]		PdNi	5767094-4	—	—	—	—	—
						2.72 [.107]		—	5767154-4	—	1-5767153-1	5767095-4	—	1-5767145-1
190	76.20 3.000	73.66 2.900	62.23 2.450	4	50.80 2.000	1.37 [.054]	SnPb	Gold	767130-5●	—	—	—	—	—
						1.37 [.054]		PdNi	767094-5●	767178-5●	1-767178-2●	—	—	—
						2.72 [.107]		—	767154-5●	—	1-767153-2●	767095-5●	—	—
						1.37 [.054]	Pb-free	Gold	5767130-5	—	—	—	—	—
						1.37 [.054]		PdNi	5767094-5	5767178-5	1-1761316-2	—	—	—
						2.72 [.107]		—	5767154-5	—	1-5767153-2	5767095-5	—	—
228	88.90 3.500	86.36 3.400	74.93 2.950	5	63.50 2.500	1.37 [.054]	SnPb	Gold	767130-6●	—	—	—	—	—
						1.37 [.054]		PdNi	767094-6●	—	—	—	—	—
						2.72 [.107]		—	767154-6●	—	1-767153-3●	767095-6●	—	—
						1.37 [.054]	Pb-free	Gold	5767130-6	—	—	—	—	—
						1.37 [.054]		PdNi	5767094-6	—	—	—	—	—
						2.72 [.107]		—	5767154-6	—	1-5767153-3	5767095-6	—	—
266	101.60 4.000	99.06 3.900	87.63 3.450	6	76.20 3.000	1.37 [.054]	SnPb	Gold	767130-7●	—	—	—	—	—
						1.37 [.054]		PdNi	767094-7●	—	—	—	—	—
						2.72 [.107]		—	767154-7●	—	1-767153-4●	767095-7●	—	—
						1.37 [.054]	Pb-free	Gold	5767130-7	—	—	—	—	—
						1.37 [.054]		PdNi	5767094-7	—	—	—	—	—
						2.72 [.107]		—	5767154-7	—	1-5767153-4	5767095-7	—	—

Note: Contact Product Engineering regarding options not present in this table.

Note: Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

MICTOR Right-Angle Receptacles

Related Product Data

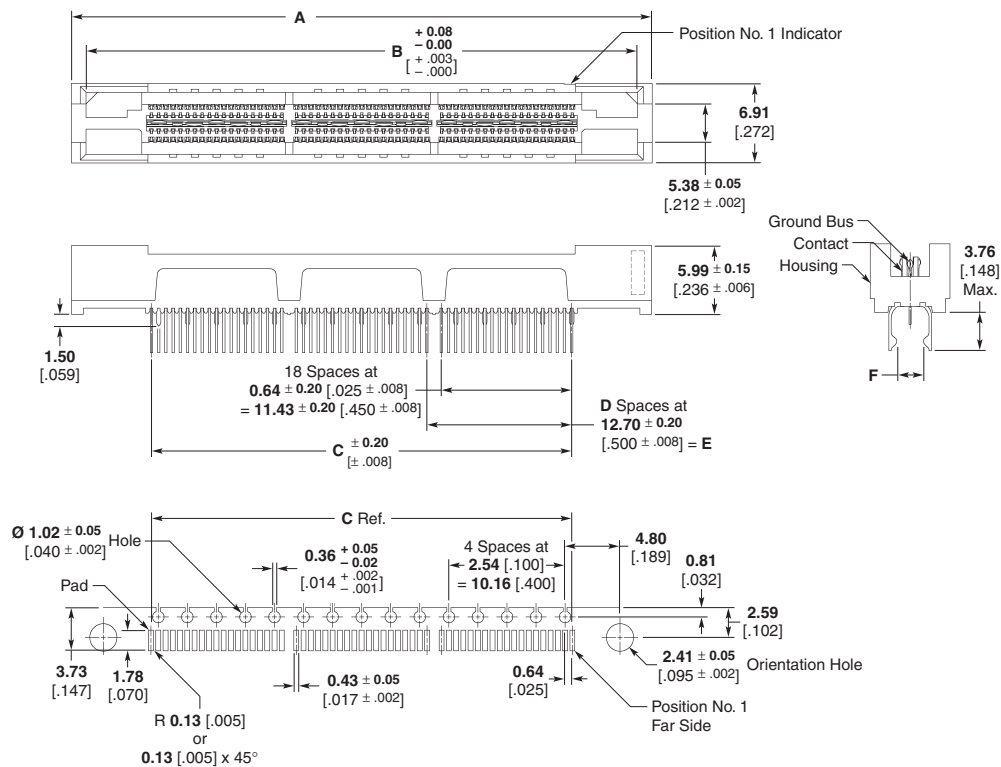
Material and Finish — page 16

Performance Characteristics —
page 16

Mating Plugs — pages 19-35

Application Tooling — page 77

Technical Documents — page 81



Recommended PC Board Layout
(Mirror image on opposite side)
PC Board Thickness: 1.57 [$.062$]

MICTOR Right-Angle Receptacles (Continued)

No. of Pos.	Dimensions						Platings		Part Numbers Tube
	A	B	C	D	E	F	Solder Tail	Contact	
38	25.40 1.000	22.86 .900	11.43 .450	0	0.00 .000	1.52 .060	SnPb	Gold	767143-1●
								PdNi	767044-1●
						2.31 .091	Pb-free	Gold	5767143-1
								PdNi	5767044-1
76	38.10 1.500	35.56 1.400	24.13 .950	1	12.70 .500	1.52 .060	SnPb	PdNi	767089-1●
							Pb-free	Gold	5767089-1
						2.31 .091	SnPb	PdNi	767143-2●
							Pb-free	Gold	5767143-2
114	50.80 2.000	48.26 1.900	36.83 1.450	2	25.40 1.000	1.52 .060	SnPb	PdNi	767044-2●
							Pb-free	Gold	5767044-2
						2.31 .091	SnPb	PdNi	767089-2●
							Pb-free	Gold	5767089-2
152	63.50 2.500	60.96 2.400	49.53 1.950	3	38.10 1.500	1.52 .060	SnPb	Gold	767143-3●
							Pb-free	PdNi	767044-3●
						2.31 .091	SnPb	Gold	5767143-3
							Pb-free	PdNi	5767044-3
190	76.20 3.000	73.66 2.900	62.23 2.450	4	50.80 2.000	1.52 .060	SnPb	Gold	767143-4●
							Pb-free	PdNi	767044-4●
						2.31 .091	SnPb	Gold	5767143-4
							Pb-free	PdNi	5767044-4
228	88.90 3.500	86.36 3.400	74.93 2.950	5	63.50 2.500	1.52 .060	SnPb	Gold	767143-5●
							Pb-free	PdNi	767044-5●
						2.31 .091	SnPb	Gold	5767143-5
							Pb-free	PdNi	5767044-5
266	101.60 4.000	99.06 3.900	87.63 3.450	6	76.20 3.000	1.52 .060	SnPb	Gold	767143-6●
							Pb-free	PdNi	767044-6●
						2.31 .091	SnPb	Gold	5767143-6
							Pb-free	PdNi	5767044-6
						1.52 .060	SnPb	Gold	767143-7●
							Pb-free	PdNi	767044-7●
						2.31 .091	SnPb	Gold	5767143-7
							Pb-free	PdNi	5767044-7
						2.31 .091	SnPb	PdNi	767089-7●
							Pb-free	PdNi	5767089-7

S = Printed circuit board thickness connector is intended to be used on.

Note: Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

Introduction to the MICTOR SB Interconnection System (0.50 [.020] and 0.80 [.032] Centerline)

Product Facts

- 0.50 [.020] centerline product: 105 dedicated signal lines per inch within one module (60 contacts per module; modules on 20.0 [.788] centerlines)
- 0.80 [.032] centerline product: 66.8 dedicated signal lines per inch within one module (40 contacts per module; modules on 20.0 [.788] centerlines)
- Surface mount family designed for parallel board-to-board, flex-to-board and cable-to-board configurations
- Infrared and forced air convection compatible housing materials
- Designed for 50 ohm systems or 100 ohm systems
- Connector housings polarized for correct mating
- Packaging styles available in trays and pocket tape, with both styles available with or without vacuum dots
- Recognized under the Component Program of Underwriter Laboratories Inc.  File No. E111594



The MICTOR SB connector family is based on the Micro-Strip concept of two rows of signal contacts divided by a center power ground plane.

Various mated heights are available for parallel board-to-board systems. The MICTOR SB connector family is available in 0.50 [.020] and 0.80 [.032] centerlines. They are available in sizes

ranging from 60 to 300 signal positions (in 60 position increments) for the 0.50 [.020] centerline products and from 40 to 200 signal positions (in 40 position increments) for the 0.80 [.032] centerline products. There is a discrete ground bus every 20.0 [.788] of the connector length, which can be assigned to either power or ground in any combination.

The housing material is a liquid crystal polymer, compatible with infrared and forced air convection operations.

The connector system maintains impedance and uses the solid ground bus between the rows of signals to provide low crosstalk and excellent high-speed signal characteristics.

Material and Performance Specifications, MICTOR SB Connectors

Material Specifications

Material

Housing — Liquid crystal polymer, black

Contacts — Phosphor bronze

Ground Bus — Phosphor bronze

Finish (Gold Flash Plating)

Contacts and Ground Bus — Gold flash over 0.00127 [.000050] min. nickel underplate

Finish (10 μ Gold Plating)

Contacts and Ground Bus — 0.00025 [.000010] min. gold over 0.00178 [.000070] min. nickel underplate

Performance Specifications

Ratings

Voltage — 225 vac

Current — Signal; rated 2.0 Amps @ 80°C, derated 1 Amp*
Ground; rated 9.5 Amps @ 80°C, fully derated 6.8 Amps*

Temperature — -65°C to +125°C

*Consult Tyco Electronics for details on current rating.

Electrical Characteristics

Characteristic Impedance — 50 $\pm$ 5 ohms at 1 ns

Termination Resistance — ΔR 15 milliohms max. for signal contacts, ΔR 5 milliohms max. for ground bus contacts; EIA 364-23A

Insulation Resistance — 5,000 megohms min. initial, 1,000 megohms after exposures; EIA 364-21C

Dielectric Withstanding Voltage — 375 vac for 0.50 [.032] centerline connectors and 675 vac for 0.80 [.020] centerline connectors at sea level; EIA 364-208, Condition 1

Mechanical Characteristics

Solderability — Solderable area shall have a 95% min. solder coverage; EIA 364-52

Vibration (Random) — No discontinuities of 1 μ s or longer duration; EIA 364-28D, Condition V

Physical Shock — No discontinuities of 1 μ s or longer duration; EIA 364-27B, Method A

Durability (Tested to) — Mate and unmate samples at a rate of 500 cycles max. per hour. 100 cycles for 10 μ inch gold plated parts; EIA 364-9C

Mating Force — 120 oz max. per 1 module for 0.50 [.020] centerline connectors (Each module equals 60 signal contacts and 1 ground bus). 80 oz max. per 1 module for 0.80 [.032] centerline connectors (Each module equals 40 signal contacts and 1 ground bus)

Unmating Force — 24 oz max. per 1 module for 0.50 [.020] centerline connectors (Each module equals 60 signal contacts and 1 ground bus). 20 oz max. per 1 module for 0.80 [.032] centerline connectors (Each module equals 40 signal contacts and 1 ground bus)

Environmental Characteristics

Thermal Shock — Subject mated samples to 5 cycles between -65°C and +125°C; EIA 364-32C

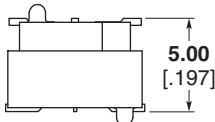
Humidity - Temperature Cycling — Subject mated samples to 10 cycles between -25°C and +65°C at 95% RH; EIA 364-31B, Method III

Temperature Life — Subject mated samples to temperature life at +105°C for 300 hours; EIA 364-17

MICTOR SB Connectors Stack Height Combinations

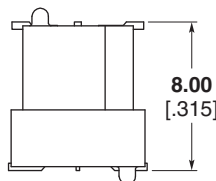
**Gold Flash and 10 μ Gold
Plated Vertical Connectors**
0.80 [.032] and 0.50 [.020]
Centerline Connectors

5.00 [.197] Plug
0.80 [.032] CL (Page 47)
0.50 [.020] CL (Page 57)



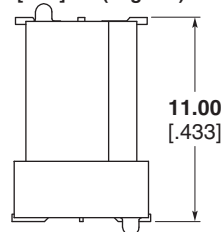
Receptacle
0.80 [.032] CL (Page 46)
0.50 [.020] CL (Page 56)

8.00 [.315] Plug
0.80 [.032] CL (Page 48)
0.50 [.020] CL (Page 58)



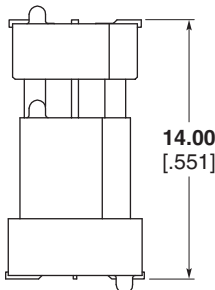
Receptacle
0.80 [.032] CL (Page 46)
0.50 [.020] CL (Page 56)

11.00 [.433] Plug
0.80 [.032] CL (Page 49)
0.50 [.020] CL (Page 59)



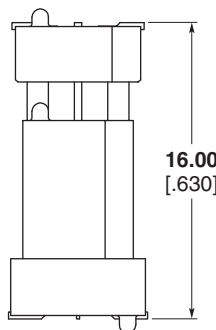
Receptacle
0.80 [.032] CL (Page 46)
0.50 [.020] CL (Page 56)

14.00 [.551] Plug
0.80 [.032] CL (Page 50)
0.50 [.020] CL (Page 60)



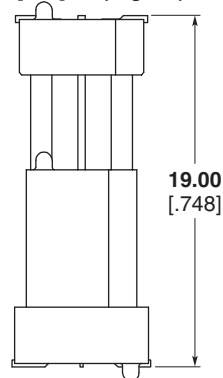
Receptacle
0.80 [.032] CL (Page 46)
0.50 [.020] CL (Page 56)

16.00 [.630] Plug
0.80 [.032] CL (Page 51)
0.50 [.020] CL (Page 61)



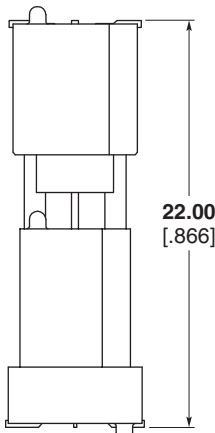
Receptacle
0.80 [.032] CL (Page 46)
0.50 [.020] CL (Page 56)

19.00 [.748] Plug
0.80 [.032] CL (Page 52)
0.50 [.020] CL (Page 62)



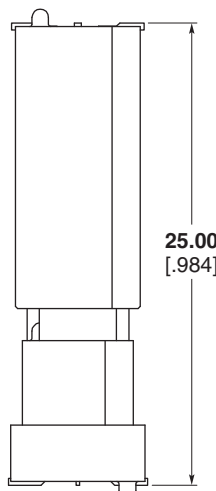
Receptacle
0.80 [.032] CL (Page 46)
0.50 [.020] CL (Page 56)

22.00 [.866] Plug
0.80 [.032] CL (Page 53)
0.50 [.020] CL (Page 63)



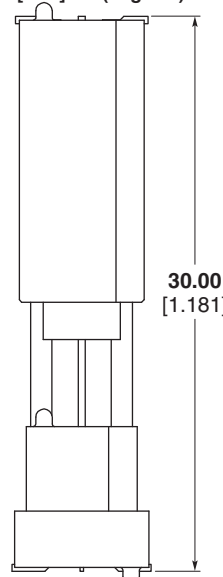
Receptacle
0.80 [.032] CL (Page 46)
0.50 [.020] CL (Page 56)

25.00 [.984] Plug
0.80 [.032] CL (Page 54)
0.50 [.020] CL (Page 64)



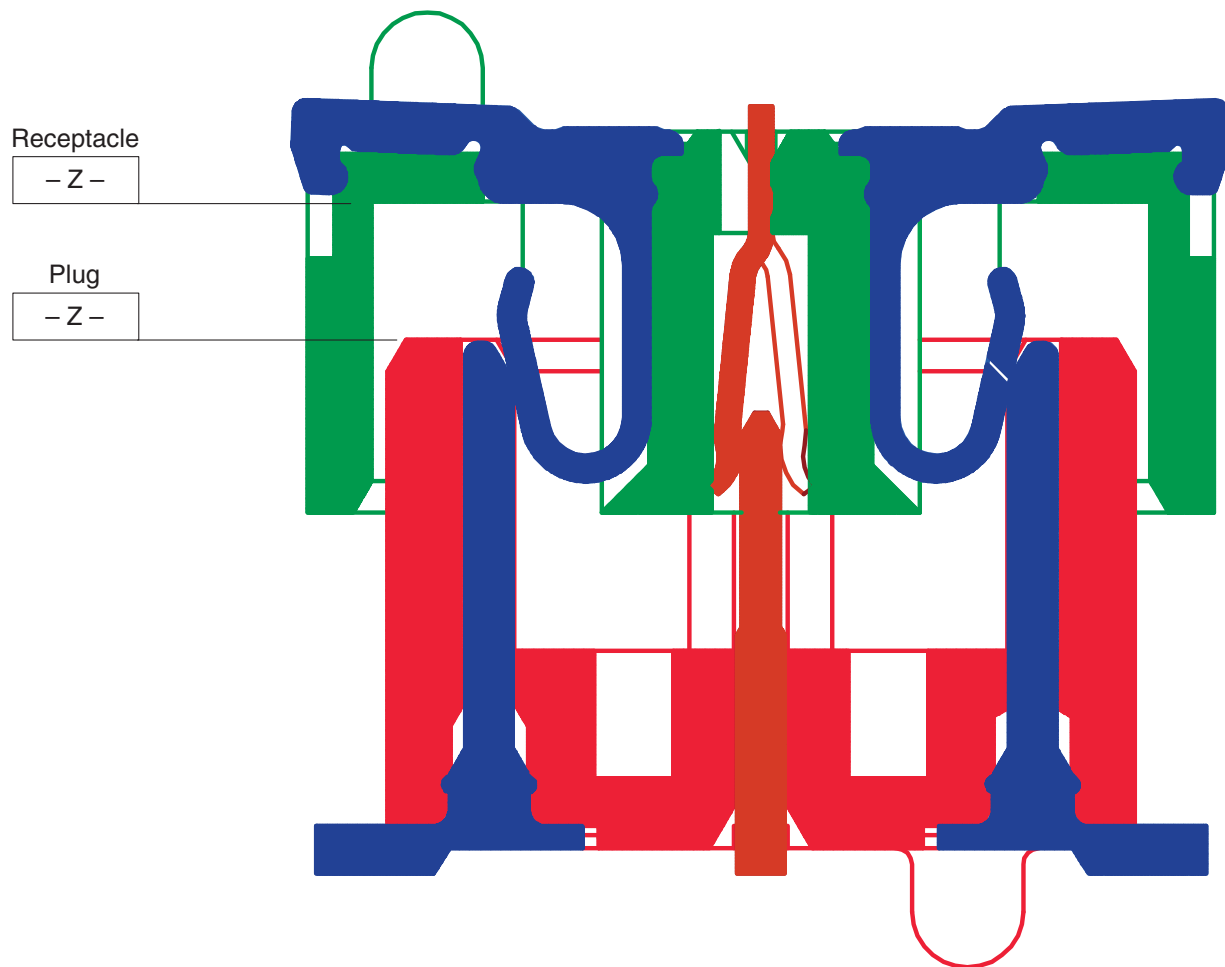
Receptacle
0.80 [.032] CL (Page 46)
0.50 [.020] CL (Page 56)

30.00 [1.181] Plug
0.80 [.032] CL (Page 55)
0.50 [.020] CL (Page 65)



Receptacle
0.80 [.032] CL (Page 46)
0.50 [.020] CL (Page 56)

MICTOR SB Connector Cross Section



Connectors are shown at point where signal contact first touch each other.

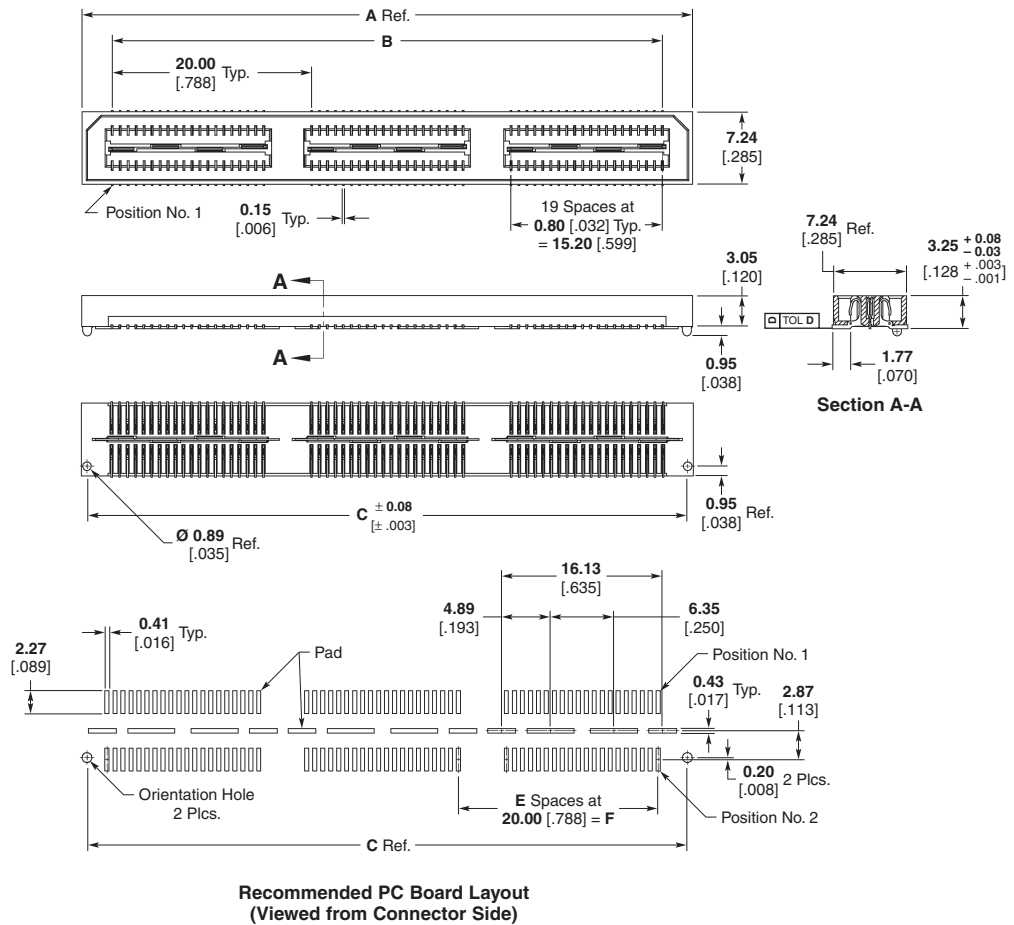
Connectors are designed to be fully mated when the two "Z" datums meet.

Green = Receptacle housing
Red = Plug housing
Blue = Signal contacts
Brown = Ground bus contacts

MICTOR SB Interconnection System

0.80 [.032] Centerline Receptacles

Note: Parts are available with vacuum dots for robotic placement.



