

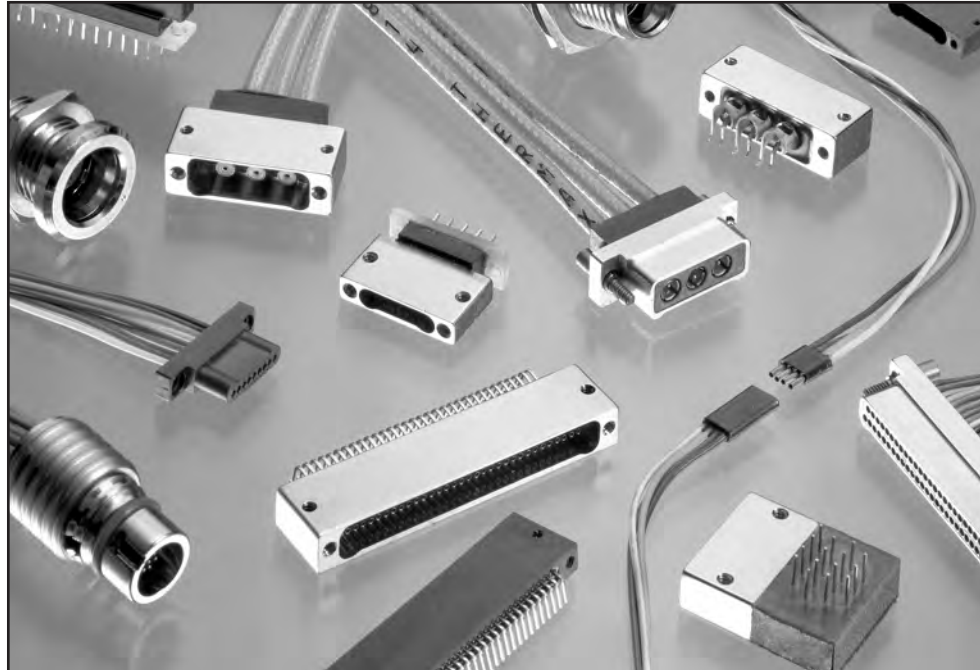
Table of Contents

Nano-Miniature Connectors Introduction	139
Nano-Miniature Connectors Technical and Performance Data	140
DUALOBE Rectangular Connectors	141-178
Introduction	141
Wired Connectors	
Single Row	142
Two Row	143
Part Numbering Guideline for Wired Connectors.	144
Jumper Assemblies	
Single Connectors	145, 146
Two Row Connectors	147, 148
Part Numbering Guideline for Jumper Assemblies	149
Surface Mount Connectors	
Horizontal	
Single Row	150
Two Row	151
Vertical	
Single Row	152-154
Two Row	155, 156
Thru-Hole Connectors	
Horizontal	
1 Row to 2 Row	157
2 Row to 4 Row	158
Vertical	
1 Row to 2 Row	159
2 Row to 4 Row	160
Part Numbering Guideline for SMT and Through-Hole Connectors	161
Flex Termination "Duckbill" Connectors	
Two Row	162, 163
Part Numbering Guideline for Flex Termination "Duckbill" Connectors	163
Solder Cup Connectors	
Single Row	164
Two Row	165
Part Numbering Guideline for Solder Cup Termination	166
Panel Mount Connectors	
Single Row	167
Two Row	168
Part Numbering Guideline for Panel Mount Connectors	169
Part Number Index Cross Reference	170-178

Table of Contents (Continued)

Circular Connectors	179-196
Introduction	179
Quick Disconnect	
Plug Assemblies	180, 181
Plug Assemblies with Backshells	182, 183
Receptacle Assemblies, Flush Mount	184, 185
Threaded Coupling	
Plug Assemblies	186, 187
Plug Assemblies with Backshells	188, 189
Receptacle Assemblies, Panel Mount	190, 191
Panel Mount Receptacle Assemblies w/Backshells.	192, 193
Part Numbering Guideline for Environmentally Sealed Circular Connectors.	194
Part Number Index Cross Reference	195
 Coaxial Connectors	 197-206
Introduction	197
Typical VSWR and Insertion Loss	198
50 Ohm Coax Connectors	199
Part Numbering Guideline for 50 Ohm Coax Connectors	200
Horizontal SMT 50 Ohm Coax Connectors	201
Part Numbering Guideline for Horizontal SMT 50 Ohm Coax Connectors	202
50 Ohm Coax with Mixed Signal Connectors	203
Part Numbering Guideline for 50 Ohm Coax w/Mixed Signal Connectors	204
Part Number Index Cross Reference	205
 Strip Connectors	 207-214
Introduction	207
Wired Connectors	208
Part Numbering Guideline for Strip Wired Connectors	209
Surface Mount Connectors	210
Thru-Hole Connectors	211
Part Numbering Guideline for SMT and Thru-Hole Connectors	212
Part Number Index Cross Reference	213