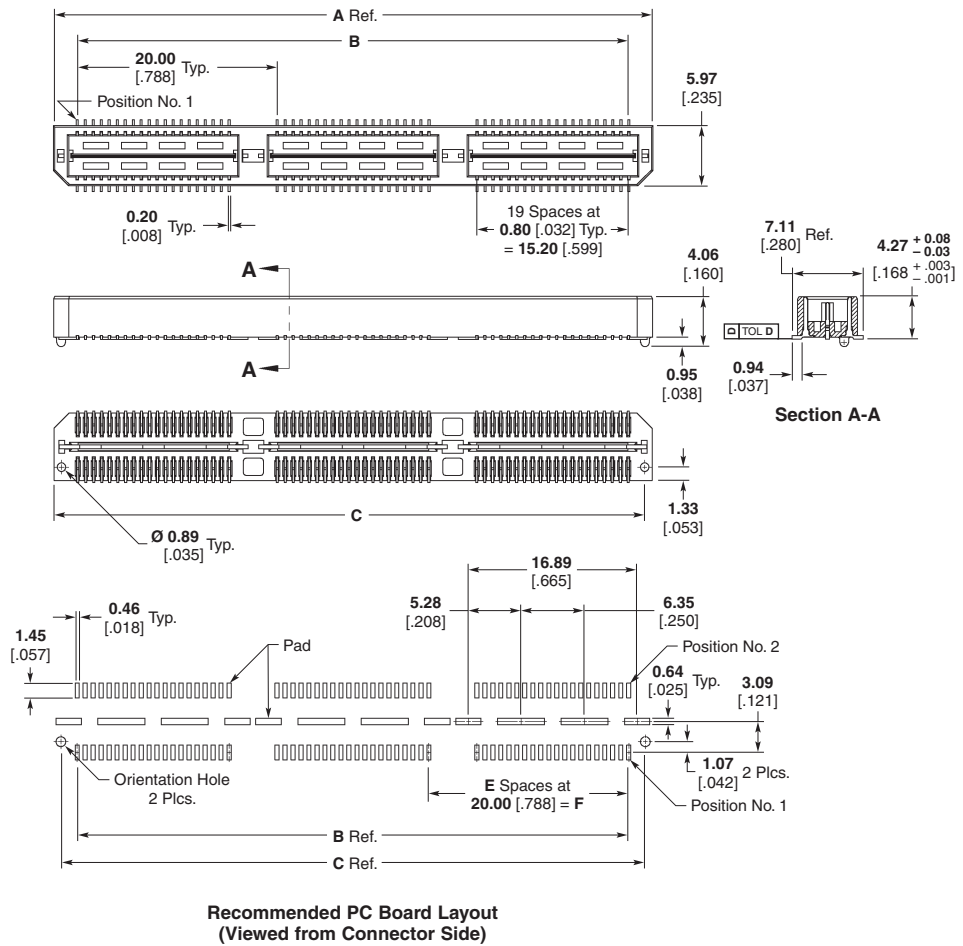
Packaging Type	No. of Positions	Dimensions						Gold Flash Plating		10 µ Gold Plating		30 µ Gold Plating	
		A	B	C	D	E	F	Vacuum Dots		Vacuum Dots		Vacuum Dots	
								Without	With	Without	With	Without	With
Tray	40	21.29 .838	15.20 .599	20.13 .793	0.10 .004	0	0.00 .000	1658043-1	2-1658043-1	1658012-1	2-1658012-1	1658462-1	2-1658462-1
	80	41.28 1.625	35.20 1.386	40.13 1.580	0.10 .004	1	20.00 .788	1658043-2	2-1658043-2	1658012-2	2-1658012-2	1658462-2	2-1658462-2
	120	61.28 2.412	55.21 2.174	60.13 2.368	0.15 .006	2	40.00 1.575	1658043-3	2-1658043-3	1658012-3	2-1658012-3	1658462-3	2-1658462-3
	160	81.28 3.200	75.21 2.961	80.14 3.155	0.15 .006	3	60.01 2.362	1658043-4	2-1658043-4	1658012-4	2-1658012-4	1658462-4	2-1658462-4
	200	101.30 3.988	95.21 3.749	100.14 3.943	0.15 .006	4	80.01 3.150	1658043-5	2-1658043-5	1658012-5	2-1658012-5	1658462-5	2-1658462-5
Tape & Reel	40	21.29 .838	15.20 .599	20.13 .793	0.10 .004	0	0.00 .000	4-1658043-1	6-1658043-1	4-1658012-1	6-1658012-1	4-1658462-1	6-1658462-1
	80	41.28 1.625	35.20 1.386	40.13 1.580	0.10 .004	1	20.00 .788	4-1658043-2	6-1658043-2	4-1658012-2	6-1658012-2	4-1658462-2	6-1658462-2
	120	61.28 2.412	55.21 2.174	60.13 2.368	0.15 .006	2	40.00 1.575	4-1658043-3	6-1658043-3	4-1658012-3	6-1658012-3	4-1658462-3	6-1658462-3

Note: All part numbers are RoHS compliant.

MICTOR SB Interconnection System (Continued)

0.80 [.032] Centerline
5.00 [.197] Stack Height
Plugs

Note: Parts are available with vacuum dots for robotic placement.



MICTOR SB
Interconnection System

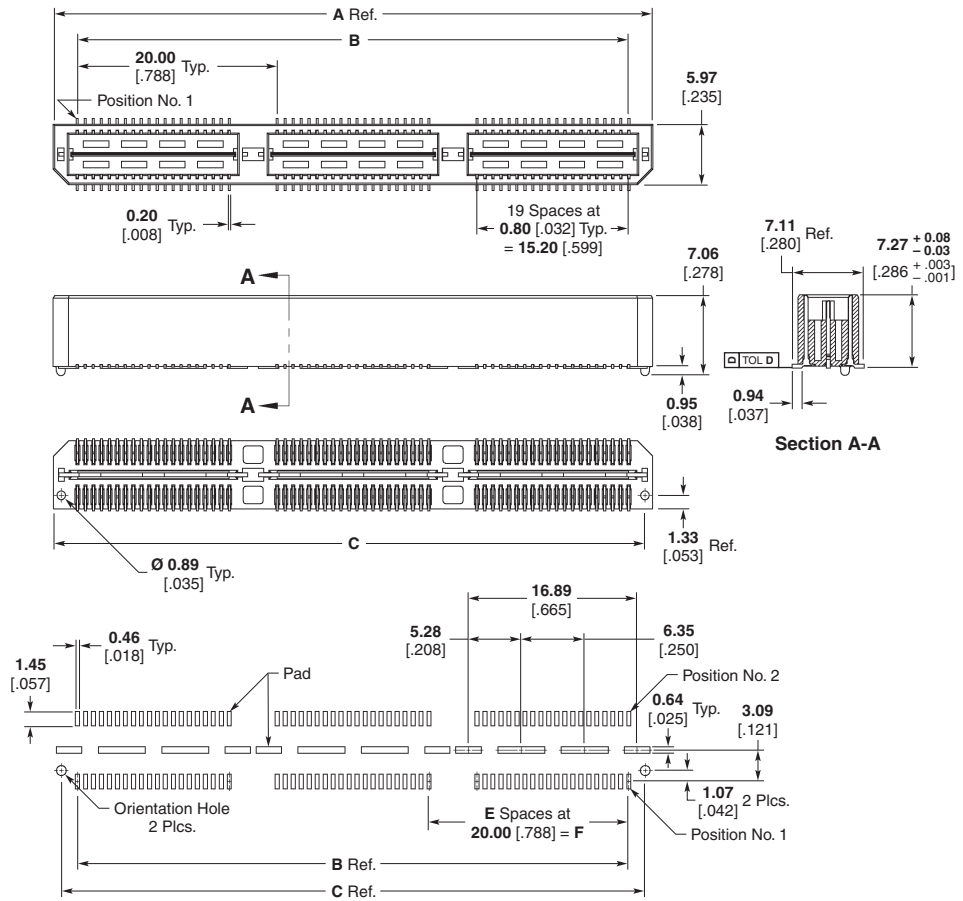
Packaging Type	No. of Positions	Dimensions						Gold Flash Plating		10 µ Gold Plating		30 µ Gold Plating	
		A	B	C	D	E	F	Vacuum Dots		Vacuum Dots		Vacuum Dots	
								Without	With	Without	With	Without	With
Tray	40	20.02 .788	15.21 .599	18.49 .728	0.10 .004	0	0.00 .000	1658044-1	2-1658044-1	1658013-1	2-1658013-1	1658463-1	2-1658463-1
	80	40.01 1.575	35.20 1.386	38.48 1.515	0.10 .004	1	20.00 .788	1658044-2	2-1658044-2	1658013-2	2-1658013-2	1658463-2	2-1658463-2
	120	60.02 2.363	55.22 2.174	58.50 2.303	0.10 .004	2	40.01 1.575	1658044-3	2-1658044-3	1658013-3	2-1658013-3	1658463-3	2-1658463-3
	160	80.01 3.150	75.21 2.961	78.49 3.090	0.15 .006	3	60.01 2.362	1658044-4	2-1658044-4	1658013-4	2-1658013-4	1658463-4	2-1658463-4
	200	100.03 3.938	95.22 3.749	98.50 3.878	0.15 .006	4	80.01 3.150	1658044-5	2-1658044-5	1658013-5	2-1658013-5	1658463-5	2-1658463-5
Tape & Reel	40	20.02 .788	15.21 .599	18.49 .728	0.10 .004	0	0.00 .000	4-1658044-1	6-1658044-1	4-1658013-1	6-1658013-1	4-1658463-1	6-1658463-1
	80	40.01 1.575	35.20 1.386	38.48 1.515	0.10 .004	1	20.00 .788	4-1658044-2	6-1658044-2	4-1658013-2	6-1658013-2	4-1658463-2	6-1658463-2
	120	60.02 2.363	55.22 2.174	58.50 2.303	0.10 .004	2	40.01 1.575	4-1658044-3	6-1658044-3	4-1658013-3	6-1658013-3	4-1658463-3	6-1658463-3

Note: All part numbers are RoHS compliant.

MICTOR SB Interconnection System (Continued)

0.80 [.032] Centerline
8.00 [.315] Stack Height
Plugs

Note: Parts are available with vacuum dots for robotic placement.



Recommended PC Board Layout
(Viewed from Connector Side)

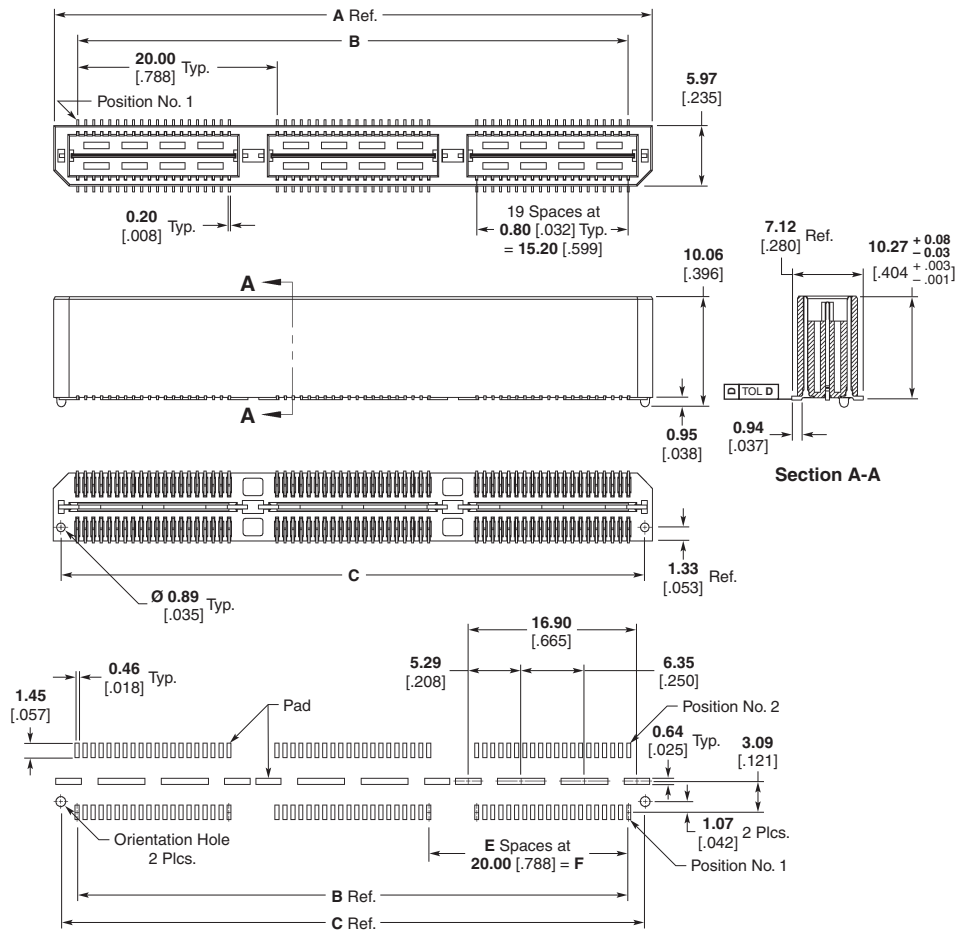
Packaging Type	No. of Positions	Dimensions						Gold Flash Plating		10 µ Gold Plating		30 µ Gold Plating	
		A	B	C	D	E	F	Vacuum Dots		Vacuum Dots		Vacuum Dots	
								Without	With	Without	With	Without	With
Tray	40	20.02 .788	15.21 .599	18.49 .728	0.10 .004	0	0.00 .000	1658045-1	2-1658045-1	1658014-1	2-1658014-1	1658464-1	2-1658464-1
	80	40.01 1.575	35.20 1.386	38.48 1.515	0.10 .004	1	20.00 .788	1658045-2	2-1658045-2	1658014-2	2-1658014-2	1658464-2	2-1658464-2
	120	60.02 2.363	55.22 2.174	58.50 2.303	0.10 .004	2	40.00 1.575	1658045-3	2-1658045-3	1658014-3	2-1658014-3	1658464-3	2-1658464-3
	160	80.01 3.015	75.21 2.961	78.49 3.090	0.15 .006	3	60.01 2.362	1658045-4	2-1658045-4	1658014-4	2-1658014-4	1658464-4	2-1658464-4
	200	100.03 3.938	95.22 3.749	98.50 3.878	0.15 .006	4	80.01 3.150	1658045-5	2-1658045-5	1658014-5	2-1658014-5	1658464-5	2-1658464-5
Tape & Reel	40	20.02 .788	15.21 .599	18.49 .728	0.10 .004	0	0.00 .000	4-1658045-1	6-1658045-1	4-1658014-1	6-1658014-1	4-1658464-1	6-1658464-1
	80	40.01 1.575	35.20 1.386	38.48 1.515	0.10 .004	1	20.00 .788	4-1658045-2	6-1658045-2	4-1658014-2	6-1658014-2	4-1658464-2	6-1658464-2
	120	60.02 2.363	55.22 2.174	58.50 2.303	0.10 .004	2	40.00 1.575	4-1658045-3	6-1658045-3	4-1658014-3	6-1658014-3	4-1658464-3	6-1658464-3

Note: All part numbers are RoHS compliant.

MICTOR SB Interconnection System (Continued)

0.80 [.032] Centerline
11.00 [.433] Stack Height
Plugs

Note: Parts are available with vacuum dots for robotic placement.



**Recommended PC Board Layout
(Viewed from Connector Side)**

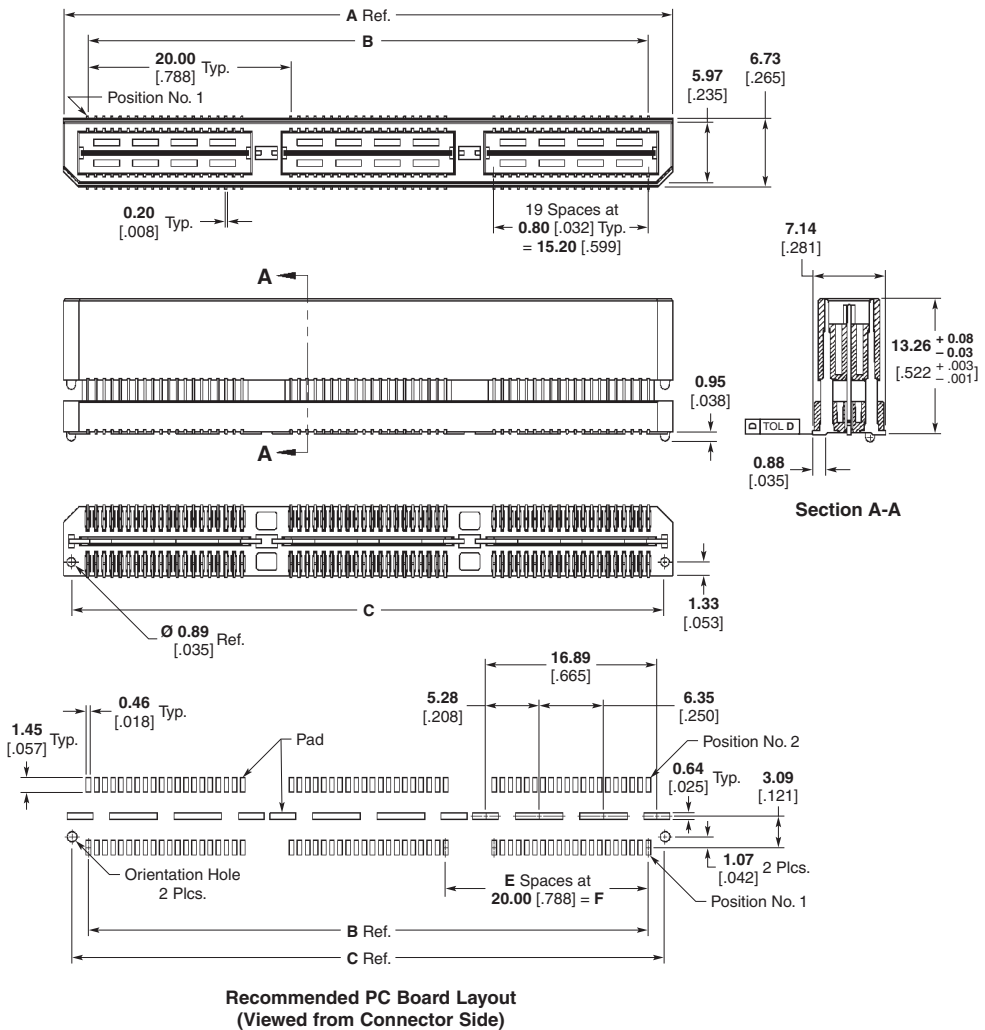
Packaging Type	No. of Positions	Dimensions						Gold Flash Plating		10 µ Gold Plating		30 µ Gold Plating	
		A	B	C	D	E	F	Vacuum Dots		Vacuum Dots		Vacuum Dots	
								Without	With	Without	With	Without	With
Tray	40	20.02 .788	15.21 .599	18.49 .728	0.10 .004	0	0.00 .000	1658046-1	2-1658046-1	1658015-1	2-1658015-1	1658465-1	2-1658465-1
	80	40.01 1.575	35.20 1.386	38.48 1.515	0.10 .004	1	20.00 .788	1658046-2	2-1658046-2	1658015-2	2-1658015-2	1658465-2	2-1658465-2
	120	60.02 2.363	55.22 2.174	58.50 2.303	0.10 .004	2	40.00 1.575	1658046-3	2-1658046-3	1658015-3	2-1658015-3	1658465-3	2-1658465-3
	160	80.01 3.015	75.21 2.961	78.49 3.090	0.15 .006	3	60.01 2.362	1658046-4	2-1658046-4	1658015-4	2-1658015-4	1658465-4	2-1658465-4
	200	100.03 3.938	95.22 3.749	98.50 3.878	0.15 .006	4	80.01 3.150	1658046-5	2-1658046-5	1658015-5	2-1658015-5	1658465-5	2-1658465-5
Tape & Reel	40	20.02 .788	15.21 .599	18.49 .728	0.10 .004	0	0.00 .000	4-1658046-1	6-1658046-1	4-1658015-1	6-1658015-1	4-1658465-1	6-1658465-1
	80	40.01 1.575	35.20 1.386	38.48 1.515	0.10 .004	1	20.00 .788	4-1658046-2	6-1658046-2	4-1658015-2	6-1658015-2	4-1658465-2	6-1658465-2
	120	60.02 2.363	55.22 2.174	58.50 2.303	0.10 .004	2	40.00 1.575	4-1658046-3	6-1658046-3	4-1658015-3	6-1658015-3	4-1658465-3	6-1658465-3

Note: All part numbers are RoHS compliant.

MICTOR SB Interconnection System (Continued)

0.80 [.032] Centerline
14.00 [.551] Stack Height
Plugs

Note: Parts are available with vacuum dots for robotic placement.