Nano-Miniature Connectors - Introduction



Nano-miniature connectors constitute a family of inter-connect devices with center to center contact spacing of .025". In comparison to other connector families, they are often thought of as the smallest practical connector system for separable interfaces. Despite being smaller, these nano-miniature connectors are tested with a few size-related modifications per the guidelines of MIL-DTL-83513 (written for .050" micro-miniature connectors). Nano-miniature connectors combine their appealing size and weight with desired performance attributes such as high reliability, low contact resistance and wide operating temperature range,

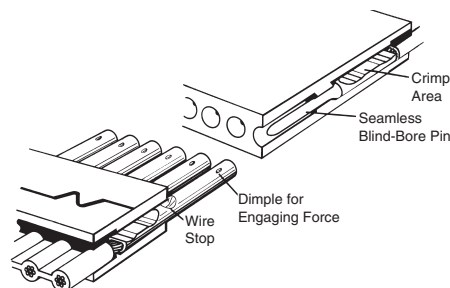
making them among the smallest and toughest connectors available to designers.

The Contact System

Nanonics connectors utilize the same contact system throughout the entire product family. This contact system uses a "spring socket" as opposed to most connector designs, which use a "spring pin". In this design, the socket member of the contact pair employs a dimple located inside the contact tube. When the pin is engaged with this socket, the dimple creates the desired spring action by forcing the pin to offset to the opposite side

of the socket tube. The result is a gold-on-gold mating area covering a minimum of 180° of the contact surface. This also creates a desirable mating force of no greater than 6 ounces per contact and a resistance of .003 ~ .008 ohms. This type of contact system begins with a pre-plated BeCu alloy material that is then formed to yield a rugged, seamless contact. Both the blind-bore seamless pin and the seamless one piece socket have a burnished gold finish on both the inside and outside surfaces. This gold finish provides contact integrity for superior reliability and environmental performance.

Contact Configuration



Nano-Miniature Connectors

Technical and Performance Data

Electrical

Contact Resistance – .003 - .008 ohms

Current Rating – 1 amp max. per contact

Dielectric Withstanding Voltage – Volts RMS 60 Hz at room ambient conditions. At sea level 500V. At 70,000 ft. 150V.

Insulation Resistance – 5000 megohms min. (@ 500 VDC) at room ambient conditions.

Magnetic Permeability – 2 mu max.

Mechanical

Contact Engagement & Separation

– Engaging force is 6.0 oz. max. Separation force is 0.5 oz. min.

Mating Force Maximum –

Calculated as 10 oz. multiplied by the number of contacts.

Environmental

Temperature Range – -200° C to +200° C

Shock – No discontinuity in excess of 1 μ sec. when tested in accordance with MIL-STD-1344, Method 2004.1, Test Condition E.

Vibration – No discontinuity in excess of 1 μ sec. when tested in accordance with MIL-STD-1344, Method 2005.1, Test Condition IV.

Solderability – Connectors shall meet the test requirements of MIL-STD-202, Method 208.

Durability – No mechanical or electrical defects detrimental to the function of the connectors after 500 cycles of mating and unmating, without the use of hardware.

Humidity – After exposure to humidity as specified by MIL-STD-1344, Method 1002.2, Type II, IR shall be 1 megohm min. (@ 100 VDC) within 2 hours of conditioning and 1000 megohms min. (@ 100 VDC) after 24 hours of conditioning.

Salt Spray – Connectors shall meet the performance requirements of contact resistance, mating and unmating forces, and contact retention after being subjected to the 48 hour 5 % solution salt spray test per MIL-STD-1344, Method 1001, Condition B.

Fluid Immersion – Unmated connectors after being fully immersed in one of the following fluids, for the prescribed time, will mate at a force of 10 oz. multiplied by the number of contacts or less: Perchloroethylene, 2 hours; Lubricating oil per MIL-L-23699, 20 hours.

Crimp Tensile Strength –

(Unassembled contacts with crimped stranded wire terminations) Wires will not pull out of the contacts when the following axial load is applied: #30 AWG, 2 lbs.

Thermal Vacuum Outgassing –

Connectors shall have a maximum total mass loss (TML) of 1.0 % of the original specimen mass and a maximum collected volatile condensable materials (CVCM) content of 0.1 % of the original specimen mass when tested in accordance with SP-R-0022A.

Material and Finish

Contacts – BeCu alloy plated with gold per MIL-G-45204 Type II over nickel per QQ-N-290.

Plastic Insulators and Shells –

30% glassed filled Liquid Crystal Polymer (LCP).

Metal Shells – 6061-T6 Aluminum with electroless nickel plating per MIL-C-26074. Stainless steel and gold plated shells are also available.

DUALOBE Rectangular Connectors



Nanonics D-style rectangular connectors have earned the distinction of being the most popular and widely utilized style of Nano connectors. These connectors incorporate the DUALOBE polarization scheme. This polarization scheme negates the need for mating guide pins and does not increase the package size. The DUALOBE series of connectors are available in both machined aluminum and molded plastic shells, both in one and two row connector housings. Single row configurations commonly have standard pin counts from 5 to 51, while the higher density two row configurations have pin counts from 9 to 65. These connectors can be terminated in many different ways. Standard configurations include wires, surface mount, thru-hole, solder

cup, "duckbill", and panel mount. Wired harness assemblies and custom configurations can also be accommodated. Such custom configurations include filtered, hermetic, environmentally sealed, and blind mate connectors.

This family of connectors is designed to meet the requirements of MIL-DTL-83513, with a few size related modifications. Designed primarily for the military and aerospace industry, the DUALOBE series is especially well suited when high reliability, coupled with reduced size and weight, are serious design parameters. A clear example of this is the use of Nanonics connectors in such applications as smart munitions, missile defense, aircraft communications, and UAV's. In addition to the above applications, with

the wide temperature range of the DUALOBE connector (-200°C to +200°C), the space and petroleum industries have also found many uses for this connector. The performance and reliability at cryogenic temperatures, along with the low outgassing material properties, has led to an increased usage in space applications. Such applications include nitrogen-cooled optics, low and high earth orbiting satellites, telescopes, deep space probes, orbiters, and rovers. On the opposite end of the spectrum, the petroleum exploration industry utilizes these connectors for their performance and reliability in downhole environments at temperatures exceeding 150°C.

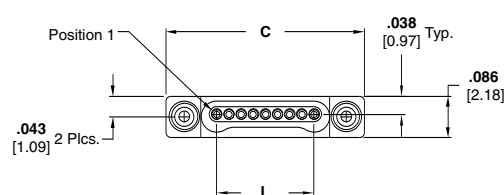
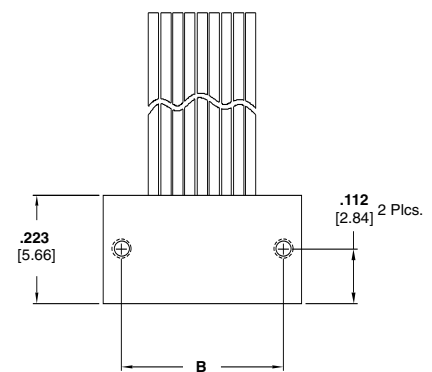
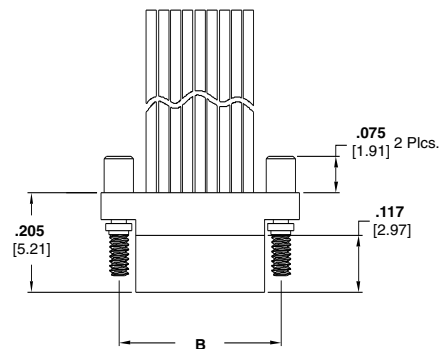
Wired Connectors — Single Row, Flying Leads