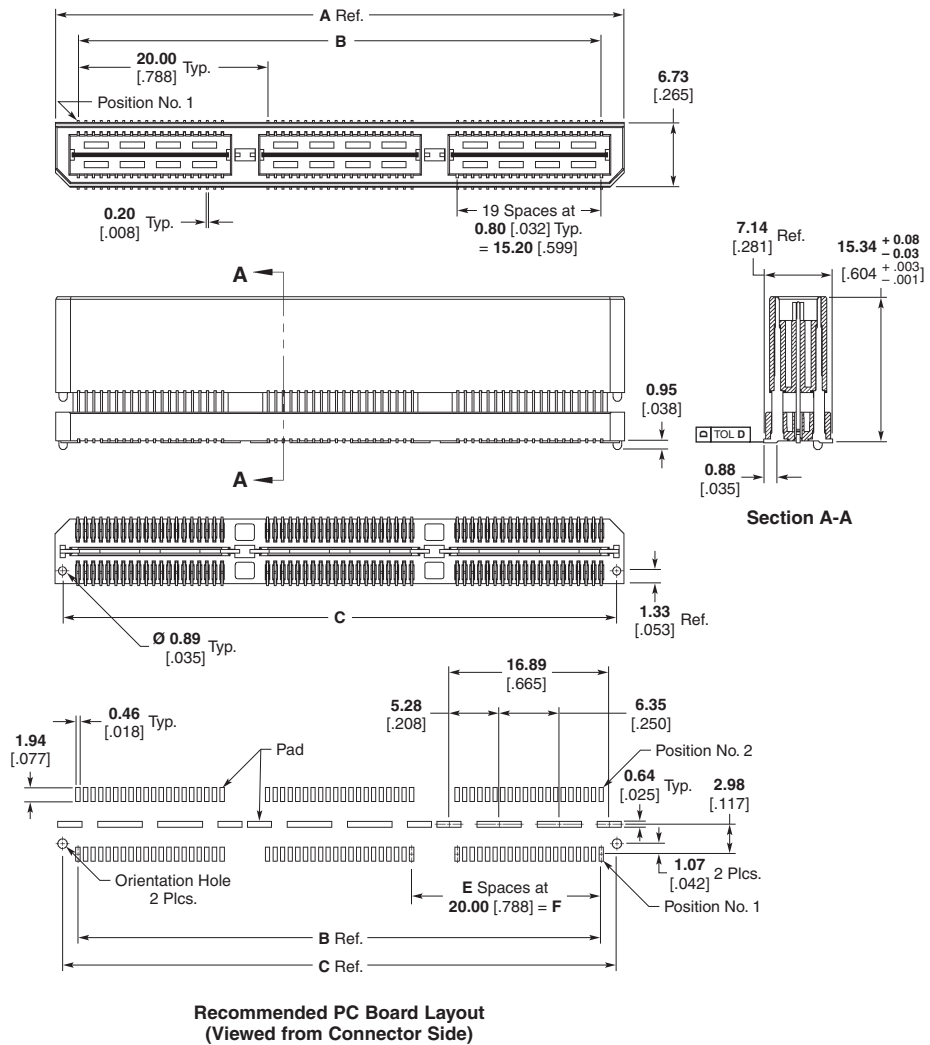
Packaging Type	No. of Positions	Dimensions						Gold Flash Plating		10 µ Gold Plating		30 µ Gold Plating	
		A	B	C	D	E	F	Vacuum Dots		Vacuum Dots		Vacuum Dots	
								Without	With	Without	With	Without	With
Tray	40	20.02 .788	15.21 .599	18.49 .728	0.10 .004	0	0.00 .000	1658437-1	2-1658437-1	1658438-1	2-1658438-1	1658439-1	2-1658439-1
	80	40.01 1.575	35.20 1.386	38.48 1.515	0.10 .004	1	20.00 .788	1658437-2	2-1658437-2	1658438-2	2-1658438-2	1658439-2	2-1658439-2
	120	60.02 2.363	55.22 2.174	58.50 2.303	0.10 .004	2	40.00 1.575	1658437-3	2-1658437-3	1658438-3	2-1658438-3	1658439-3	2-1658439-3
	160	80.01 3.015	75.21 2.961	78.49 3.090	0.15 .006	3	60.01 2.362	1658437-4	2-1658437-4	1658438-4	2-1658438-4	1658439-4	2-1658439-4
	200	100.03 3.938	95.22 3.749	98.50 3.878	0.15 .006	4	80.01 3.150	1658437-5	2-1658437-5	1658438-5	2-1658438-5	1658439-5	2-1658439-5
Tape & Reel	40	20.02 .788	15.21 .599	18.49 .728	0.10 .004	0	0.00 .000	4-1658437-1	6-1658437-1	4-1658438-1	6-1658438-1	4-1658439-1	6-1658439-1
	80	40.01 1.575	35.20 1.386	38.48 1.515	0.10 .004	1	20.00 .788	4-1658437-2	6-1658437-2	4-1658438-2	6-1658438-2	4-1658439-2	6-1658439-2
	120	60.02 2.363	55.22 2.174	58.50 2.303	0.10 .004	2	40.00 1.575	4-1658437-3	6-1658437-3	4-1658438-3	6-1658438-3	4-1658439-3	6-1658439-3

Note: All part numbers are RoHS compliant.

MICTOR SB Interconnection System (Continued)

0.80 [.032] Centerline
16.00 [.630] Stack Height
Plugs

Note: Parts are available with vacuum dots for robotic placement.



MICTOR SB
Interconnection System

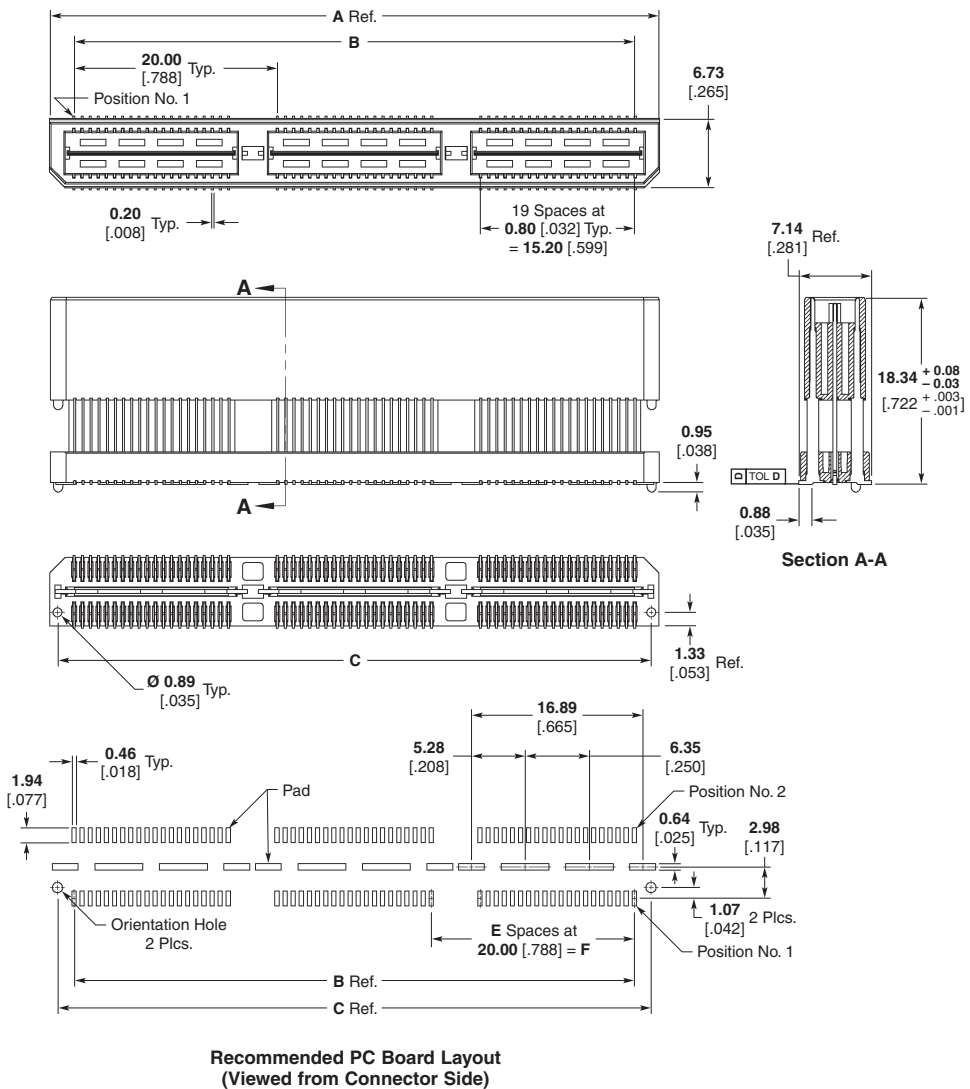
Packaging Type	No. of Positions	Dimensions						Gold Flash Plating		10 μ Gold Plating		30 μ Gold Plating	
		A	B	C	D	E	F	Vacuum Dots		Vacuum Dots		Vacuum Dots	
								Without	With	Without	With	Without	With
Tray	40	20.02 .788	15.21 .599	18.49 .728	0.10 .004	0	0.00 .000	1658047-1	2-1658047-1	1658016-1	2-1658016-1	1658466-1	2-1658466-1
	80	40.01 1.575	35.20 1.386	38.48 1.515	0.10 .004	1	20.00 .788	1658047-2	2-1658047-2	1658016-2	2-1658016-2	1658466-2	2-1658466-2
	120	60.02 2.363	55.22 2.174	58.50 2.303	0.10 .004	2	40.00 1.575	1658047-3	2-1658047-3	1658016-3	2-1658016-3	1658466-3	2-1658466-3
	160	80.01 3.015	75.21 2.961	78.49 3.090	0.15 .006	3	60.01 2.362	1658047-4	2-1658047-4	1658016-4	2-1658016-4	1658466-4	2-1658466-4
	200	100.03 3.938	95.22 3.749	98.50 3.878	0.15 .006	4	80.01 3.150	1658047-5	2-1658047-5	1658016-5	2-1658016-5	1658466-5	2-1658466-5
Tape & Reel	40	20.02 .788	15.21 .599	18.49 .728	0.10 .004	0	0.00 .000	4-1658047-1	6-1658047-1	4-1658016-1	6-1658016-1	4-1658466-1	6-1658466-1
	80	40.01 1.575	35.20 1.386	38.48 1.515	0.10 .004	1	20.00 .788	4-1658047-2	6-1658047-2	4-1658016-2	6-1658016-2	4-1658466-2	6-1658466-2
	120	60.02 2.363	55.22 2.174	58.50 2.303	0.10 .004	2	40.00 1.575	4-1658047-3	6-1658047-3	4-1658016-3	6-1658016-3	4-1658466-3	6-1658466-3

Note: All part numbers are RoHS compliant.

MICTOR SB Interconnection System (Continued)

**0.80 [.032] Centerline
19.00 [.748] Stack Height
Plugs**

Note: Parts are available with vacuum dots for robotic placement.



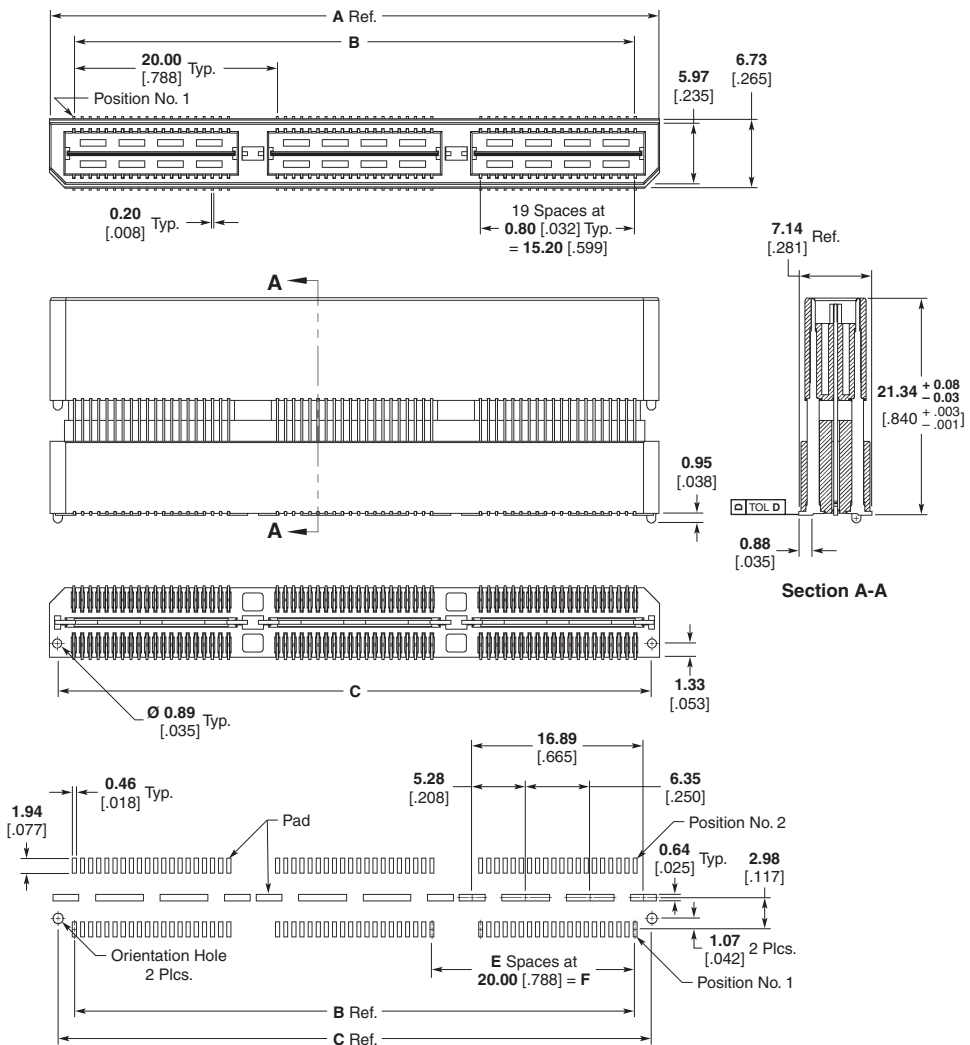
Packaging Type	No. of Positions	Dimensions						Gold Flash Plating		10 μ Gold Plating		30 μ Gold Plating	
		A	B	C	D	E	F	Vacuum Dots		Vacuum Dots		Vacuum Dots	
								Without	With	Without	With	Without	With
Tray	40	20.02 .788	15.21 .599	18.49 .728	0.10 .004	0	0.00 .000	1658048-1	2-1658048-1	1658017-1	2-1658017-1	1658467-1	2-1658467-1
	80	40.01 1.575	35.20 1.386	38.48 1.515	0.10 .004	1	20.00 .788	1658048-2	2-1658048-2	1658017-2	2-1658017-2	1658467-2	2-1658467-2
	120	60.02 2.363	55.22 2.174	58.50 2.303	0.10 .004	2	40.00 1.575	1658048-3	2-1658048-3	1658017-3	2-1658017-3	1658467-3	2-1658467-3
	160	80.01 3.015	75.21 2.961	78.49 3.090	0.15 .006	3	60.01 2.362	1658048-4	2-1658048-4	1658017-4	2-1658017-4	1658467-4	2-1658467-4
	200	100.03 3.938	95.22 3.749	98.50 3.878	0.15 .006	4	80.01 3.150	1658048-5	2-1658048-5	1658017-5	2-1658017-5	1658467-5	2-1658467-5

Note: All part numbers are RoHS compliant.

MICTOR SB Interconnection System (Continued)

**0.80 [.032] Centerline
22.00 [.866] Stack Height
Plugs**

Note: Parts are available with vacuum dots for robotic placement.



**Recommended PC Board Layout
(Viewed from Connector Side)**

**MICTOR SB
Interconnection System**

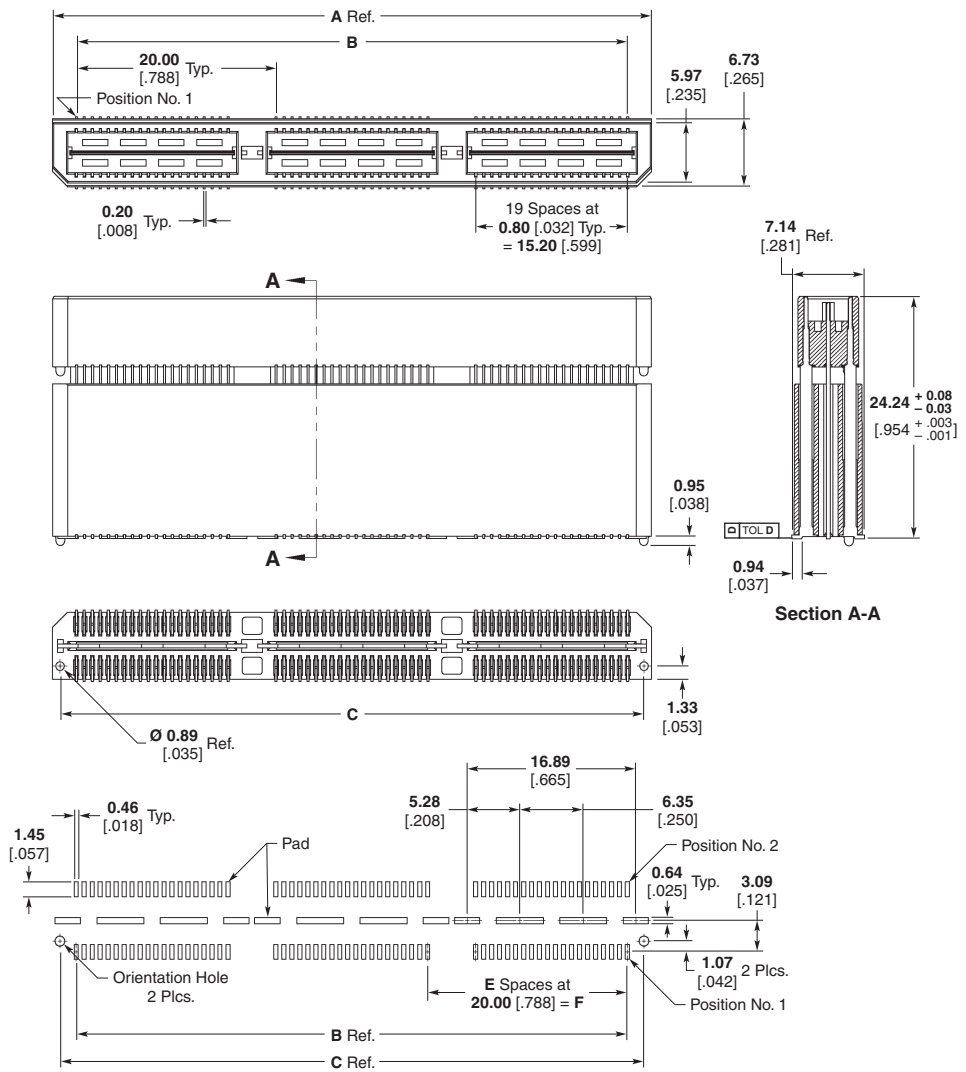
Packaging Type	No. of Positions	Dimensions						Gold Flash Plating		10 μ Gold Plating		30 μ Gold Plating	
		A	B	C	D	E	F	Vacuum Dots		Vacuum Dots		Vacuum Dots	
								Without	With	Without	With	Without	With
Tray	40	20.02 .788	15.21 .599	18.49 .728	0.10 .004	0	0.00 .000	1658049-1	2-1658049-1	1658018-1	2-1658018-1	1658468-1	2-1658468-1
	80	40.01 1.575	35.20 1.386	38.48 1.515	0.10 .004	1	0.10 .788	1658049-2	2-1658049-2	1658018-2	2-1658018-2	1658468-2	2-1658468-2
	120	60.02 2.363	55.22 2.174	58.50 2.303	0.10 .004	2	40.00 1.575	1658049-3	2-1658049-3	1658018-3	2-1658018-3	1658468-3	2-1658468-3
	160	80.01 3.015	75.21 2.961	78.49 3.090	0.15 .006	3	60.01 2.362	1658049-4	2-1658049-4	1658018-4	2-1658018-4	1658468-4	2-1658468-4
	200	100.03 3.938	95.22 3.749	98.50 3.878	0.15 .006	4	80.01 3.150	1658049-5	2-1658049-5	1658018-5	2-1658018-5	1658468-5	2-1658468-5

Note: All part numbers are RoHS compliant.

MICTOR SB Interconnection System (Continued)

0.80 [.032] Centerline
25.00 [.984] Stack Height
Plugs

Note: Parts are available with vacuum dots for robotic placement.



Recommended PC Board Layout
(Viewed from Connector Side)

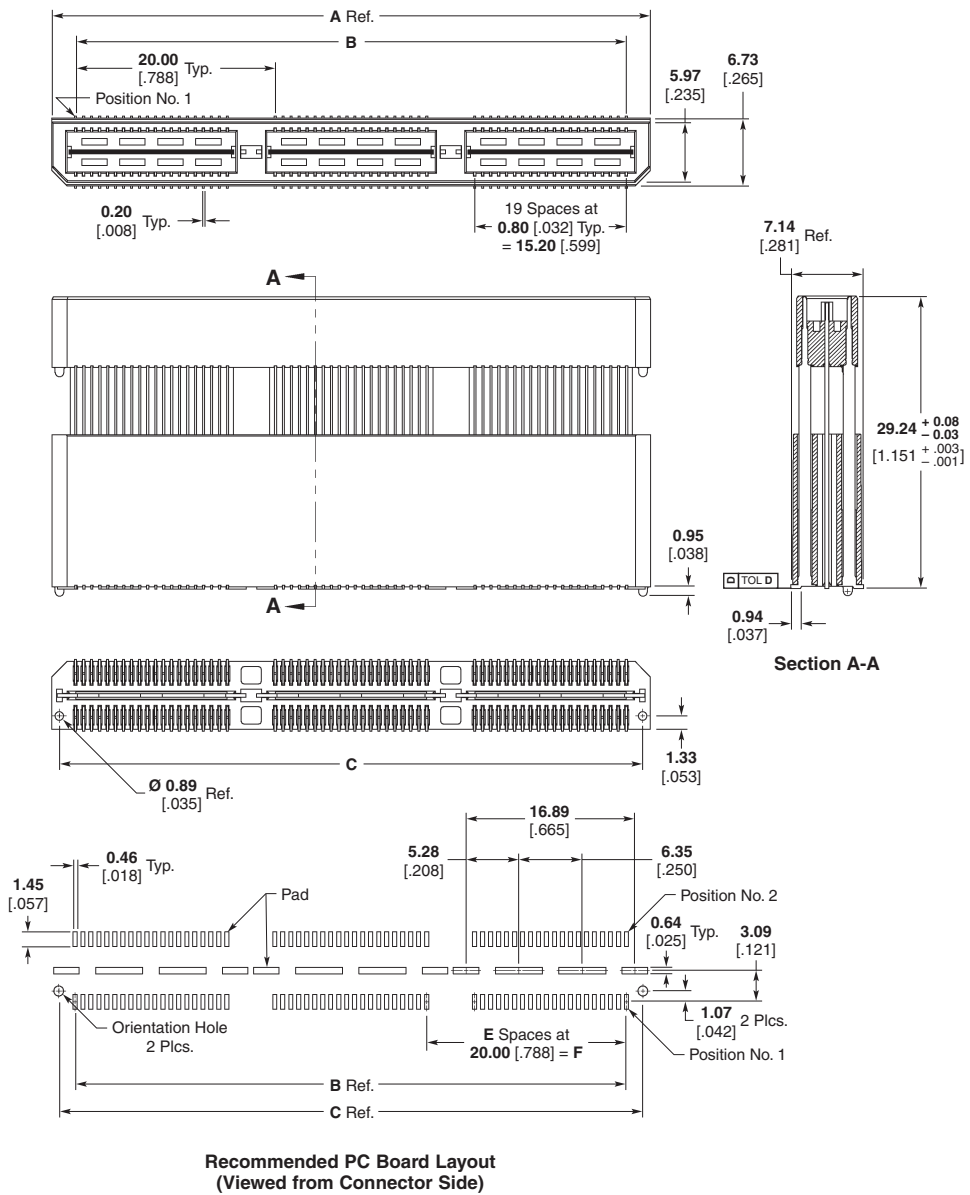
Packaging Type	No. of Positions	Dimensions						Gold Flash Plating		10 μ Gold Plating		30 μ Gold Plating	
		A	B	C	D	E	F	Vacuum Dots		Vacuum Dots		Vacuum Dots	
								Without	With	Without	With	Without	With
Tray	40	20.02 .788	15.21 .599	18.49 .728	0.10 .004	0	0.00 .000	1658050-1	—	1658019-1	—	1658469-1	—
	80	40.01 1.575	35.20 1.386	38.48 1.515	0.10 .004	1	20.00 .788	1658050-2	—	1658019-2	—	1658469-2	—
	120	60.02 2.363	55.22 2.174	58.50 2.303	0.10 .004	2	40.00 1.575	1658050-3	—	1658019-3	—	1658469-3	—
	160	80.01 3.015	75.21 2.961	78.49 3.090	0.15 .006	3	60.01 2.362	1658050-4	—	1658019-4	—	1658469-4	—
	200	100.03 3.938	95.22 3.749	98.50 3.878	0.15 .006	4	80.01 3.150	1658050-5	—	1658019-5	—	1658469-5	—

Note: All part numbers are RoHS compliant.

MICTOR SB Interconnection System (Continued)

0.80 [0.032] Centerline
30.00 [1.181] Stack Height
Plugs

Note: Parts are available with vacuum dots for robotic placement.



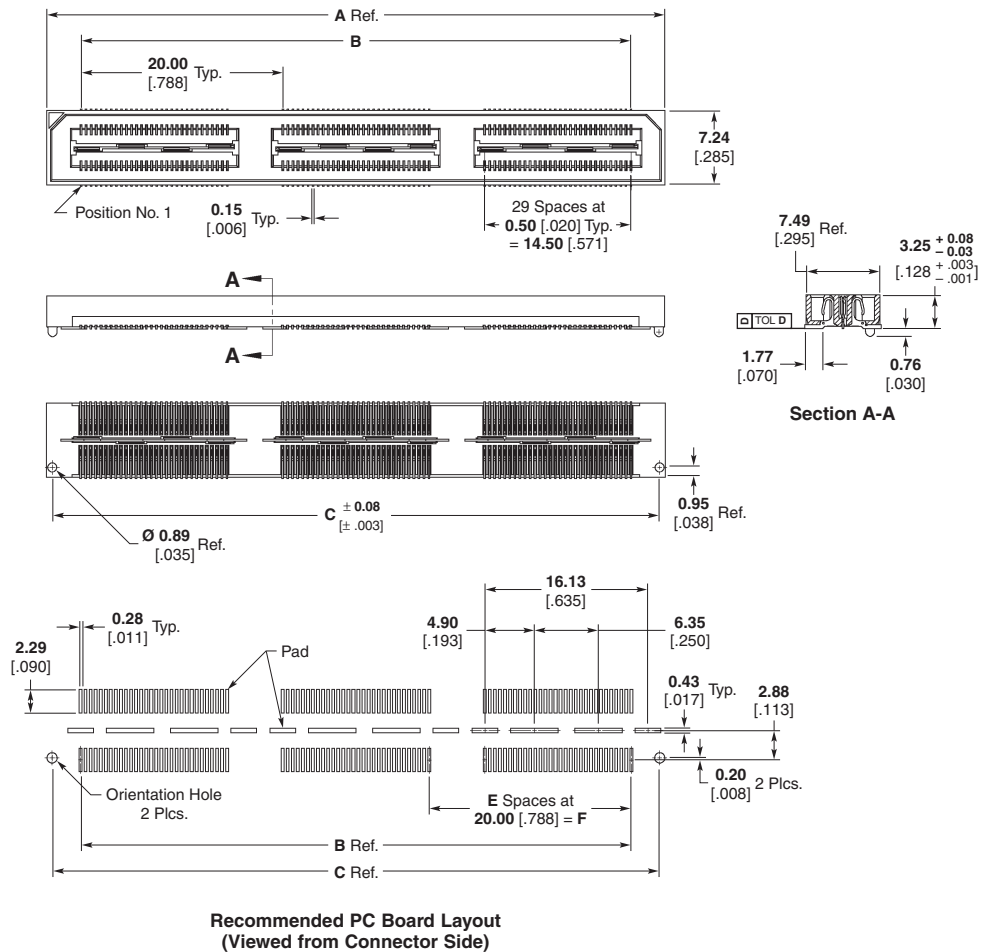
Packaging Type	No. of Positions	Dimensions						Gold Flash Plating		10 μ Gold Plating		30 μ Gold Plating	
		A	B	C	D	E	F	Vacuum Dots		Vacuum Dots		Vacuum Dots	
								Without	With	Without	With	Without	With
Tray	40	20.02 .788	15.21 .599	18.49 .728	0.10 .004	0	0.00 .000	1658051-1	—	1658020-1	—	1658470-1	—
	80	40.01 1.575	35.20 1.386	38.48 1.515	0.10 .004	1	20.00 .788	1658051-2	—	1658020-2	—	1658470-2	—
	120	60.02 2.363	55.22 2.174	58.50 2.303	0.10 .004	2	40.00 1.575	1658051-3	—	1658020-3	—	1658470-3	—
	160	80.01 3.015	75.21 2.961	78.49 3.090	0.15 .006	3	60.01 2.362	1658051-4	—	1658020-4	—	1658470-4	—
	200	100.03 3.938	95.22 3.749	98.50 3.878	0.15 .006	4	80.01 3.150	1658051-5	—	1658020-5	—	1658470-5	—

Note: All part numbers are RoHS compliant.

MICTOR SB Interconnection System (Continued)

0.50 [.020] Centerline Receptacles

Note: Parts are available with vacuum dots for robotic placement.



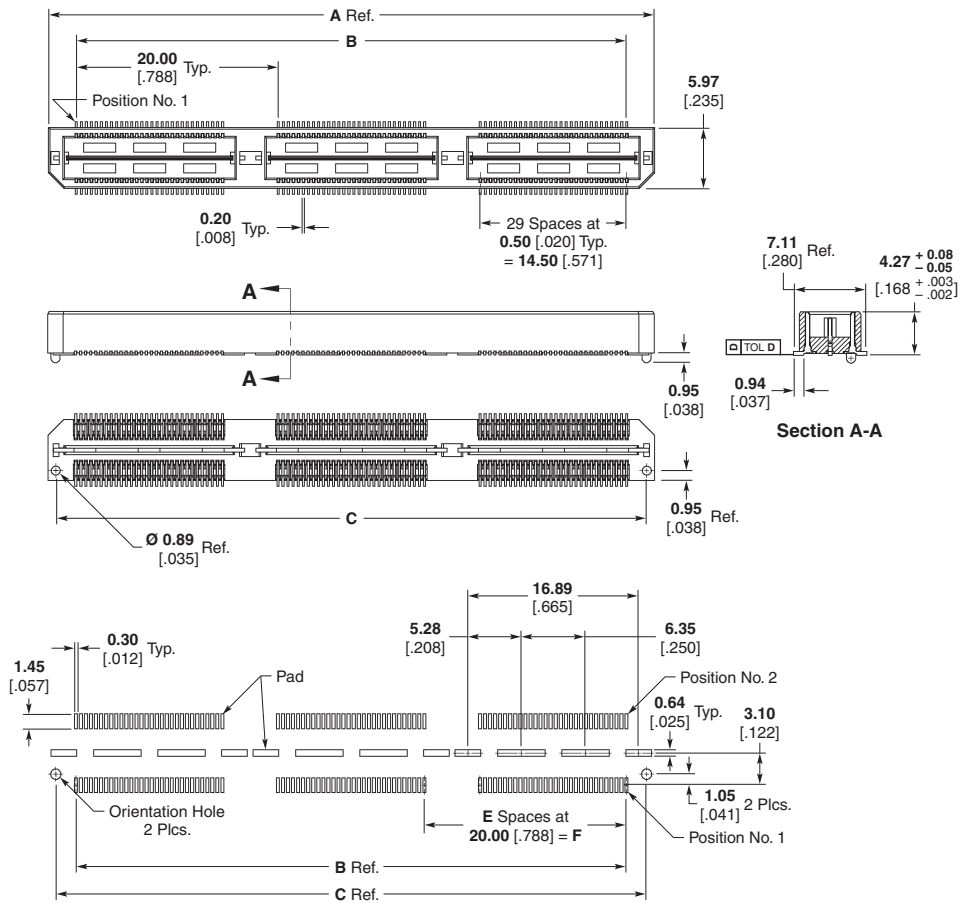
Packaging Type	No. of Positions	Dimensions						Gold Flash Plating		10 μ Gold Plating	
		A	B	C	D	E	F	Vacuum Dots		Vacuum Dots	
								Without	With	Without	With
Tray	60	21.29 .838	14.50 .571	20.13 .793	0.10 .004	0	0.00 .000	1658052-1	2-1658052-1	1658021-1	2-1658021-1
	120	41.28 1.625	34.51 1.359	40.13 1.580	0.10 .004	1	20.00 .788	1658052-2	2-1658052-2	1658021-2	2-1658021-2
	180	61.28 2.412	54.51 2.146	60.13 2.368	0.15 .006	2	40.00 1.575	1658052-3	2-1658052-3	1658021-3	2-1658021-3
	240	81.28 3.200	74.51 2.934	80.14 3.155	0.15 .006	3	60.01 2.362	1658052-4	2-1658052-4	1658021-4	2-1658021-4
	300	101.30 3.988	94.51 3.721	100.14 3.943	0.15 .006	4	80.01 3.150	1658052-5	2-1658052-5	1658021-5	2-1658021-5
Tape & Reel	60	21.29 0.838	14.50 0.571	20.13 0.793	0.10 .004	0	0.00 .000	4-1658052-1	6-1658052-1	4-1658021-1	6-1658021-1
	120	41.28 1.625	34.51 1.359	40.13 1.580	0.10 .004	1	20.00 .788	4-1658052-2	6-1658052-2	4-1658021-2	6-1658021-2
	180	61.28 2.412	54.51 2.146	60.13 2.368	0.15 .006	2	40.00 1.575	4-1658052-3	6-1658052-3	4-1658021-3	6-1658021-3

Note: All part numbers are RoHS compliant.

MICTOR SB Interconnection System (Continued)

0.50 [.020] Centerline
5.00 [.197] Stack Height
Plugs

Note: Parts are available with vacuum dots for robotic placement.



**Recommended PC Board Layout
(Viewed from Connector Side)**

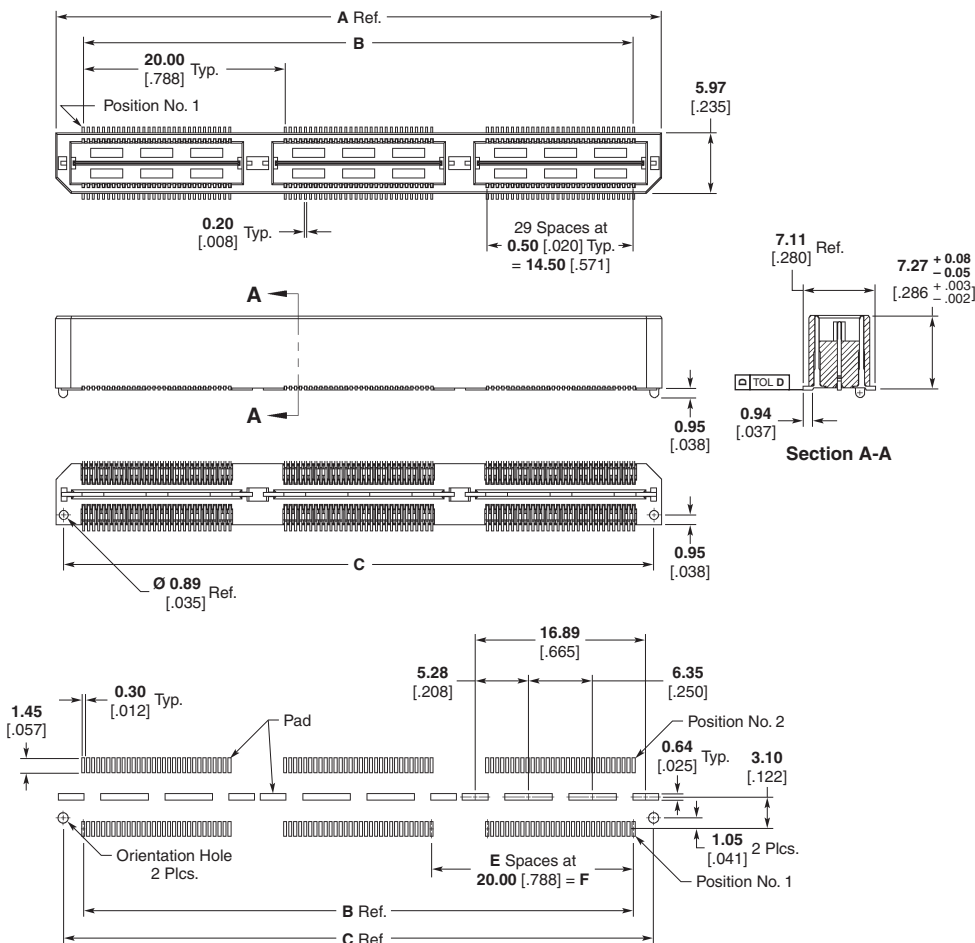
Packaging Type	No. of Positions	Dimensions						Gold Flash Plating		10 μ Gold Plating	
		A	B	C	D	E	F	Vacuum Dots		Vacuum Dots	
								Without	With	Without	With
Tray	60	20.02 .788	14.50 .571	18.49 .728	0.10 .004	0	0.00 .000	1658053-1	2-1658053-1	1658022-1	2-1658022-1
	120	40.01 1.575	34.51 1.359	38.48 1.515	0.10 .004	1	20.00 .788	1658053-2	2-1658053-2	1658022-2	2-1658022-2
	180	60.02 2.363	54.51 2.146	58.50 2.303	0.10 .004	2	40.00 1.575	1658053-3	2-1658053-3	1658022-3	2-1658022-3
	240	80.01 3.150	74.51 2.934	78.49 3.090	0.15 .006	3	60.01 2.362	1658053-4	2-1658053-4	1658022-4	2-1658022-4
	300	100.03 3.938	94.51 3.721	98.50 3.878	0.15 .006	4	80.01 3.150	1658053-5	2-1658053-5	1658022-5	2-1658022-5
Tape & Reel	60	20.02 .788	14.50 0.571	18.49 0.728	0.10 .004	0	0.00 .000	4-1658053-1	6-1658053-1	4-1658022-1	6-1658022-1
	120	40.01 1.575	34.51 1.359	38.48 1.515	0.10 .004	1	20.00 .788	4-1658053-2	6-1658053-2	4-1658022-2	6-1658022-2
	180	60.02 2.363	54.51 2.146	58.50 2.303	0.10 .004	2	40.00 1.575	4-1658053-3	6-1658053-3	4-1658022-3	6-1658022-3

Note: All part numbers are RoHS compliant.

MICTOR SB Interconnection System (Continued)

0.50 [.020] Centerline
8.00 [.315] Stack Height
Plugs

Note: Parts are available with vacuum dots for robotic placement.



Recommended PC Board Layout
(Viewed from Connector Side)

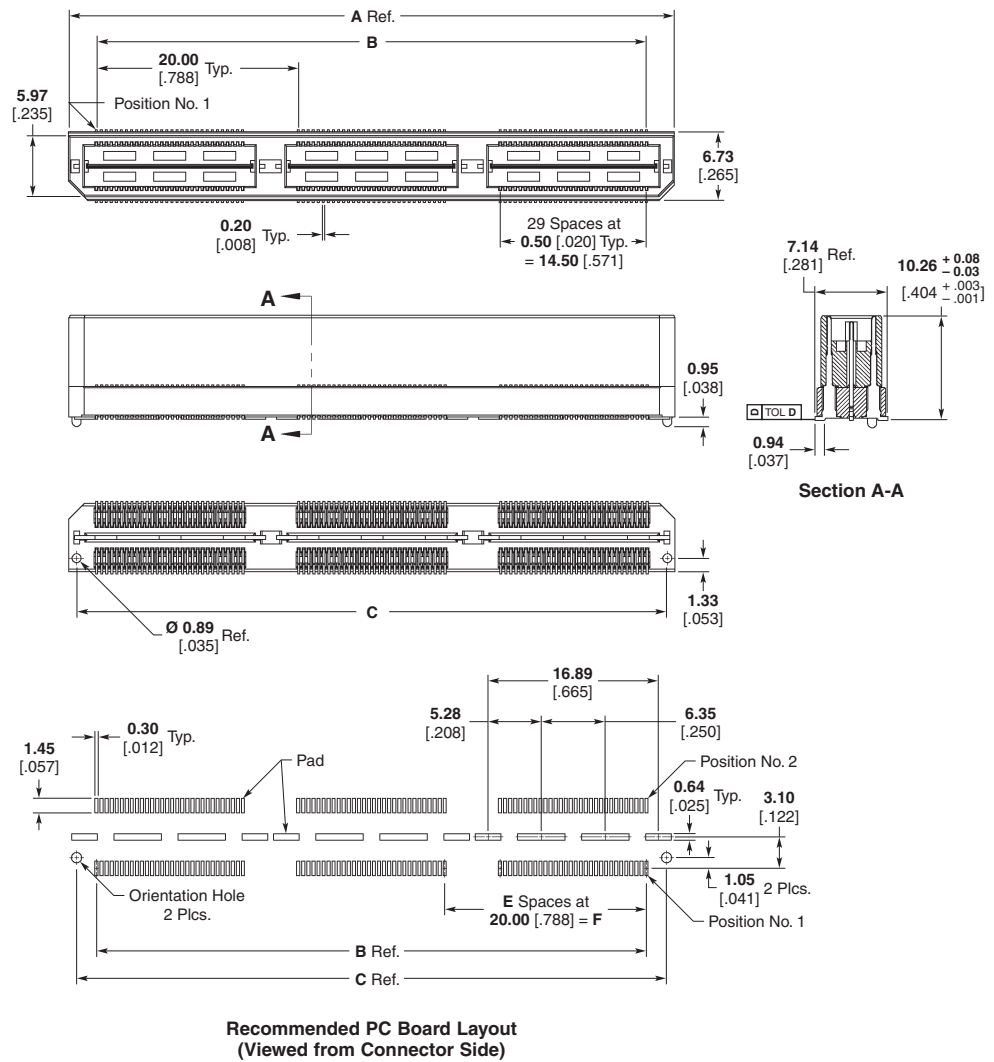
Packaging Type	No. of Positions	Dimensions						Gold Flash Plating		10 μ Gold Plating	
		A	B	C	D	E	F	Vacuum Dots		Vacuum Dots	
								Without	With	Without	With
Tray	60	20.02 .788	14.50 .571	18.49 .728	0.10 .004	0	0.00 .000	1658054-1	2-1658054-1	1658023-1	2-1658023-1
	120	40.01 1.575	34.51 1.359	38.48 1.515	0.10 .004	1	20.00 .788	1658054-2	2-1658054-2	1658023-2	2-1658023-2
	180	60.02 2.363	54.51 2.146	58.50 2.303	0.10 .004	2	40.00 1.575	1658054-3	2-1658054-3	1658023-3	2-1658023-3
	240	80.01 3.150	74.51 2.934	78.49 3.090	0.15 .006	3	60.01 2.362	1658054-4	2-1658054-4	1658023-4	2-1658023-4
	300	100.03 3.938	94.51 3.721	98.50 3.878	0.15 .006	4	80.01 3.150	1658054-5	2-1658054-5	1658023-5	2-1658023-5
Tape & Reel	60	20.02 .788	14.50 0.571	18.49 0.728	0.10 .004	0	0.00 .000	4-1658054-1	6-1658054-1	4-1658023-1	6-1658023-1
	120	40.01 1.575	34.51 1.359	38.48 1.515	0.10 .004	1	20.00 .788	4-1658054-2	6-1658054-2	4-1658023-2	6-1658023-2
	180	60.02 2.363	54.51 2.146	58.50 2.303	0.10 .004	2	40.00 1.575	4-1658054-3	6-1658054-3	4-1658023-3	6-1658023-3

Note: All part numbers are RoHS compliant.

MICTOR SB Interconnection System (Continued)

**0.50 [.020] Centerline
11.00 [.433] Stack Height
Plugs**

Note: Parts are available with vacuum dots for robotic placement.



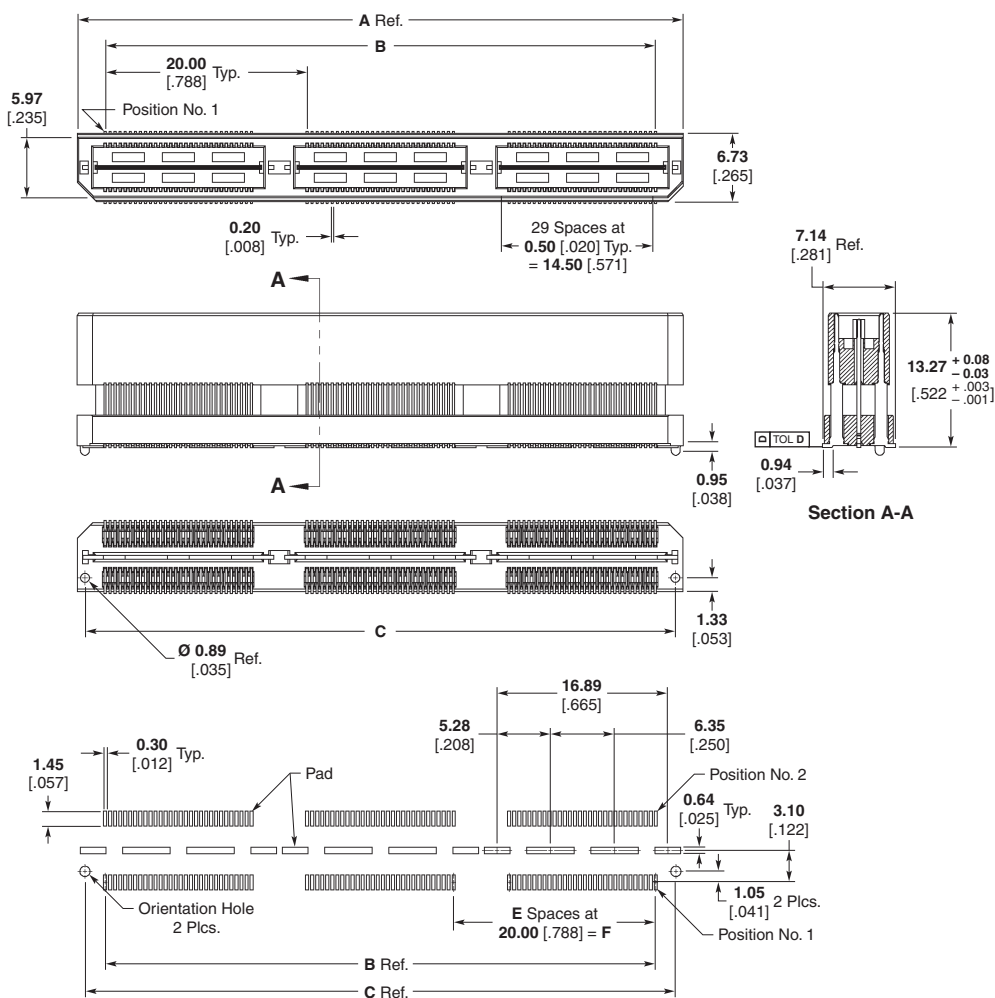
MICTOR SB
Interconnection System

Packaging Type	No. of Positions	Dimensions						Gold Flash Plating		10 μ Gold Plating	
		A	B	C	D	E	F	Vacuum Dots		Vacuum Dots	
								Without	With	Without	With
Tray	60	20.02 .788	14.50 .571	18.49 .728	0.10 .004	0	0.00 .000	1658055-1	2-1658055-1	1658024-1	2-1658024-1
	120	40.01 1.575	34.51 1.359	38.48 1.515	0.10 .004	1	20.00 .788	1658055-2	2-1658055-2	1658024-2	2-1658024-2
	180	60.02 2.363	54.51 2.146	58.50 2.303	0.10 .004	2	40.00 1.575	1658055-3	2-1658055-3	1658024-3	2-1658024-3
	240	80.01 3.150	74.51 2.934	78.49 3.090	0.15 .006	3	60.01 2.362	1658055-4	2-1658055-4	1658024-4	2-1658024-4
	300	100.03 3.938	94.51 3.721	98.50 3.878	0.15 .006	4	80.01 3.150	1658055-5	2-1658055-5	1658024-5	2-1658024-5
Tape & Reel	60	20.02 .788	14.50 0.571	18.49 0.728	0.10 .004	0	0.00 .000	4-1658055-1	6-1658055-1	4-1658024-1	6-1658024-1
	120	40.01 1.575	34.51 1.359	38.48 1.515	0.10 .004	1	20.00 .788	4-1658055-2	6-1658055-2	4-1658024-2	6-1658024-2
	180	60.02 2.363	54.51 2.146	58.50 2.303	0.10 .004	2	40.00 1.575	4-1658055-3	6-1658055-3	4-1658024-3	6-1658024-3

Note: All part numbers are RoHS compliant.