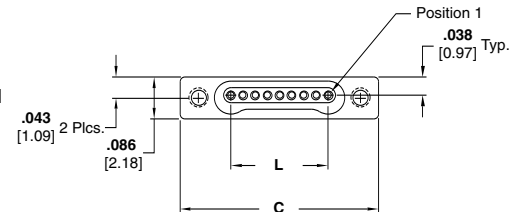
Plug



Receptacle



Plug with Flying Leads
Drawing Number 1589455



Receptacle with Flying Leads
Drawing Number 1589457

Product Facts

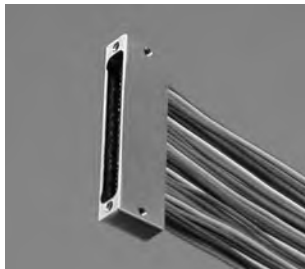
- Plastic or Metal Shell
- Standard Sizes: 5, 9, 15, 25, 37, and 51
- Factory wired to your specifications
- Contact Tyco Electronics for custom configurations

Size	Dimensions		
	B	C	L
5	0.233 [5.92]	0.3085 [7.84]	0.100 [2.54]
9	0.333 [8.46]	0.4085 [10.38]	0.200 [5.08]
15	0.483 [12.27]	0.5585 [14.19]	0.350 [8.89]
25	0.733 [18.62]	0.8085 [20.54]	0.600 [15.24]
37	1.033 [26.24]	1.1085 [28.16]	0.900 [22.86]
51	1.383 [35.13]	1.4585 [37.05]	1.250 [31.75]

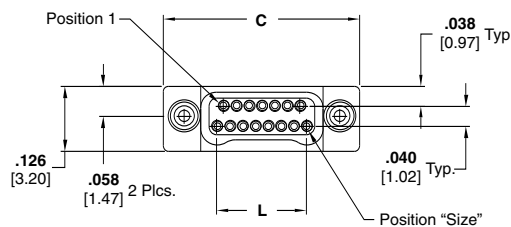
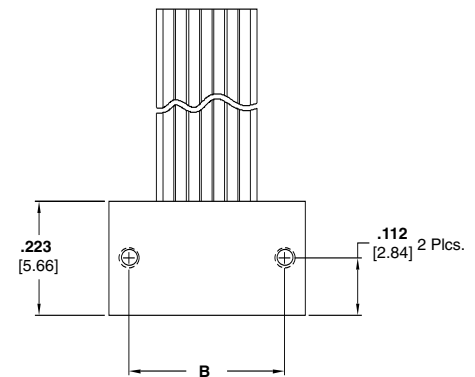
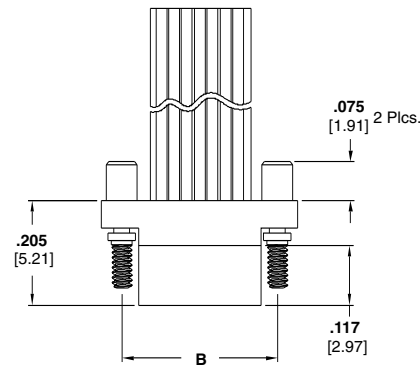
Wired Connectors — Two Row, Flying Leads



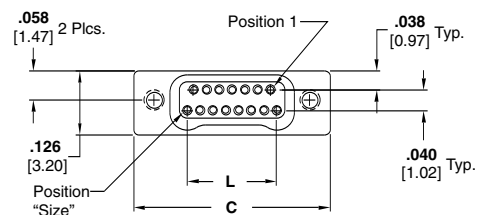
Plug



Receptacle



Plug with Flying Leads
Drawing Number 1589472



Receptacle with Flying Leads
Drawing Number 1589476

Product Facts

- Plastic or Metal Shell
- Standard Sizes: 9, 15, 25, 37, 51 and 65
- Factory wired to your specifications
- Contact Tyco Electronics for custom configurations

Size	Dimensions		
	B	C	L
9	0.229 [5.82]	0.3085 [7.84]	0.100 [2.54]
15	0.304 [7.72]	0.3835 [9.74]	0.175 [4.45]
25	0.429 [10.90]	0.5085 [12.92]	0.300 [7.62]
37	0.579 [14.71]	0.6585 [16.73]	0.450 [11.43]
51	0.754 [19.15]	0.8335 [21.17]	0.625 [15.88]
65	0.929 [23.60]	1.0085 [25.62]	0.800 [20.32]