MICTOR SB Interconnection System (Continued)

0.50 [.020] Centerline
14.00 [.551] Stack Height
Plugs



Note: Parts are available with vacuum dots for robotic placement.

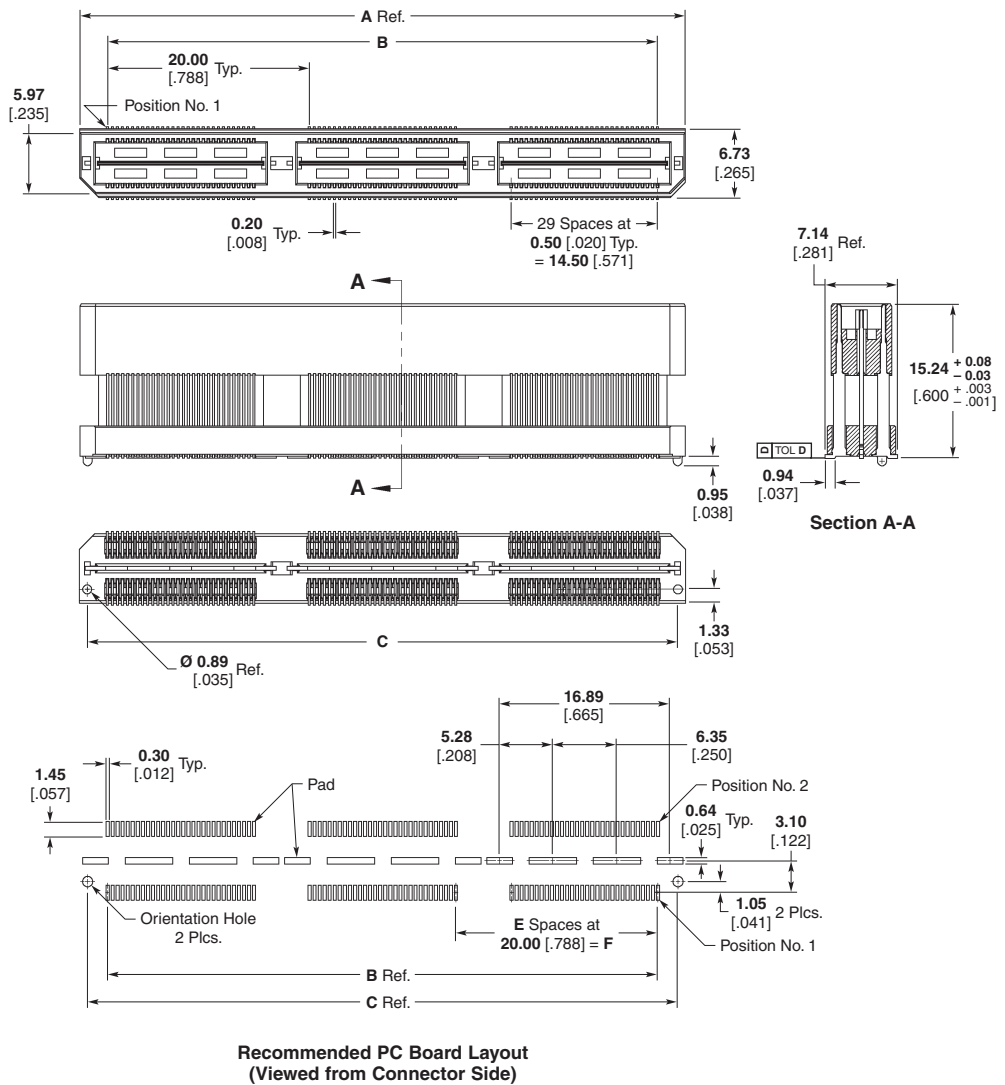
Recommended PC Board Layout (Viewed from Connector Side)

Packaging Type	No. of Positions	Dimensions						Gold Flash Plating		10 μ Gold Plating	
		A	B	C	D	E	F	Vacuum Dots		Vacuum Dots	
								Without	With	Without	With
Tray	60	20.02 .788	14.50 .571	18.49 .728	0.10 .004	0	0.00 .000	1658056-1	2-1658056-1	1658025-1	2-1658025-1
	120	40.01 1.575	34.51 1.359	38.48 1.515	0.10 .004	1	20.00 .788	1658056-2	2-1658056-2	1658025-2	2-1658025-2
	180	60.02 2.363	54.51 2.146	58.50 2.303	0.10 .004	2	40.00 1.575	1658056-3	2-1658056-3	1658025-3	2-1658025-3
	240	80.01 3.150	74.51 2.934	78.49 3.090	0.15 .006	3	60.01 2.362	1658056-4	2-1658056-4	1658025-4	2-1658025-4
	300	100.03 3.938	94.51 3.721	98.50 3.878	0.15 .006	4	80.01 3.150	1658056-5	2-1658056-5	1658025-5	2-1658025-5
Tape & Reel	60	20.02 .788	14.50 0.571	18.49 0.728	0.10 .004	0	0.00 .000	4-1658056-1	6-1658056-1	4-1658025-1	6-1658025-1
	120	40.01 1.575	34.51 1.359	38.48 1.515	0.10 .004	1	20.00 .788	4-1658056-2	6-1658056-2	4-1658025-2	6-1658025-2
	180	60.02 2.363	54.51 2.146	58.50 2.303	0.10 .004	2	40.00 1.575	4-1658056-3	6-1658056-3	4-1658025-3	6-1658025-3

Note: All part numbers are RoHS compliant.

MICTOR SB Interconnection System (Continued)

0.50 [.020] Centerline
16.00 [.630] Stack Height
Plugs



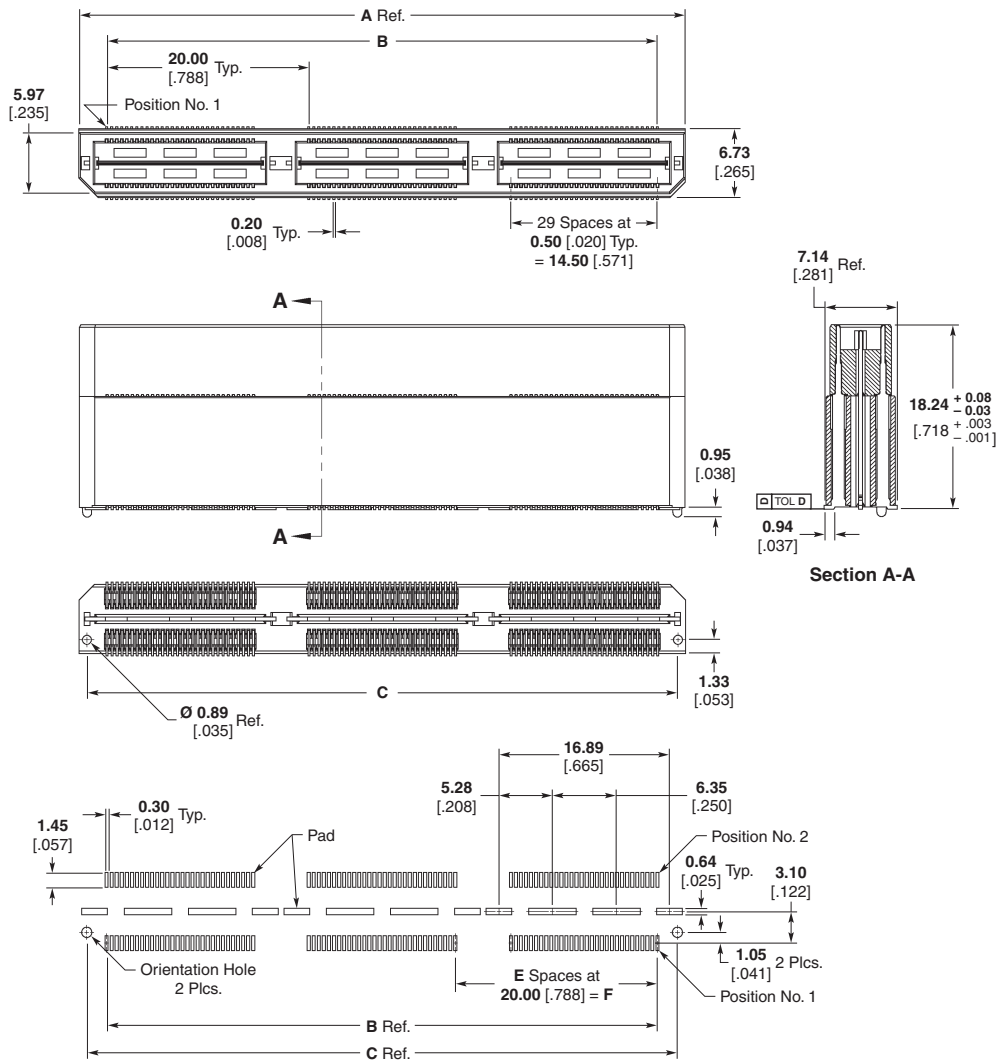
MICTOR SB
Interconnection System

Packaging Type	No. of Positions	Dimensions						Gold Flash Plating		10 µ Gold Plating	
		A	B	C	D	E	F	Vacuum Dots		Vacuum Dots	
Tray	60	20.02 .788	14.50 .571	18.49 .728	0.10 .004	0	0.00 .000	Without	With	Without	With
	120	40.01 1.575	34.51 1.359	38.48 1.515	0.10 .004	1	20.00 .788	Without	With	Without	With
	180	60.02 2.363	54.51 2.146	58.50 2.303	0.10 .004	2	40.00 1.575	Without	With	Without	With
	240	80.01 3.150	74.51 2.934	78.49 3.090	0.15 .006	3	60.01 2.362	Without	With	Without	With
	300	100.03 3.938	94.51 3.721	98.50 3.878	0.15 .006	4	80.01 3.150	Without	With	Without	With
Tape & Reel	60	20.02 .788	14.50 .571	18.49 .728	0.10 .004	0	0.00 .000	Without	With	Without	With
	120	40.01 1.575	34.51 1.359	38.48 1.515	0.10 .004	1	20.00 .788	Without	With	Without	With
	180	60.02 2.363	54.51 2.146	58.50 2.303	0.10 .004	2	40.00 1.575	Without	With	Without	With

Note: All part numbers are RoHS compliant.

MICTOR SB Interconnection System (Continued)

**0.50 [.020] Centerline
19.00 [.748] Stack Height
Plugs**



**Recommended PC Board Layout
(Viewed from Connector Side)**

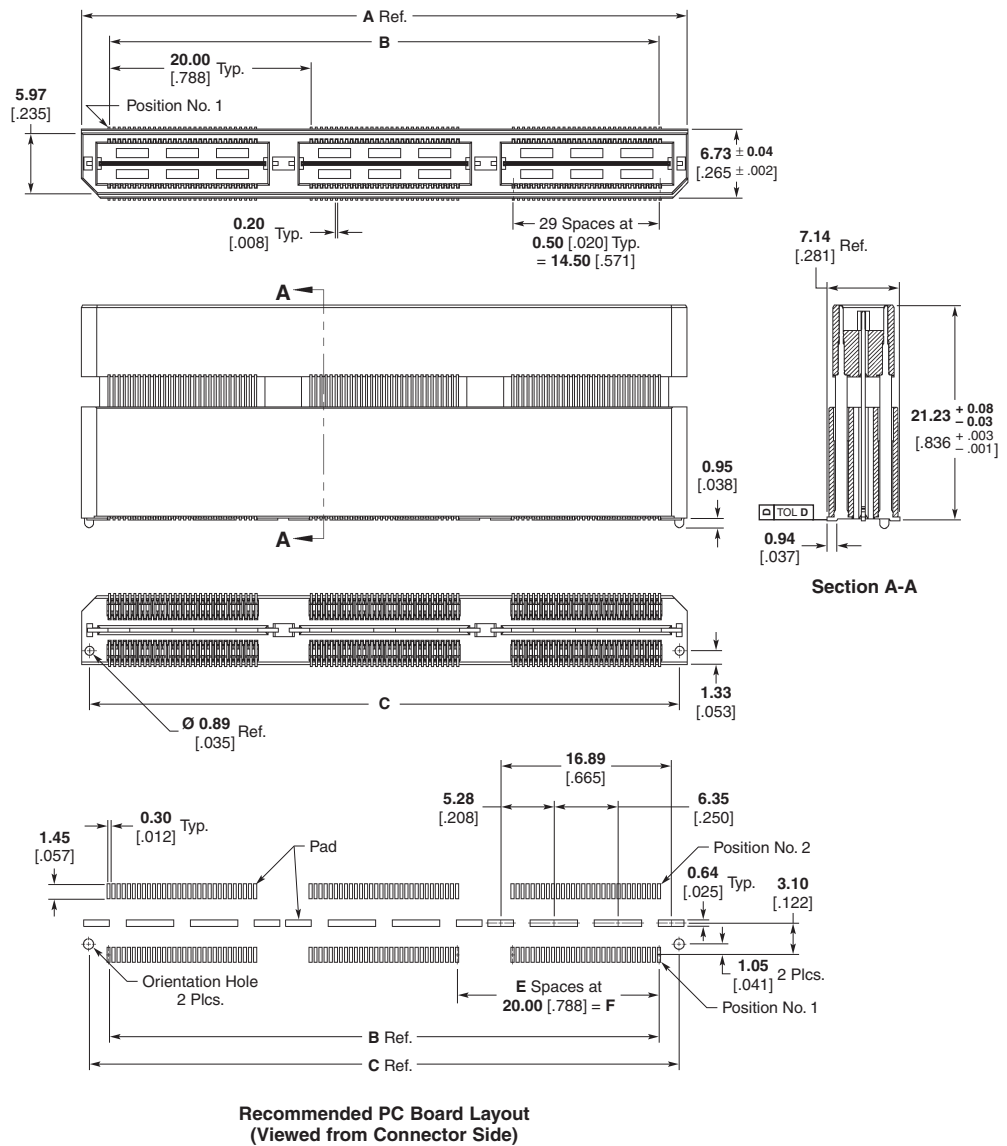
Packaging Type	No. of Positions	Dimensions						Gold Flash Plating		10 µ Gold Plating	
		A	B	C	D	E	F	Vacuum Dots		Vacuum Dots	
								Without	With	Without	With
Tray	60	20.02 .788	14.50 .571	18.49 .728	0.10 .004	0	0.00 .000	1658058-1	—	1658027-1	—
	120	40.01 1.575	34.51 1.359	38.48 1.515	0.10 .004	1	20.00 .788	1658058-2	—	1658027-2	—
	180	60.02 2.363	54.51 2.146	58.50 2.303	0.10 .004	2	40.00 1.575	1658058-3	—	1658027-3	—
	240	80.01 3.150	74.51 2.934	78.49 3.090	0.15 .006	3	60.01 2.362	1658058-4	—	1658027-4	—
	300	100.03 3.938	94.51 3.721	98.50 3.878	0.15 .006	4	80.01 3.150	1658058-5	—	1658027-5	—

Note: All part numbers are RoHS compliant.

MICTOR SB Interconnection System (Continued)

**0.50 [.020] Centerline
22.00 [.866] Stack Height
Plugs**

Note: Parts are available with vacuum dots for robotic placement.

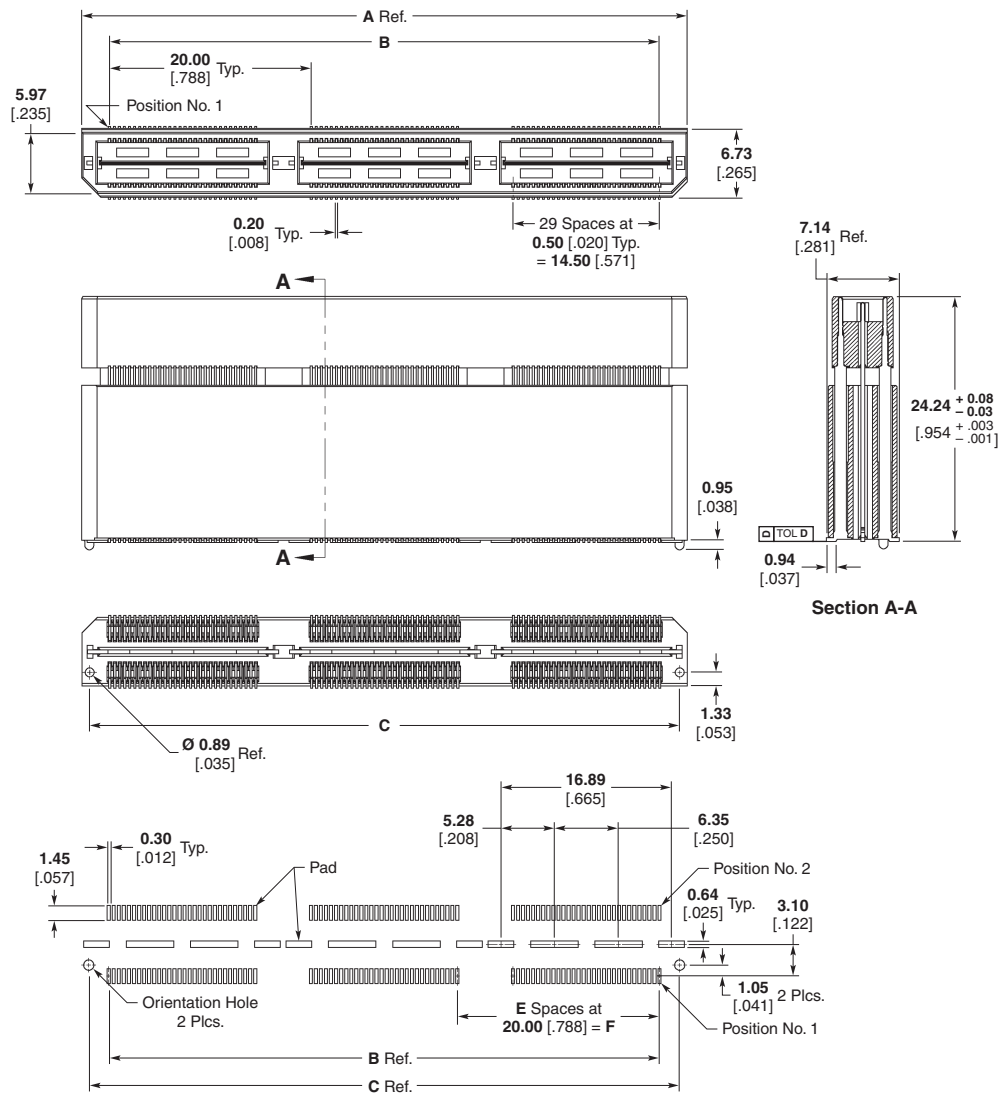


Packaging Type	No. of Positions	Dimensions						Gold Flash Plating		10 µ Gold Plating	
		A	B	C	D	E	F	Vacuum Dots		Vacuum Dots	
								Without	With	Without	With
Tray	60	20.02 .788	14.50 .571	18.49 .728	0.10 .004	0	0.00 .000	1658059-1	—	1658028-1	—
	120	40.01 1.575	34.51 1.359	38.48 1.515	0.10 .004	1	20.00 .788	1658059-2	—	1658028-2	—
	180	60.02 2.363	54.51 2.146	58.50 2.303	0.10 .004	2	40.00 1.575	1658059-3	—	1658028-3	—
	240	80.01 3.150	74.51 2.934	78.49 3.090	0.15 .006	3	60.01 2.362	1658059-4	—	1658028-4	—
	300	100.03 3.938	94.51 3.721	98.50 3.878	0.15 .006	4	80.01 3.150	1658059-5	—	1658028-5	—

Note: All part numbers are RoHS compliant.

MICTOR SB Interconnection System (Continued)

**0.50 [.020] Centerline
25.00 [.984] Stack Height
Plugs**



**Recommended PC Board Layout
(Viewed from Connector Side)**

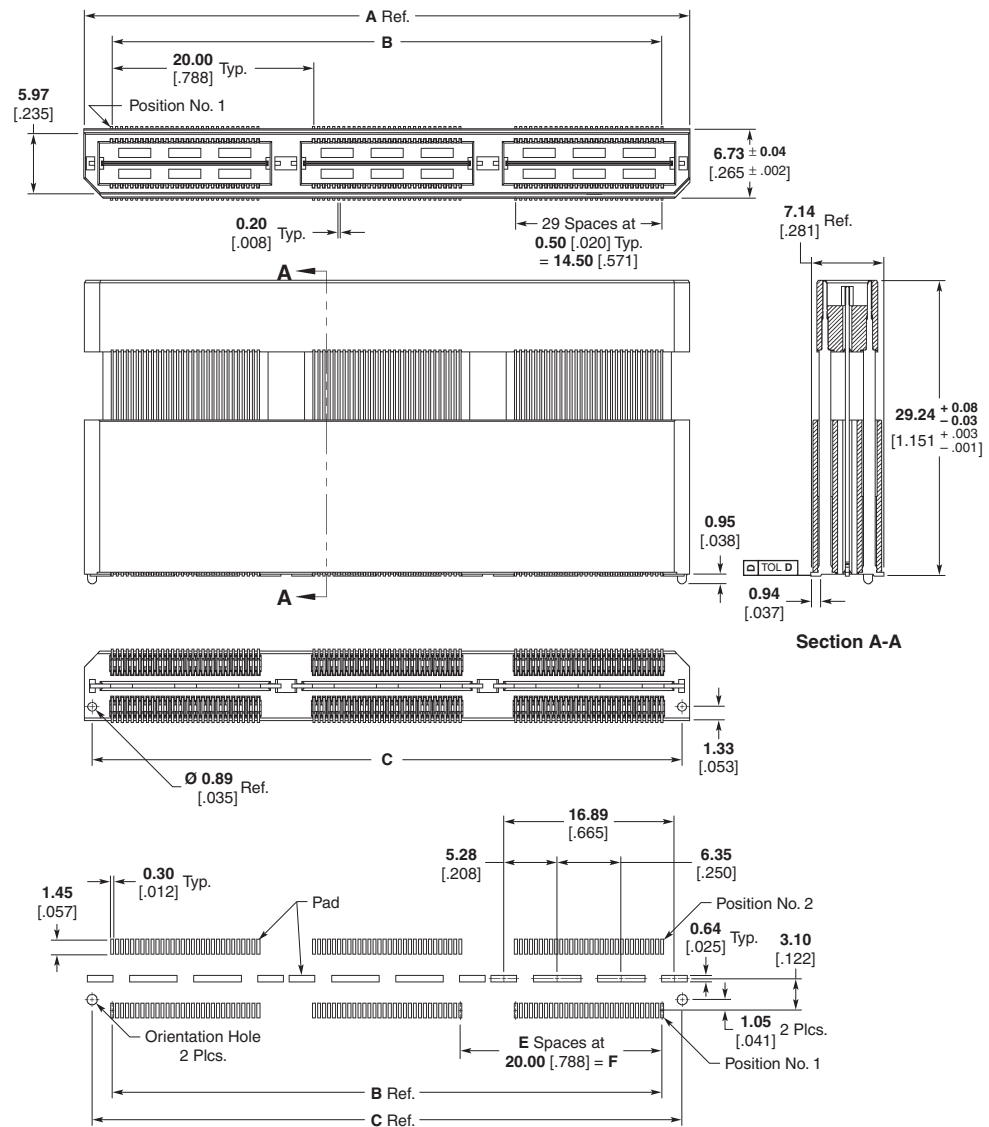
Packaging Type	No. of Positions	Dimensions						Gold Flash Plating		10 μ Gold Plating	
		A	B	C	D	E	F	Vacuum Dots		Vacuum Dots	
								Without	With	Without	With
Tray	60	20.02 .788	14.50 .571	18.49 .728	0.10 .004	0	0.00 .000	1658060-1	—	1658029-1	—
	120	40.01 1.575	34.51 1.359	38.48 1.515	0.10 .004	1	20.00 .788	1658060-2	—	1658029-2	—
	180	60.02 2.363	54.51 2.146	58.50 2.303	0.10 .004	2	40.00 1.575	1658060-3	—	1658029-3	—
	240	80.01 3.150	74.51 2.934	78.49 3.090	0.15 .006	3	60.01 2.362	1658060-4	—	1658029-4	—
	300	100.03 3.938	94.51 3.721	98.50 3.878	0.15 .006	4	80.01 3.150	1658060-5	—	1658029-5	—

Note: All part numbers are RoHS compliant.