Part Numbering Guideline for Wired Connectors

DUALOBE Connectors - Wire Terminations

Class	S	X	X	XXX	XX	X	XX	XXX	X	Threads/Jackscrew
S Duallobe										Threads (Receptacles Only) N Thread for 1.0 mm Jackscrews Q Thread for 1.2 mm Jackscrews
Rows										Jackscrews (Plugs Only) M 1.0 mm Non Captive Jackscrew N 1.0 mm Captive Jackscrew Q 1.2 mm Captive Jackscrew
Type										Conductor Length XXX Three numbers only, length is in inches (i.e. 012 = twelve inches) CXX A "C" followed by two numbers, length is in centimeters (i.e. C06 = six centimeters) MXX An "M" followed by two numbers, length is in meters (i.e. M02 = two meters)
L LCP (Plastic)										Conductor Type DX White TEFLON DY White PTFE M16878/6 DC Color Coded TEFLON
M Metal (Al, Ni Plate)										DM Color Coded TEFLON per MIL-STD-681 DT White TEFZEL M22759/33 GX TEFLON Ribbon Cable FEP
Positions										Conductor Size/Strands 0 28 AWG Solid 1 30 AWG Solid 2 30 AWG 7 Strand 3 32 AWG 7 Strand 4 34 AWG 7 Strand
005 5 Position (single row only)										
009 9 Position										
015 15 Position										
025 25 Position										
037 37 Position										
051 51 Position										
065 65 Position (two row only)										
Configurations										
PC Plug										
SC Receptacle										

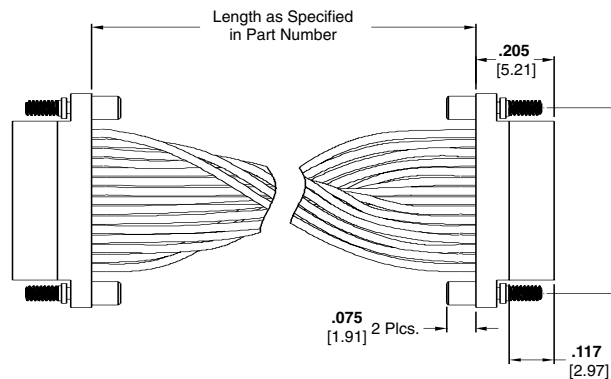
Jumper Assembly Connectors — Single Row



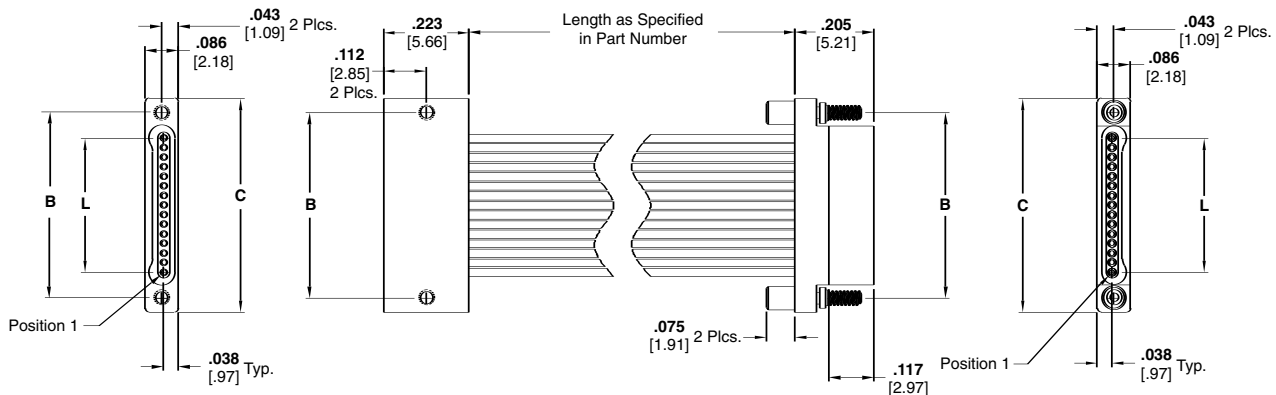
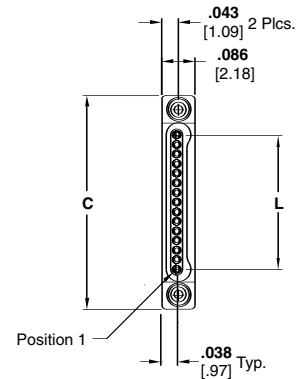
Plug to Receptacle

Product Facts

- Plastic or Metal Shell
- Standard Sizes: 5, 9, 15, 25, 37, and 51
- Factory wired to your specifications
- Contact Tyco Electronics for custom configurations



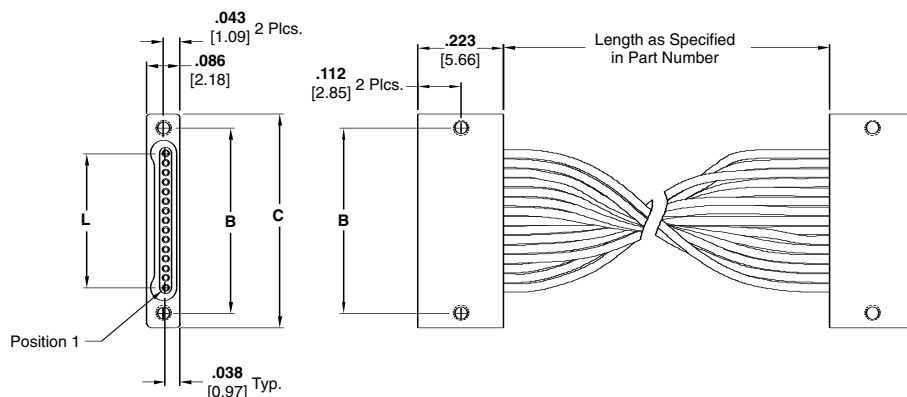
Plug to Plug
Drawing Number 1589735



Plug to Receptacle
Drawing Number 1589736

Size	Dimensions		
	B	C	L
5	0.233 [5.92]	0.3085 [7.84]	0.100 [2.54]
9	0.333 [8.46]	0.4085 [10.38]	0.200 [5.08]
15	0.483 [12.27]	0.5585 [14.19]	0.350 [8.89]
25	0.733 [18.62]	0.8085 [20.54]	0.600 [15.24]
37	1.033 [26.24]	1.1085 [28.16]	0.900 [22.86]
51	1.383 [35.13]	1.4585 [37.05]	1.250 [31.75]

Jumper Assembly Connectors — Single Row (Continued)



Receptacle to Receptacle
Drawing Number 1589803

Size	Dimensions		
	B	C	L
5	0.233 [5.92]	0.3085 [7.84]	0.100 [2.54]
9	0.333 [8.46]	0.4085 [10.38]	0.200 [5.08]
15	0.483 [12.27]	0.5585 [14.19]	0.350 [8.89]
25	0.733 [18.62]	0.8085 [20.54]	0.600 [15.24]
37	1.033 [26.24]	1.1085 [28.16]	0.900 [22.86]
51	1.383 [35.13]	1.4585 [37.05]	1.250 [31.75]