MICTOR SB Interconnection System (Continued)

0.50 [.020] Centerline
30.00 [1.181] Stack Height
Plugs

Note: Parts are available with vacuum dots for robotic placement.



Recommended PC Board Layout
(Viewed from Connector Side)

MICTOR SB
Interconnection System

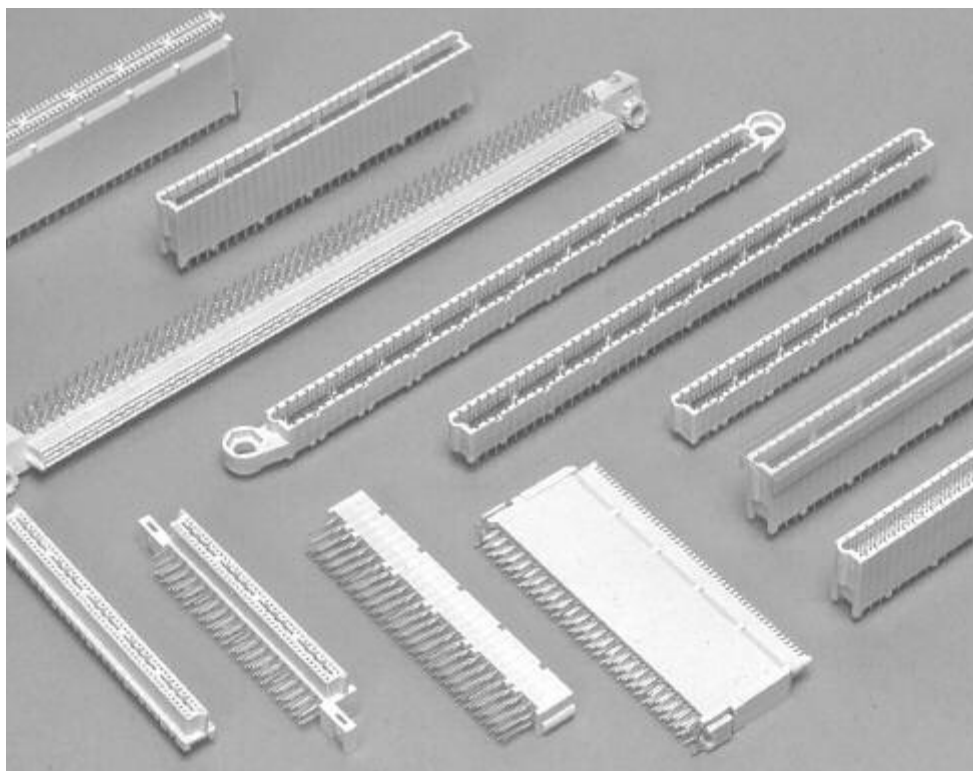
Packaging Type	No. of Positions	Dimensions						Gold Flash Plating		10 μ Gold Plating	
		A	B	C	D	E	F	Vacuum Dots		Vacuum Dots	
								Without	With	Without	With
Tray	60	20.02 .788	14.50 .571	18.49 .728	0.10 .004	0	0.00 .000	1658061-1	—	1658030-1	—
	120	40.01 1.575	34.51 1.359	38.48 1.515	0.10 .004	1	20.00 .788	1658061-2	—	1658030-2	—
	180	60.02 2.363	54.51 2.146	58.50 2.303	0.10 .004	2	40.00 1.575	1658061-3	—	1658030-3	—
	240	80.01 3.150	74.51 2.934	78.49 3.090	0.15 .006	3	60.01 2.362	1658061-4	—	1658030-4	—
	300	100.03 3.938	94.51 3.721	98.50 3.878	0.15 .006	4	80.01 3.150	1658061-5	—	1658030-5	—

Note: All part numbers are RoHS compliant.

Introduction to the Micro-Strip Interconnection System (1.27 x 2.54 [.050 x .100] Centerline)

Product Facts

- Designed for high speed applications
- Provides controlled impedance
- Low inductance
- High density
- Superior electrical performance down to 100 picosecond rise times
- 40 high speed signal lines per inch
- Daughtercard-to-motherboard stacking connectors available in sizes of 40 to 240 positions
- Custom stacking heights available: between 10.92 [.430] and 18.75 [.738] or 31.12 [1.225] and 38.94 [1.533]
- Cable-to-board system available in sizes of 40 to 120 positions
- Vertical and right-angle board mount receptacles for cable connectors
- Connector housings are polarized
- Recognized under the Component Program of Underwriters Laboratories Inc., File No. E28476 
- Certified by Canadian Standards Association, File No. LR 7189 



Tyco Electronics Micro-Strip connectors are a high density, controlled impedance connector family compatible with the requirements of high density and high speed data transmission technologies.

Each signal line within the mated connector is located at a specific distance from an integral, separable bus bar serving as a ground plane in a micro-strip configuration. The selection of housing dielectric, spacing from signal contact-to-ground plane and conductor geometry provide a specific charac-

teristic impedance plus very low inductance and capacitance.

Discontinuities resulting from connector structure and solder interfaces are dimensionally small and therefore appear transparent to high speed signals. Both vertical and right-angle board-to-board and cable-to-board connector versions share a nominal impedance of 50 ohms (single ended) or 100 ohms (differential pair).

Each one inch length of connector houses two electrically isolated high current contacts. When soldered to

the PC board ground plane, that ground plane is extended through the mated connector.

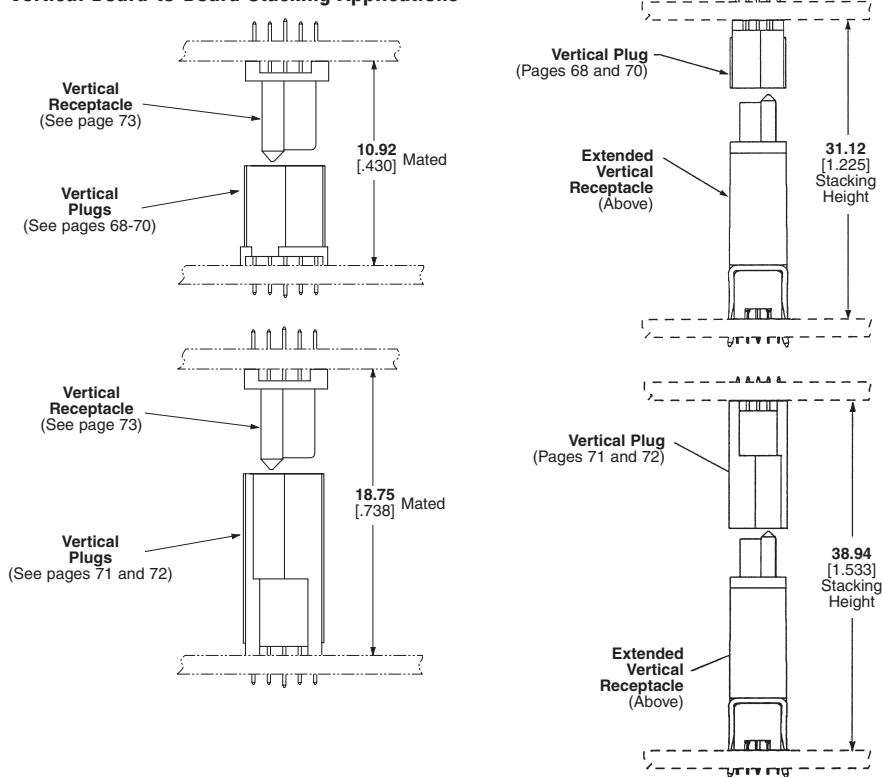
Resistance is minimized by a large contact area and short electrical length, providing signal return paths with negligible ground loop voltages. Since signal return is via the bus bars, signal-ground-signal alternation, common to high speed applications, becomes unnecessary. All contacts can be dedicated to signal transmission, effectively doubling connector density.

Introduction to the Micro-Strip Interconnection System (1.27 x 2.54 [.050 x .100] Centerline) (Continued)

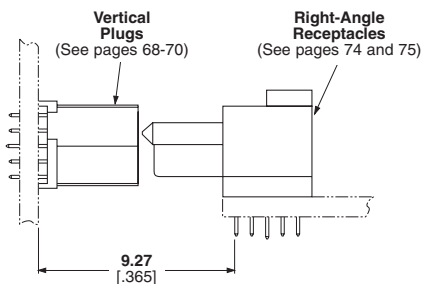
Performance Characteristics

Connector Impedance —
50 ohms $\pm 10\%$ at 1 ns
Configuration — 2.54 [.100]
signal row-to-signal row,
1.27 [.050] signal-to-ground,
1.27 [.050] signal-to-signal

Vertical Board-to-Board Stacking Applications

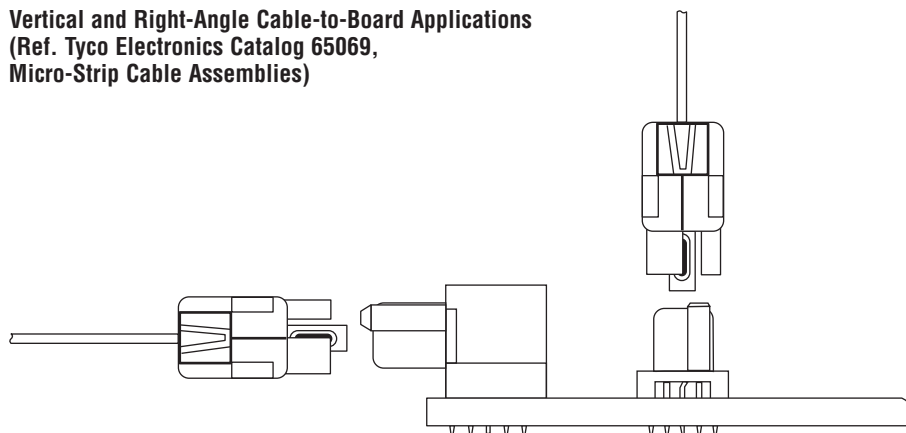


Right-Angle Board-to-Board Application* (Small Paddlecard Applications)



* Not recommended for use as a daughtercard/backplane interconnector.

Vertical and Right-Angle Cable-to-Board Applications (Ref. Tyco Electronics Catalog 65069, Micro-Strip Cable Assemblies)



Micro-Strip Vertical Plugs with Guides (Board-to-Board)

10.92 [.430] Stacking Height

Material and Finish

Housing — High-temperature thermo-plastic, flame retardant, natural color

Bus Bar — Phosphor bronze; duplex plated 0.00076 [.000030] gold in mating area, 0.00254 [.000100] tin-lead in terminating area, with entire bus underplated 0.00127 [.000050] nickel

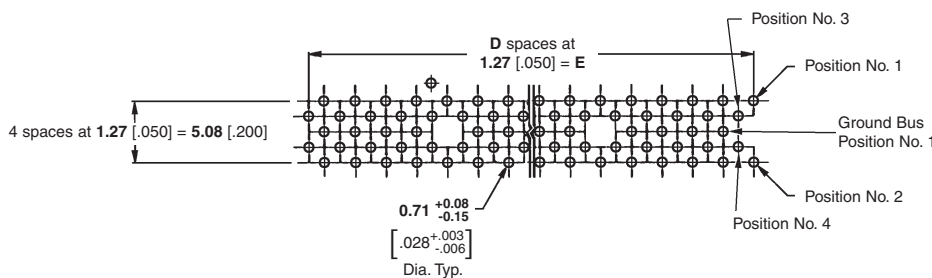
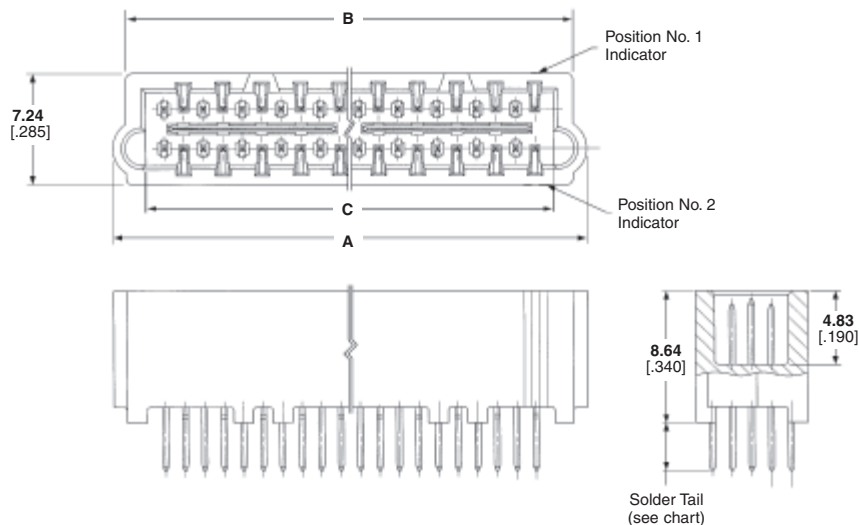
Signal Pin — Phosphor bronze; duplex plated 0.00076 [.000030] gold in mating area, 0.00254 [.000100] tin-lead in terminating area, with entire contact underplated 0.00127 [.000050] nickel

Related Product Data

Performance Characteristics —
page 67

Mating Receptacles —
pages 73, 74 and 76

Technical Documents — page 81



Recommended PC Board Layout

No. of Positions	Dimensions					Part Numbers	
	A	B	C	D	E	2.41 [.095] Solder Tail	3.18 [.125] Solder Tail
40	30.84 1.214	29.08 1.145	26.62 1.048	19	24.13 .950	536280-1◆	536272-1◆
60	43.54 1.714	41.78 1.645	39.32 1.548	29	36.83 1.450	536280-2◆	536272-2◆
80	56.24 2.214	54.48 2.145	52.02 2.048	39	49.53 1.950	536280-3◆	536272-3◆
100	68.94 2.714	67.18 2.645	64.72 2.548	49	62.23 2.450	536280-4◆	536272-4◆
120	81.64 3.214	79.88 3.145	77.42 3.048	59	74.93 2.950	536280-5◆	536272-5◆
140	94.34 3.714	92.58 3.645	90.12 3.548	69	87.63 3.450	536280-6◆	536272-6◆
160	107.04 4.214	105.28 4.145	102.82 4.048	79	100.33 3.950	536280-7◆	536272-7◆
180	119.74 4.714	117.98 4.645	115.52 4.548	89	113.03 4.450	536280-8◆	536272-8◆
200	132.44 5.214	130.68 5.145	128.22 5.048	99	125.73 4.950	536280-9◆	536272-9◆

Note: Part Numbers are RoHS compliant except: ◆ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

Micro-Strip Vertical Plugs with Guides (Board-to-Board) (Continued)

10.92 [.430] Stacking Height

Material and Finish

Housing — High-temperature thermo-plastic, flame retardant, natural color

Bus Bar — Phosphor bronze; duplex plated 0.00076 [.000030] gold in mating area, 0.00254 [.000100] tin-lead in terminating area, with entire bus under-plated 0.00127 [.000050] nickel

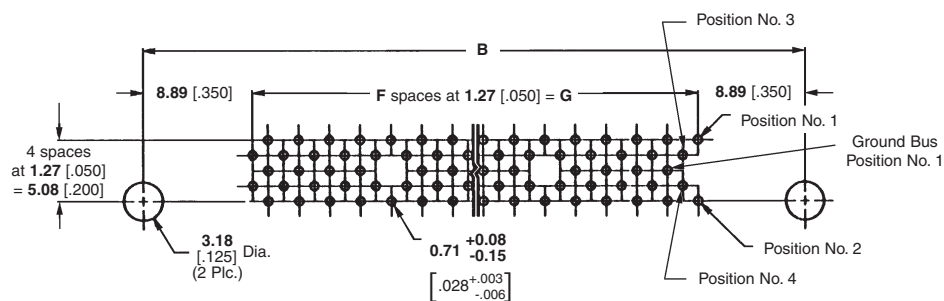
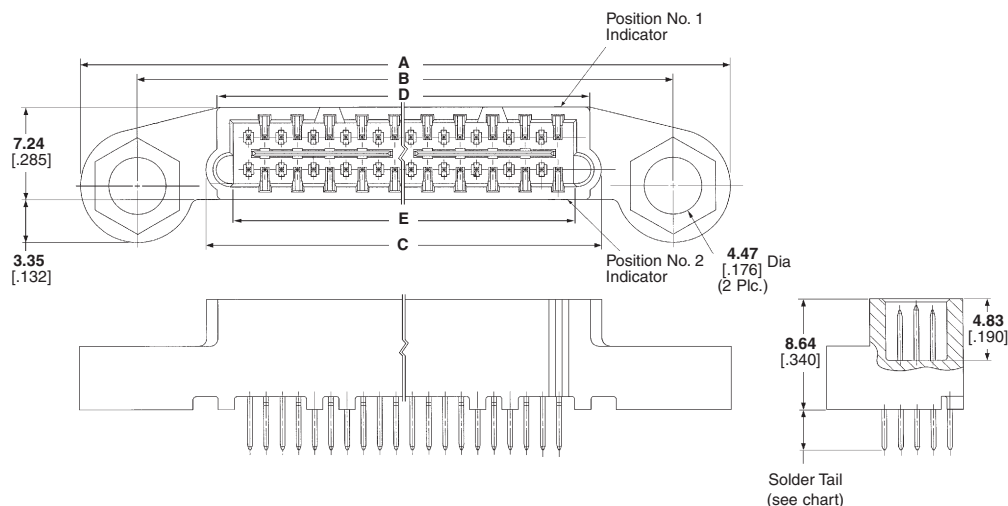
Signal Pin — Phosphor bronze; duplex plated 0.00076 [.000030] gold in mating area, 0.00254 [.000100] tin-lead in terminating area, with entire contact under-plated 0.00127 [.000050] nickel

Related Product Data

Performance Characteristics —
page 67

Mating Receptacles — page 75

Technical Documents — page 81



Recommended PC Board Layout

Note: Guide Pins must be purchased separately; order Part Number 536304-2.

No. of Positions	Dimensions							Part Number
	A	B	C	D	E	F	G	3.18 [.125] Solder Tail
140	114.30 4.500	105.41 4.150	94.34 3.714	92.58 3.645	90.12 3.548	69	87.63 3.450	536303-1●
160	127.00 5.000	118.11 4.650	107.04 4.214	105.28 4.145	102.82 4.048	79	100.33 3.950	536303-2●
200	152.40 6.000	143.51 5.560	132.44 5.214	130.68 5.145	128.22 5.048	99	125.73 4.950	536303-4●

Note: Part Numbers are RoHS compliant except: ● Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

Micro-Strip Vertical Plugs with ACTION PIN Contacts (Board-to-Board)

**10.92 [.430]
Stacking Height**

Material and Finish

Housing — High-temperature thermo-plastic, flame retardant, natural color

Bus Bar — Phosphor bronze; duplex plated 0.00076 [.000030] gold in mating area, 0.00254 [.000100] tin-lead in terminating area, with entire bus underplated 0.00127 [.000050] nickel

Signal Pin — Phosphor bronze; duplex plated 0.00076 [.000030] gold in mating area, 0.00254 [.000100] tin-lead in terminating area, with entire contact underplated 0.00127 [.000050] nickel

Related Product Data

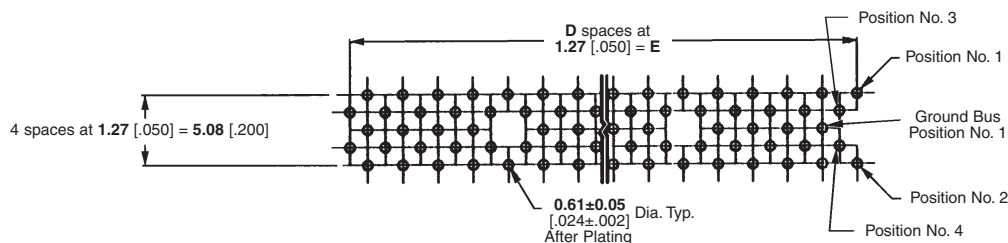
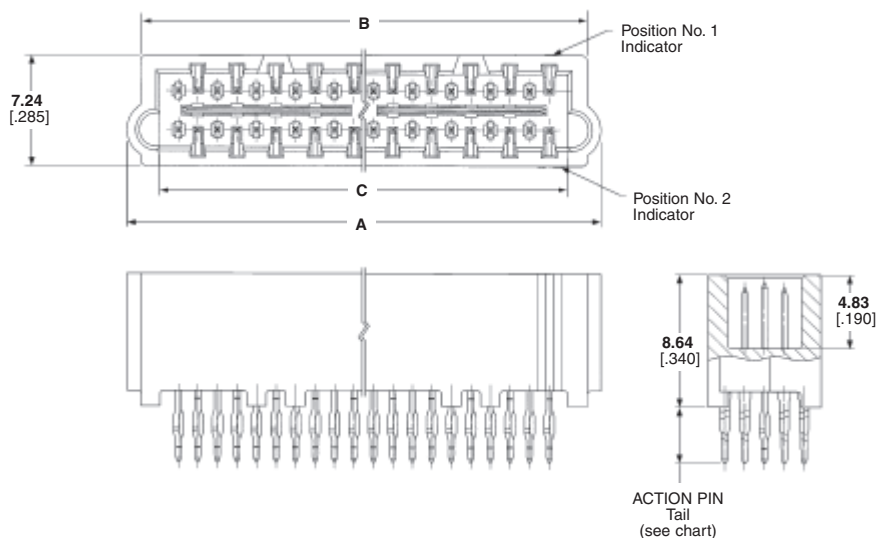
Performance Characteristics —
page 67

Mating Receptacles —
pages 73, 74 and 76

ACTION PIN Contacts —
pages 78 and 79

Application Tooling —
pages 80

Technical Documents — page 81



**Recommended PC Board Layout
(Connector Side of Board Shown)**

No. of Positions	Dimensions					Part Numbers
	A	B	C	D	E	
40	30.84 1.214	29.08 1.145	26.62 1.048	19	24.13 .950	536274-1●
80	56.24 2.214	54.48 2.145	52.02 2.048	39	49.53 1.950	536274-3●
100	68.94 2.714	67.18 2.645	64.72 2.548	49	62.23 2.450	536274-4●
120	81.64 3.214	79.88 3.145	77.42 3.048	59	74.93 2.950	536274-5●
140	94.34 3.714	92.58 3.645	90.12 3.548	69	87.63 3.450	536274-6●
160	107.04 4.214	105.28 4.145	102.82 4.048	79	100.33 3.950	536274-7●
180	119.74 4.714	117.98 4.645	115.52 4.548	89	113.03 4.450	536274-8●

Note: Refer to page 78 for information on ACTION PIN.

Note: Part Numbers are RoHS compliant except: ● Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

Micro-Strip Vertical Plugs (Board-to-Board)

**18.75 [.738]
Stacking Height**

Material and Finish

Housing — High-temperature thermo-plastic, flame retardant, natural color

Bus Bar — Phosphor bronze; duplex plated 0.00076 [.000030] gold in mating area, 0.00254 [.000100] tin-lead in terminating area, with entire bus underplated 0.00127 [.000050] nickel

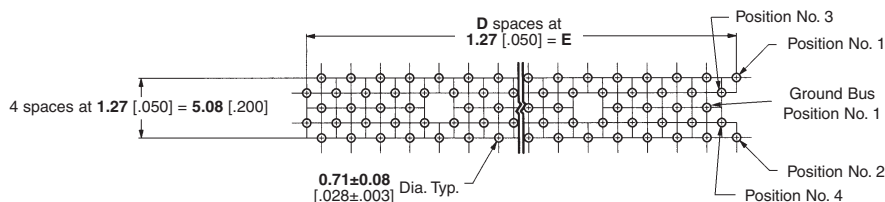
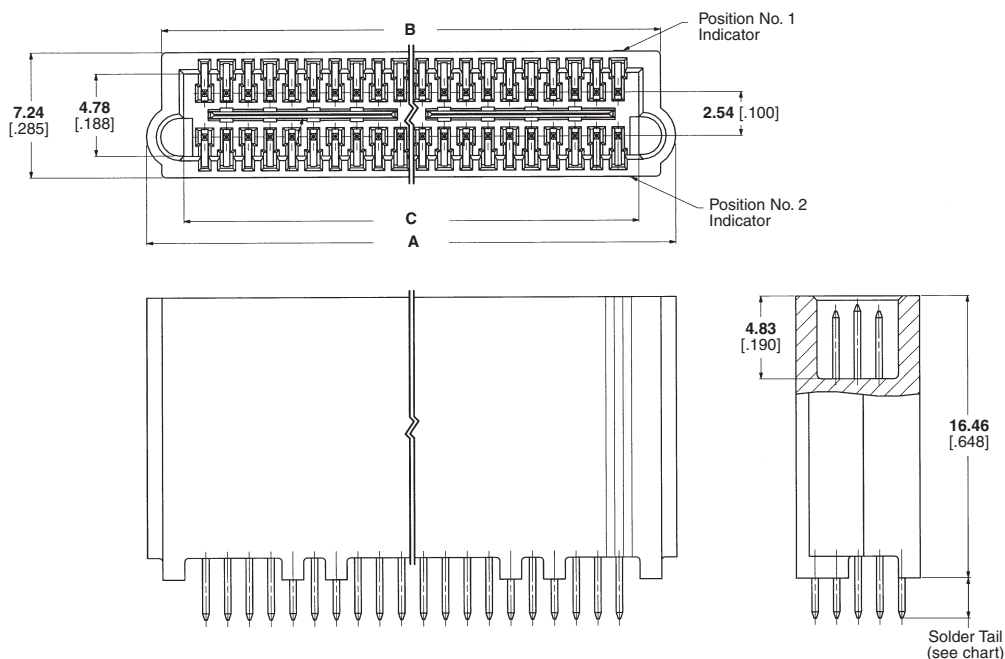
Signal Pin — Phosphor bronze; duplex plated 0.00076 [.000030] gold in mating area, 0.00254 [.000100] tin-lead in terminating area, with entire contact underplated 0.00127 [.000050] nickel

Related Product Data

Performance Characteristics —
page 67

Mating Receptacles —
pages 73, 74 and 76

Technical Documents — page 81



**Recommended PC Board Layout
(Component Side of Board)**

No. of Positions	Dimensions					Part Numbers		
	A	B	C	D	E	2.41 [.095] Solder Tail	3.18 [.125] Solder Tail	4.70 [.185] Solder Tail
40	30.84 1.214	29.21 1.150	26.62 1.048	19	24.13 .950	149009-1●	149011-1●	149012-1●
60	43.54 1.714	41.91 1.650	39.32 1.548	29	36.83 1.450	149009-2●	149011-2●	149012-2●
80	56.24 2.214	54.61 2.150	52.02 2.048	39	49.53 1.950	149009-3●	149011-3●	149012-3●
100	68.94 2.714	67.31 2.650	64.72 2.548	49	62.23 2.450	149009-4●	149011-4●	—
120	81.64 3.214	80.01 3.150	77.42 3.048	59	74.93 2.950	149009-5●	149011-5●	—
140	94.34 3.714	92.71 3.650	90.12 3.548	69	87.63 3.450	149009-6●	149011-6●	—
160	107.04 4.214	105.41 4.150	102.82 4.048	79	100.33 3.950	149009-7●	149011-7●	—
180	119.74 4.714	118.11 4.650	115.52 4.548	89	113.03 4.450	149009-8●	149011-8●	—
200	132.44 5.214	130.81 5.150	128.22 5.048	99	125.73 4.950	149009-9●	149011-9●	—

Note: Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

Micro-Strip Vertical Plugs with ACTION PIN Contacts (Board-to-Board)

18.75 [.738]
Stacking Height

Material and Finish

Housing — High-temperature thermo-plastic, flame retardant, natural color

Bus Bar — Phosphor bronze; duplex plated 0.00076 [.000030] gold in mating area, 0.00254 [.000100] tin-lead in terminating area, with entire bus under-plated 0.00127 [.000050] nickel

Signal Pin — Phosphor bronze; duplex plated 0.00076 [.000030] gold in mating area, 0.00254 [.000100] tin-lead in terminating area, with entire contact under-plated 0.00127 [.000050] nickel

Related Product Data

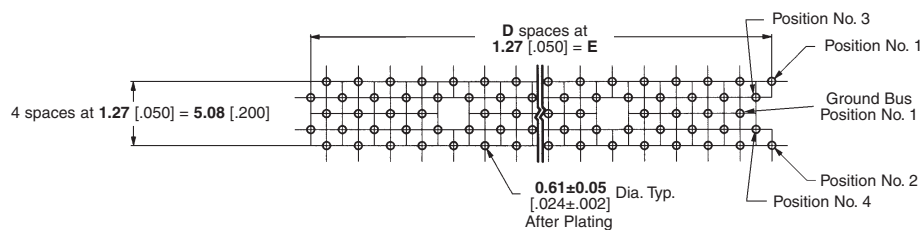
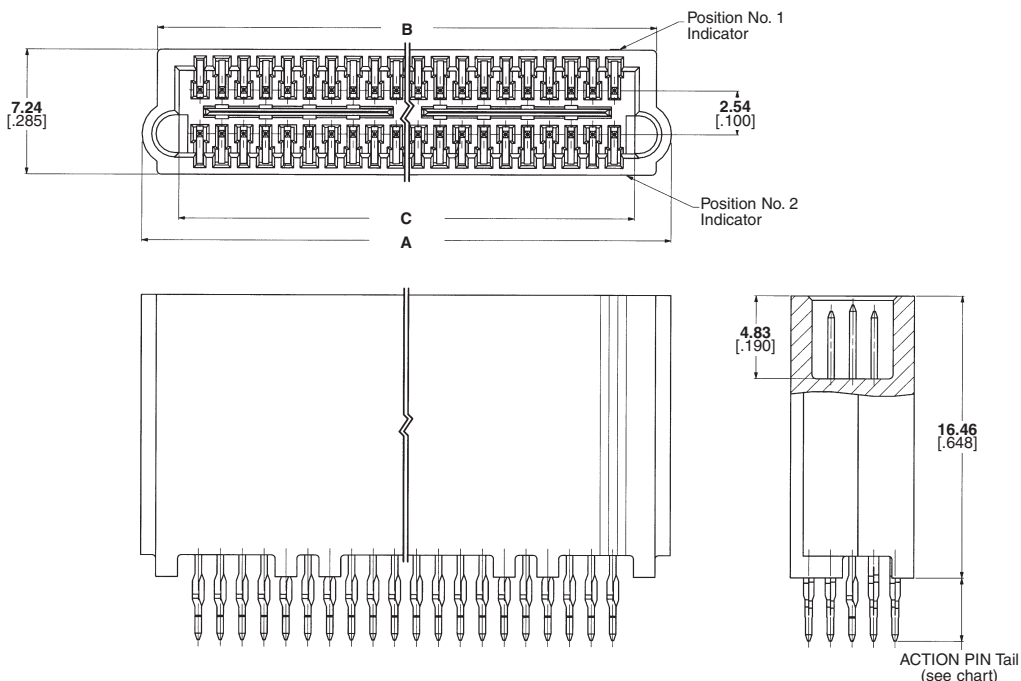
Performance Characteristics —
page 67

Mating Receptacles —
pages 73, 74 and 76

ACTION PIN Contacts —
pages 78 and 79

Application Tooling —
pages 80

Technical Documents — page 81



Recommended PC Board Layout
(Connector Side of Board Shown)

No. of Positions	Dimensions					Part Numbers	
	A	B	C	D	E	3.68 [.145] ACTION PIN Tail	4.83 [.190] ACTION PIN Tail
40	30.84 1.214	29.21 1.150	26.62 1.048	19	24.13 .950	149013-1◆	149014-1◆
60	43.54 1.714	41.91 1.650	39.32 1.548	29	36.83 1.450	149013-2◆	—
100	68.94 2.714	67.31 2.650	64.72 2.548	49	62.23 2.450	149013-4◆	—
140	94.34 3.714	92.71 3.650	90.12 3.548	69	87.63 3.450	149013-6◆	149014-6◆

Note: Refer to page 78 for information on ACTION PIN.

Note: Part Numbers are RoHS compliant except: ◆ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

Micro-Strip Vertical Receptacles (Board-to-Board)

Material and Finish

Housing — High-temperature thermo-plastic, flame retardant, natural color

Receptacle Bus — Phosphor bronze; duplex plated 0.00076 [0.00030] gold in mating area, 0.00254 [0.00100] tin-lead in terminating area, with entire bus underplated 0.00127 [0.00050] nickel

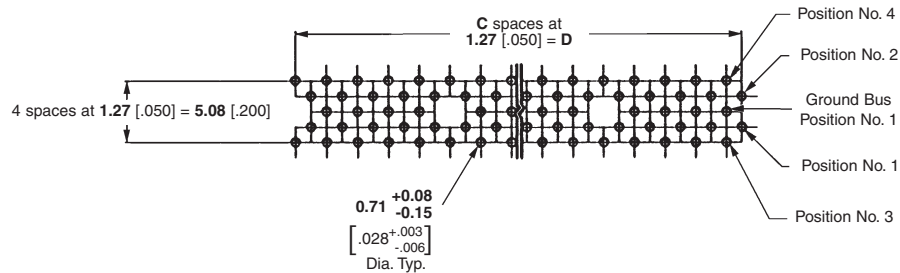
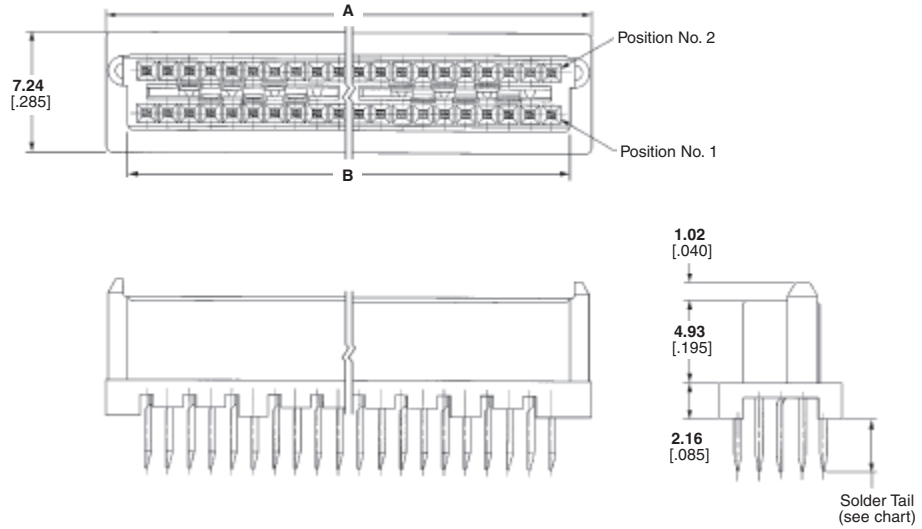
Receptacle Contact — Phosphor bronze; duplex plated 0.00076 [0.00030] gold in mating area, 0.00254 [0.00100] tin-lead in terminating area, with entire contact underplated 0.00127 [0.00050] nickel

Related Product Data

Performance Characteristics — page 67

Mating Plugs — pages 68, 70-72

Technical Documents — page 81



Recommended PC Board Layout
(Connector Side of Board Shown)

No. of Positions	Dimensions				Part Numbers		
	A	B	C	D	2.41 [.095] Solder Tail	3.18 [.125] Solder Tail	4.57 [.180] Solder Tail
40	28.96 1.140	26.34 1.037	19	24.13 .950	536279-1●	536254-1●	536255-1●
60	41.66 1.640	39.01 1.537	29	36.83 1.450	536279-2●	536254-2●	536255-2●
80	54.36 2.140	51.74 2.037	39	49.53 1.950	536279-3●	536254-3●	536255-3●
100	67.06 2.640	64.44 2.537	49	62.23 2.450	536279-4●	536254-4●	536255-4●
120	79.76 3.140	77.14 3.037	59	74.93 2.950	536279-5●	536254-5●	536255-5●
140	92.48 3.640	89.84 3.537	69	87.63 3.450	536279-6●	536254-6●	536255-6●
160	105.16 4.140	102.54 4.037	79	100.33 3.950	536279-7●	536254-7●	536255-7●
180	117.86 4.640	115.24 4.537	89	113.03 4.450	536279-8●	536254-8●	—
200	130.56 5.140	127.94 5.037	99	125.73 4.950	536279-9●	536254-9●	536255-9●
220	143.26 5.640	140.64 5.537	109	138.43 5.450	1-536279-0●	—	—
240	155.96 6.140	153.34 6.037	119	151.13 5.950	1-536279-1●	—	—

Note: Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

Micro-Strip Right-Angle Receptacles (Board-to-Board)

Material and Finish

Housing — High-temperature thermo-plastic, flame retardant, natural color

Receptacle Bus — Phosphor bronze; duplex plated 0.00076 [.000030] gold in mating area, 0.00254 [.000100] tin-lead in terminating area, with entire bus underplated 0.00127 [.000050] nickel

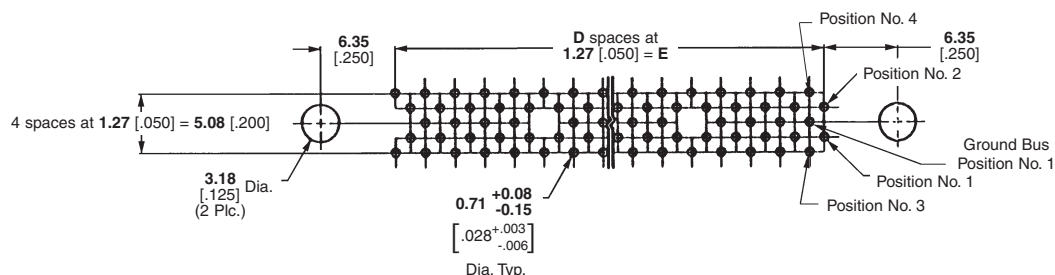
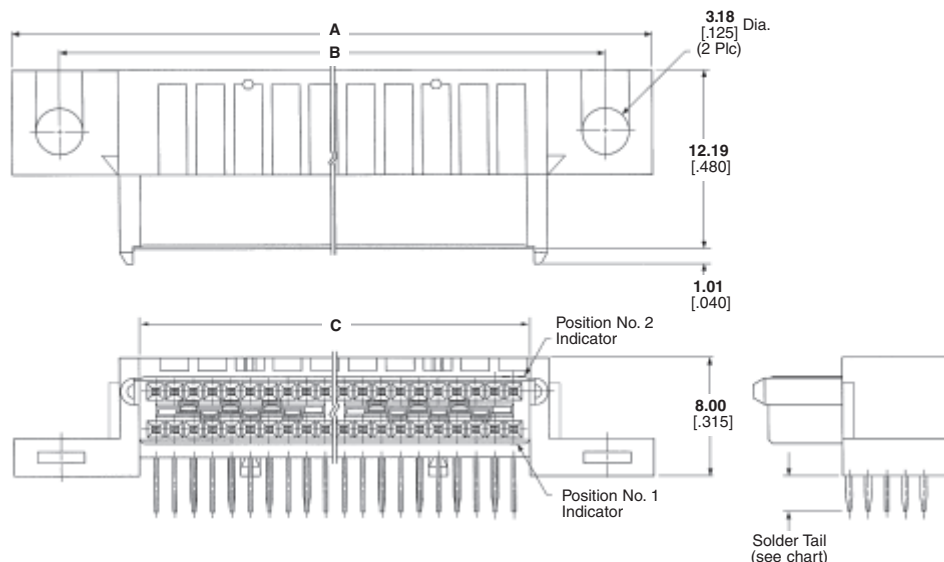
Receptacle Contact — Phosphor bronze; duplex plated 0.00076 [.000030] gold in mating area, 0.00254 [.000100] tin-lead in terminating area, with entire contact underplated 0.00127 [.000050] nickel

Related Product Data

Performance Characteristics — page 67

Mating Plugs — pages 68, 70-72

Technical Documents — page 81



Recommended PC Board Layout
(Connector Side of Board Shown)

No. of Positions	Dimensions					Part Numbers	
	A	B	C	D	E	2.41 [.095] Solder Tail	3.18 [.125] Solder Tail
40	43.18 1.700	36.83 1.450	26.34 1.037	19	24.13 .950	536295-1◆	536297-1◆
60	55.88 2.200	49.53 1.950	39.04 1.537	29	36.83 1.450	536295-2◆	536297-2◆
80	68.58 2.700	62.23 2.450	51.74 2.037	39	49.53 1.950	536295-3◆	536297-3◆
100	81.28 3.200	74.93 2.950	64.44 2.537	49	62.23 2.450	536295-4◆	536297-4◆
120	93.98 3.700	87.63 3.450	77.14 3.037	59	74.93 2.950	536295-5◆	536297-5◆
140	106.68 4.200	100.33 3.950	89.84 3.537	69	87.63 3.450	—	536297-6◆
160	119.38 4.700	113.03 4.450	102.54 4.037	79	100.33 3.950	536295-7◆	—
200	144.78 5.700	138.43 5.450	127.94 5.037	99	125.73 4.950	536295-9◆	536297-9◆

Note: Part Numbers are RoHS compliant except: ◆ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

Micro-Strip Right-Angle Receptacles with Guides (Board-to-Board)

Material and Finish

Housing — High-temperature thermo-plastic, flame retardant, natural color

Receptacle Bus — Phosphor bronze; duplex plated 0.00076 [.000030] gold in mating area, 0.00254 [.000100] tin-lead in terminating area, with entire bus underplated 0.00127 [.000050] nickel

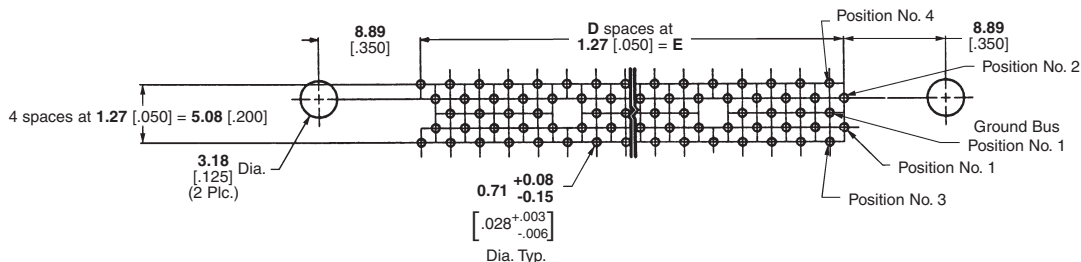
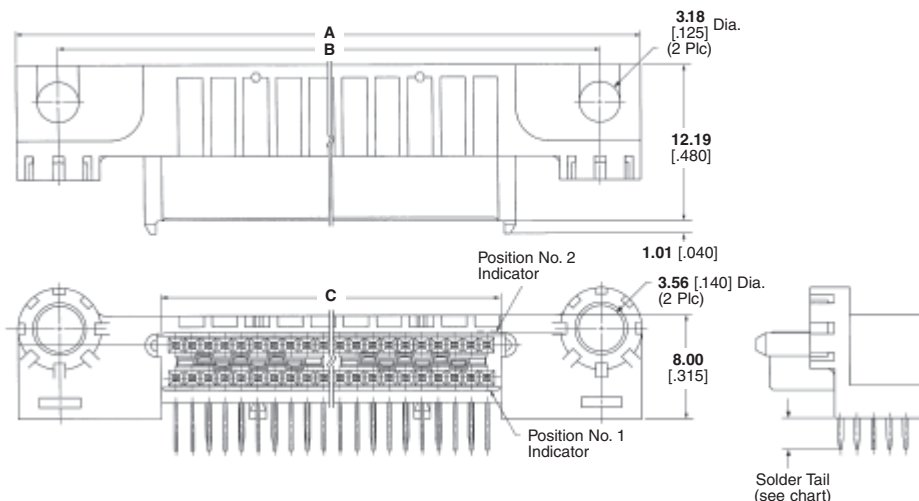
Receptacle Contact — Phosphor bronze; duplex plated 0.00076 [.000030] gold in mating area, 0.00254 [.000100] tin-lead in terminating area, with entire contact underplated 0.00127 [.000050] nickel

Related Product Data

Performance Characteristics — page 67

Mating Plugs — pages 69

Technical Documents — page 81



Recommended PC Board Layout
(Connector Side of Board Shown)

No. of Positions	Dimensions					Part Numbers	
	A	B	C	D	E	2.41 [.095] Solder Tail	3.18 [.125] Solder Tail
40	48.26 1.900	41.91 1.650	26.34 1.037	19	24.13 .950	536296-9◆	—
140	111.76 4.400	105.41 4.150	89.84 3.537	69	87.63 3.450	536296-3◆	—
160	124.46 4.900	118.11 4.650	102.54 4.037	79	100.33 3.950	536296-4◆	149031-1◆
200	149.86 5.900	143.51 5.650	127.94 5.037	99	125.73 4.950	536296-6◆	—
240	175.26 6.900	168.91 6.650	153.34 6.037	119	151.13 5.950	—	149031-2◆

Note: Part Numbers are RoHS compliant except: ◆ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

Micro-Strip Extended Vertical Receptacle (Board-to-Board)