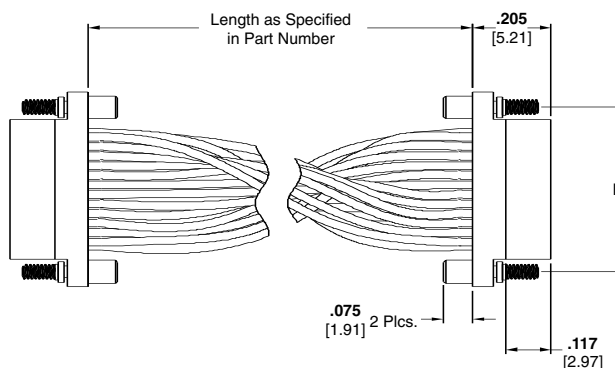
Jumper Assembly Connectors — Two Row



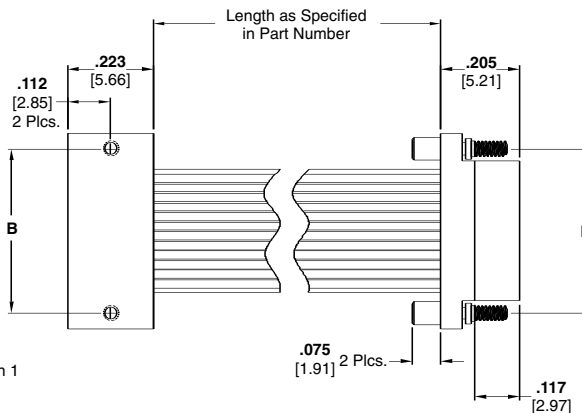
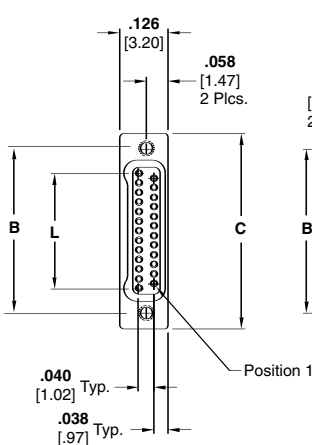
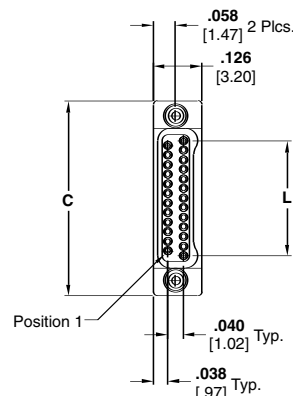
Plug to Receptacle

Product Facts

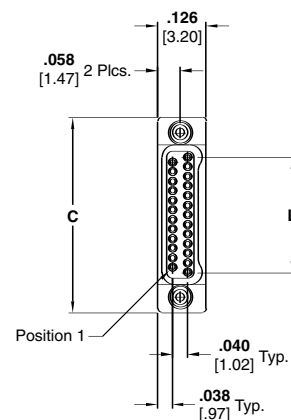
- Plastic or Metal Shell
- Standard Sizes: 9, 15, 25, 37, 51 and 65
- Factory wired to your specifications
- Contact Tyco Electronics for custom configurations



Plug to Plug
Drawing Number 1589737

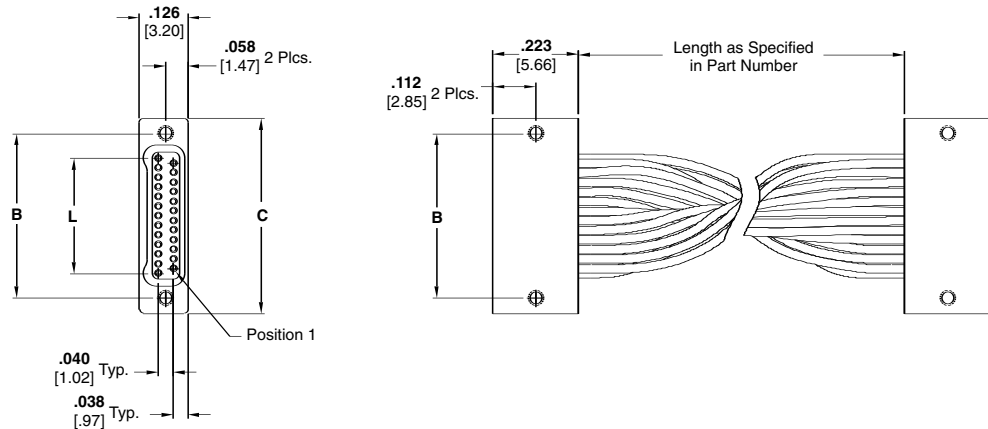


Plug to Receptacle
Drawing Number 1589738



Size	Dimensions		
	B	C	L
9	0.229 [5.82]	0.3085 [7.84]	0.100 [2.54]
15	0.304 [7.72]	0.3835 [9.74]	0.175 [4.45]
25	0.429 [10.90]	0.5085 [12.92]	0.300 [7.62]
37	0.579 [14.71]	0.6585 [16.73]	0.450 [11.43]
51	0.754 [19.15]	0.8335 [21.17]	0.625 [15.88]
65	0.929 [23.60]	1.0085 [25.62]	0.800 [20.32]

Jumper Assembly Connectors — Two Row (Continued)



Receptacle to Receptacle
Drawing Number 1589804

Size	Dimensions		
	B	C	L
9	0.229 [5.82]	0.3085 [7.84]	0.100 [2.54]
15	0.304 [7.72]	0.3835 [9.74]	0.175 [4.45]
25	0.429 [10.90]	0.5085 [12.92]	0.300 [7.62]
37	0.579 [14.71]	0.6585 [16.73]	0.450 [11.43]
51	0.754 [19.15]	0.8335 [21.17]	0.625 [15.88]
65	0.929 [23.60]	1.0085 [25.62]	0.800 [20.32]