Material and Finish

Housing — High-temperature thermo-plastic, flame retardant, natural color

Tail Organizer — Polyester film tape

Receptacle Bus — Phosphor bronze; duplex plated 0.00076 [0.00030] gold in mating area, 0.00254 [0.00100] tin-lead in terminating area, with entire bus underplated 0.00127 [0.00050] nickel

Receptacle Contact — Phosphor bronze; duplex plated 0.00076 [0.00030] gold in mating area, 0.00254 [0.00100] tin-lead in terminating area, with entire contact underplated 0.00127 [0.00050] nickel

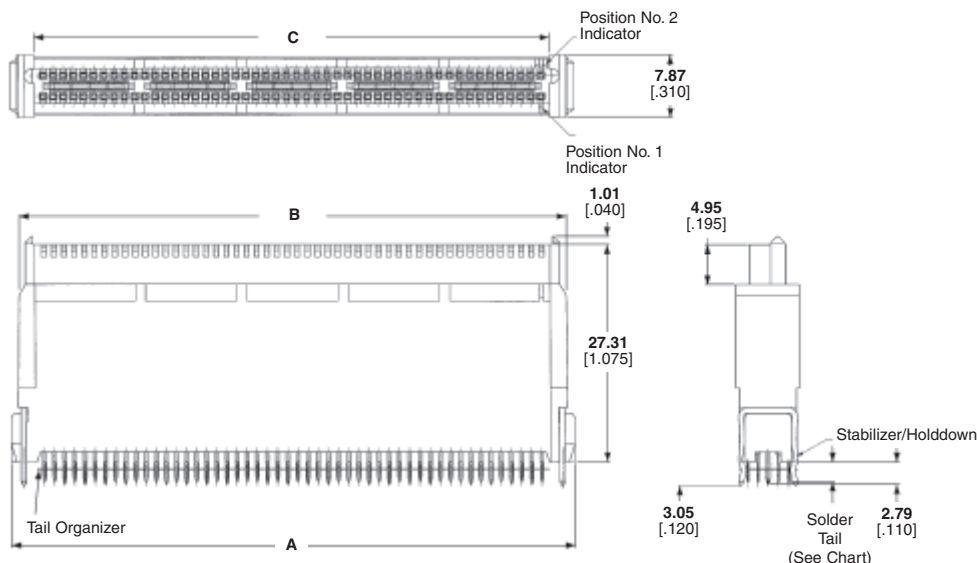
Stabilizer/Holddown — Phosphor bronze; plated 0.00254 – 0.00635 [0.00100 – 0.00300] tin-lead over 0.00127 – 0.00254 [0.00050 – 0.00100] nickel

Related Product Data

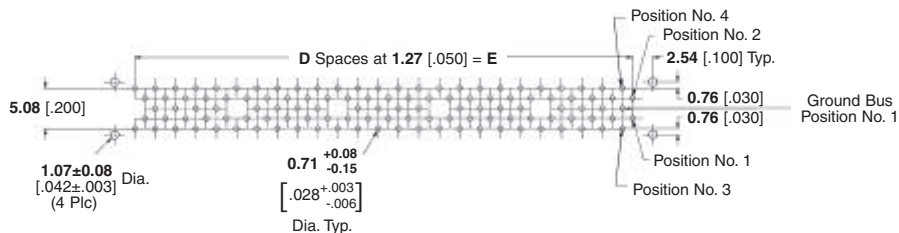
Performance Characteristics — page 67

Mating Plugs — pages 68, 70-72

Technical Documents — page 81



- Notes:** 1. This receptacle is also available in 100- and 120-position sizes with 3.18 [0.125] tail lengths.
2. Stacking heights of 31.12 [1.225] and 38.94 [1.533] can be obtained by using receptacle 121496-4 (above) with the 100-position vertical plugs shown on pages 68, 70-72.



**Recommended PC Board Layout
(Connector Side of Board Shown)**

No. of Positions	Dimensions					Part Numbers	
	A	B	C	D	E	2.79 [0.110] Solder Tail	3.05 [0.120] Solder Tail
100	70.48 2.775	68.43 2.694	64.44 2.537	49	62.23 2.490	121496-4◆	149032-1◆
120	83.18 3.275	81.13 3.194	78.14 3.037	59	74.93 2.950	—	149032-2◆

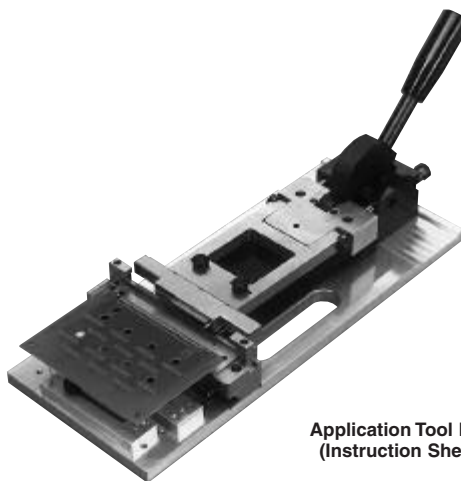
Note: Part Numbers are RoHS compliant except: ◆ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

Application Tooling for MICTOR Right-Angle Connectors

Two operations must be performed so that the MICTOR right-angle connector can be successfully installed on a PC board. First, the board must be slit for the ground/bus bar. At the customer's option, this operation may be done at the time of board manufacture. Second, the right-angle connector must be properly placed on the board.

Tyco Electronics offers bench-mount tooling for slitting the PC board (see below) and a free-standing tool for installing the connector (shown at the right). Application Specification No. 114-11004 and Instruction Sheets are available to provide the necessary instructions and recommendations for proper tool use.

Application Specification No. 114-13008 for Right-Angle.



Application Tool Number 767511-1
(Instruction Sheet No. 408-4335)

Replacement Components for Tool Number 767511-1

Connector Size (No. of Positions)	Board Locator Pin		Plug Inserter	Receptacle Inserter	Support Pillar
	Round	Diamond			
38	767523-1	767526-1	767514-1	767570-1	767522-1
76	767523-1	767526-1	767514-2	767570-2	767522-1
114	767523-1	767526-1	767514-3	767570-3	767522-1
152	767523-1	767526-1	767514-4	767570-4	767522-1
190	767523-1	767526-1	767514-5	767570-5	767522-1
228	767523-1	767526-1	767514-6	767570-6	767522-1
266	767523-1	767526-1	767514-7	767570-7	767522-1



Slitting Tool Number 767527-1
(Instruction Sheet No. 408-4334)

Replacement Components for Tool Number 767527-1

Component Description	Quantity Required for Each Increment of 38 Positions (0.64 [.025] Centerline)	Part Number
Slitting Punch (Set of 35)	5	767532-1
Die Insert* (Set of 7)	1	767530-1

* The die insert is located in the tool with a 3.18 x 28.58 [.125 x 1.125] long dowel and held in place with a 6-32 UNC-2A x 7.94 [5/16] long socket head cap screw (not included with replacement insert).

Note: Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

ACTION PIN Press-Fit Contacts

The Reliable Plated-Through Hole Interconnect

Solderless interconnections have been popular in electrical and electronic applications 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, compliant ACTION PIN contacts provide these features:

- Large gas-tight contact zone
- Reliability due to stored energy
- 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

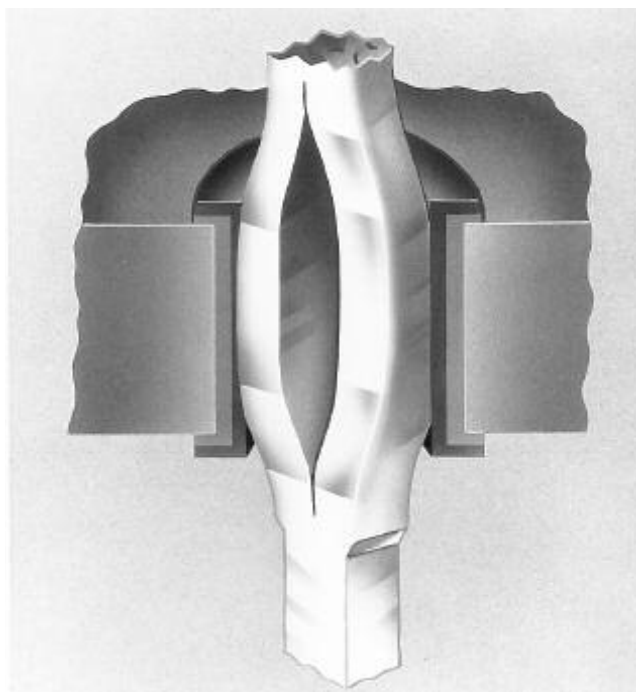
Since compliant ACTION PIN contacts do not have to be soldered, problems associated with solder are eliminated, such as:

- Faulty solder joints
- Solder fumes; contaminants 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 Tyco Electronics' compliant pin 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.

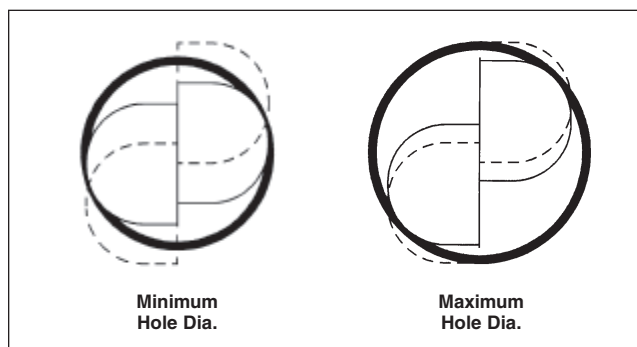
Other applications for ACTION PIN contact interconnections include PC boards that incorporate components using surface mount technology (SMT). Here, too, press-fit interconnections can be applied after soldering, thus eliminating complications associated with connectors suitable for surface mounting.



Principle of the Compliant ACTION PIN Contact

When a compliant ACTION PIN contact is inserted into a plated-through hole, two spring members are compressed, exerting force against the hole for a 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 compliant 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 enhances the electrical and mechanical reliability of the interconnection.



Cross-Section Area of ACTION PIN Press-Fit Contact
in Printed Circuit Board Holes

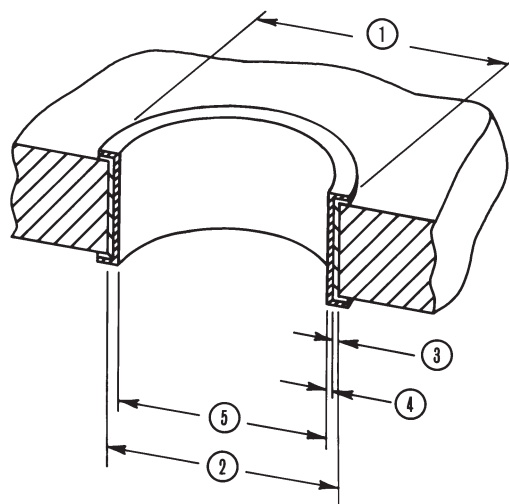
ACTION PIN Press-Fit Contacts (Continued)



ACTION PIN contacts provide a reliable press-fit connection. Localized pressure in the interface area provides oxide breakthrough and prevents corrosion in the harshest environments to enhance the reliability of the connection. 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 ensure 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 (Contact) Type	ACTION PIN Contact		Drilled Hole Diameter ②	Plating Thicknesses		Plated-Through Hole Diameter ⑤	Radial Hole Distortion	
	Configuration	Material Thickness		Copper ③*	Tin-Lead ④		Average	Maximum
Micro-Strip (Signal and Ground Pins)	Figure 1	0.38 .015	0.701±0.013 .0276±.0005	0.03 - 0.038 .001 - .0015	0.008 - 0.03 .0003 - .001	0.56 - 0.66 .022 - .026	0.038 .0015	0.05 .002

* Maximum hardness of copper layer is 150 Knoop.

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

Application Tooling for Micro-Strip Connectors with ACTION PIN Contacts

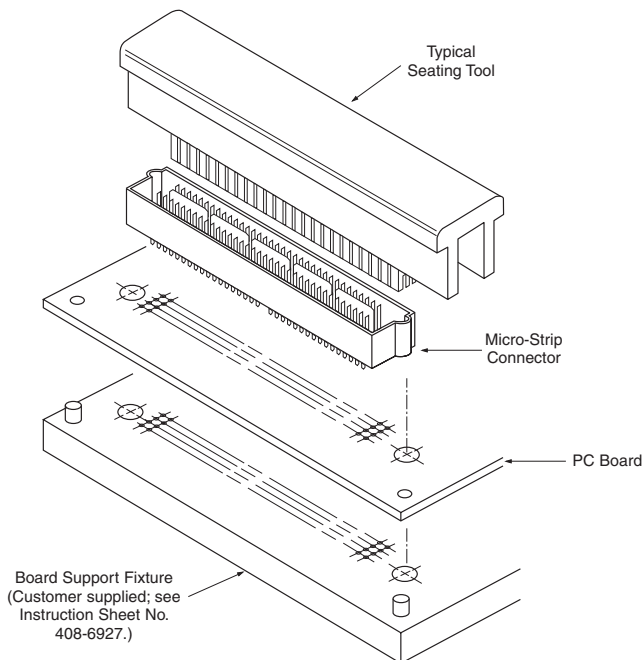
Micro-Strip connectors with ACTION PIN contacts allow fast, solderless backplane construction through reliable press-fit application. Press fitting connectors to PC boards requires special seating tools that transfer application force directly to the contacts.

Force applied to the tool to seat the connectors can be provided by the SM-10/20 (H-Frame) Machine No. 803880-6, the SM-3 Machine No. 814700-2, or by commercially available arbor presses such as GREENERD 3A or 3B, which have a seating capacity of 178 N [40 lbs.] per contact.

Board support fixtures are used to support PC boards or backplanes while connectors are being assembled to the boards or backplanes. Board support fixtures are to be supplied by the customer in accordance with Application Specification No. 114-11005. Also, Instruction Sheet No. 408-6927 provides recommendations for manufacturing board support fixtures.

For more tooling information, call the Tooling Assistance Center **1-800-722-1111**.

Plug Assembly Seating Tools



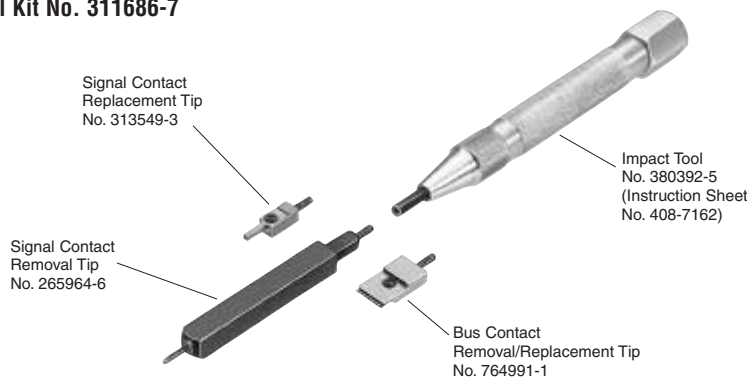
Connector Size (No. of Positions)	Seating Tool Numbers
40	90687-1
60	90687-2
80	90687-3
100	90687-4
120	90687-5
140	90687-6

Connector Size (No. of Positions)	Seating Tool Numbers
160	90687-7
180	90687-8
200	90687-9
220	1-90687-0
240	1-90687-1

Contact Replacement Tooling

Individual contacts and busses can be replaced using Tool Kit No. 311686-7. Components included in the kit are shown at the right. Instructions for use of the tool are provided in Instruction Sheet 408-9708.

Tool Kit No. 311686-7



GREENERD is a trademark of Greenerd Press and Machine Co., Inc.

Note: Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant; ● Indicates "5 of 6 compliant" (lead in solderable interface only).

Technical Documents

Various technical documents are available for your use.

Product Specifications describe technical performance characteristics and verification tests. They are intended for Design, Component and Quality Engineers.

108-1422	MICTOR Connectors
108-1252	Micro-Strip Connectors (Cable-to-Board)
108-1272	Micro-Strip Connectors (Board-to-Board)
108-2143	STEP-Z Connectors
108-2139	MICTOR SB Connectors

Application Specifications describe requirements for using the product in its intended application and/or crimping information. They are intended for Packaging and Design Engineers and the Setup Person.

114-11004	Application Tooling for MICTOR Vertical Connectors
114-11005	Micro-Strip Connectors (Board-to-Board)
114-13088	Application Tooling for MICTOR Right-Angle Connectors
114-13101	STEP-Z Connectors
114-13116	MICTOR SB Connectors

Instruction Sheets provide instructions for assembling or applying the product. They are intended for the Manufacturing Assembler or Operator.

Application Tooling

MICTOR Connectors:

408-4334	Slitting Tool 767527-1
408-4335	Right-Angle Connector Application Tool 767511-1

Micro-Strip Connectors:

408-6927	Design Recommendations for PC Board Support Fixture
408-7162	Impact Tools 380392
408-9708	Contact Replacement Tool Kit 311686-7
408-9895	Seating Tools 90687

Other available technical publications include:

Electrical Performance Reports:

889061	MICTOR Right-Angle Connector
EPR-23GC001	MICTOR .260" High Stacking Connector
EPR-23GC002	MICTOR .610" High Stacking Connector
EPR-23GC003	MICTOR .900" High Stacking Connector
EPR-23GC004	MICTOR 1.255" High Stacking Connector

Technical Papers:

98GC040	MICTOR Connector Noise Analysis for High Speed LVDS Application
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Note: Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant;
● Indicates "5 of 6 compliant" (lead in solderable interface only).

PRECISION INTERCONNECT BLUE RIBBON Coax Assemblies

Product Facts

- Low bit error rate and low skew for high signal integrity
- Flexible for easy routing
- A variety of high density, low profile connectors
- No NRE/NRT for standard configurations
- Quick turn on limited quantities



High-speed data transfer with low bit error

Build a Cable Online

The **BLUE RIBBON** Coax Assembly Solution Builder is our online, interactive design process that configures a ribbonized coax cable assembly to suit your application. Go to:
www.tycoelectronics.com/pi/blue

- Specify cable length
- Make connector selection
- View performance graphs
- Print engineering drawings
- View quotation and lead time

To provide the data integrity needed for today's high-end servers and networks, telecommunications and high performance test equipment, PRECISION INTERCONNECT BLUE RIBBON assemblies deliver digital data at high speeds with low bit error rates. At the same time they are compact for high density applications, extremely flexible for easy routing and durable for repeated mate/demates. BLUE RIBBON coax assemblies also solve interconnect challenges as extender cables during design and production validations, in field repair service and for test bench troubleshooting applications.

Performance Advantages

Today's ultra high bus standards require interconnect lengths and bandwidths that may not be supported by the dielectric of printed and flex circuit interconnects. The inherent electrical properties of coax meet

those needs. The ribbonized construction minimizes skew caused by conductor length differences for excellent performance in single-ended and differential applications. The controlled impedance through the connectors, termination boards and miniature coax provide high signal integrity throughout the interconnect system.

Flexible, robust and low profile, these coax assemblies require minimal clearance and withstand routing over small bend radii without impacting electrical performance. The ribbonized configuration aligns with the planar structure of circuit boards, is easy to route and exits cabinets where minimal clearance is required. High speed, high density connectors reduce the board real estate required for the mating connector.

The housing which provides physical protection for the coax terminations is molded in UV stable, impact resistant, high temperature

engineering plastic for flex-relief and electrical isolation. Where space is severely limited, housings can be eliminated (on one or both ends) and replaced by conformal coating for protection.

Standard Configurations

BLUE RIBBON coax assemblies are available with 50 ohm (100 ohm differential) 38 or 34 AWG conductors in 0.1 to 10 meter lengths (in one centimeter increments).

Select either a Tyco Electronics MICTOR or MICTOR SB connector to mate with your equipment's bulkhead or board connector. MICTOR connectors are available in edge mount and surface mount styles.

For More Information

For the latest additions to the product family, access to technical data or to contact a product specialist go to:

www.tycoelectronics.com/pi/blue

PRECISION INTERCONNECT BLUE RIBBON Coax Assemblies (Continued)

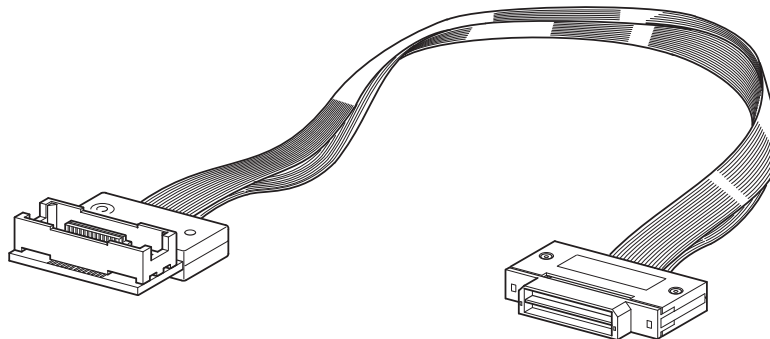
Assembly Performance

Typical characteristics of a 0.5 meter assembly with 38 AWG center conductor 50 ohm coax (100 ohm in differential applications) is shown in the charts at right.

Modifications and Options

Modifications such as 26 AWG conductors, 75 ohm coax, non-standard pinouts or other members of a connector family may be available on some configurations and will be quoted separately.

We are happy to design and quote custom solutions such as other connectors suitable for PCBs, protective sheaths, latching mechanisms, custom labeling and packing or a complete custom interconnect.



Connector Options

Pitch	Series	Total number of contacts*
.8 mm	MICTOR SB	40, 80, 124, 160, 200
.635 mm	MICTOR	38, 76, 114, 152, 190
.5 mm	MICTOR SB	60, 120, 180

*Higher pin count may be available upon request.

Electrical performance*

	Single-ended	Differentially driven
Center conductor DCR	1.93 Ω /m	1.93 Ω /m
Conductor ampacity	0.22 A	0.22 A
Shield DCR per coax	0.57 Ω /m	0.57 Ω /m
Shield ampacity per coax	0.57 A	0.57 A
Risetime	250 psec	160 psec
Insertion loss	-3 dB at 950 MHz	-3 dB at 1.2 GHz
Return loss	-14 dB at 1 GHz (VSWR 1.5)	-14 dB at 1 GHz (VSWR 1.5)
Propagation Delay	4.9 nsec/m	4.9 nsec/m
Skew	100 psec*	< 50 psec
Far-end crosstalk	-14 dB at 1 GHz	-21 dB @ 1 GHz

*Performance at ambient temperature 21°C Edge-mount to edge-mount configuration. The position of the connector and the placement of the chamfer determines conductor lengths and, therefore, may affect skew.

Mechanical performance

Tensile strength	>178N (40 lb) per two ribbon pair
Flex-life	>50,000 cycles with 2.2 N (8oz) load $\pm$ 90°C
Lateral flexure	>5,000 cycles with 2.2 N (8 oz) load $\pm$ 35°C
Crush resistance	>1000 cycles at 356 N (80 lb) load

Environmental performance

Temperature	operating	-10 to 90°C
	storage	-40 to 90°C
Humidity	operating	40°C at 90% RH for 3 days
	storage	50°C at 95% RH for 4 days
Shock/vibration	See manufacturer's specs	
Mate/demate	See manufacturer's specs	

For more information about
PRECISION INTERCONNECT products,
go to www.tycoelectronics.com/pi

Part Number Index

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