Part Numbering Guideline for Jumper Assemblies

DUALOBE Connectors - Jumper Terminations

Class	J	X	X	XXX	XX	X	XX	XXX	X	Threads/Jackscrews
J Jumper										Threads (Receptacles Only) N Thread for 1.0 mm Jackscrews Q Thread for 1.2 mm Jackscrews Jackscrews (Plugs Only) M 1.0 mm Non Captive Jackscrews N 1.0 mm Captive Jackscrews Q 1.2 mm Captive Jackscrews
Rows										
S 1 Row										
T 2 Row										
Type										Conductor Length
L LCP (Plastic)										XXX Three numbers only, length is in inches (i.e. 012 = twelve inches) CXX A "C" followed by two numbers, length is in centimeters (i.e. C06 = 6 centimeters) MX An "M" followed by two numbers, length is in meters (i.e. M02 = 2 meters)
M Metal (Al, Ni Plate)										
Positions										Conductor Type
005 5 Position (single row only)										DX White Teflon DM Color Coded Teflon per MIL-STD-681 DY White PTFE M16878/6 DT White Tefzel M22759/33 DC Color Coded Teflon GX Teflon Ribbon Cable
009 9 Position										
015 15 Position										
025 25 Position										
037 37 Position										
051 51 Position										
065 65 Position (two row only)										Conductor Size/Strands
										0 28 AWG Solid 1 30 AWG Solid 2 30 AWG 7 Strand 3 32 AWG 7 Strand 4 34 AWG 7 Strand
Configuration										
PP Plug to Plug, 1 to 1										
PR Plug to Receptacle, 1 to 1										
PD Plug to Plug, low to high in row										
RR Receptacle to Receptacle, 1 to 1										

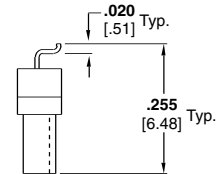
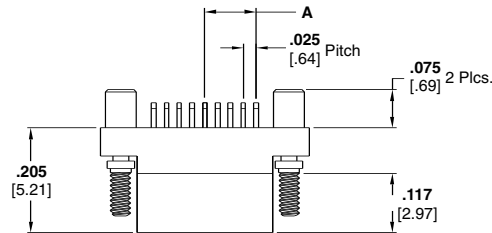
Surface Mount Connectors — Horizontal, Single Row



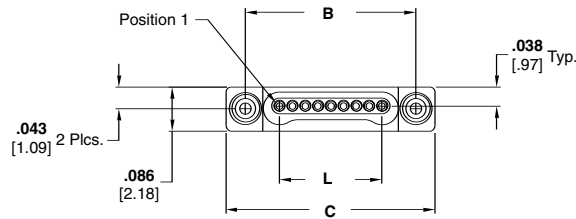
Receptacle

Product Facts

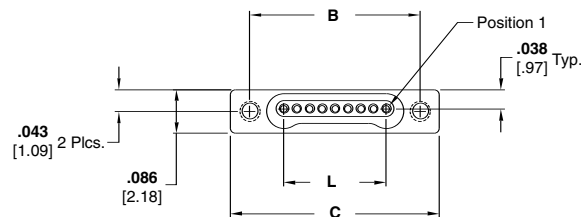
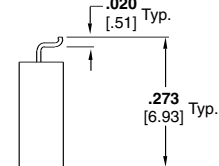
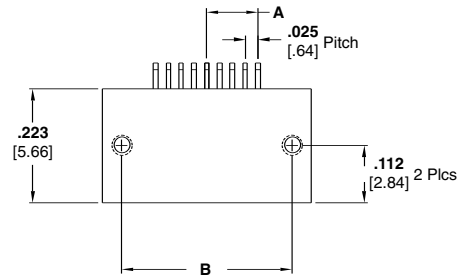
- Plastic or Metal Shell
- Standard Sizes: 5, 9, 15, 25, 37, and 51
- Contact Tyco Electronics for custom configurations
- Suggested pad layouts are available on the referenced drawings on the Tyco Electronics website



Jack screws Omitted for Clarity



Plug Assembly
Drawing Number 1589460



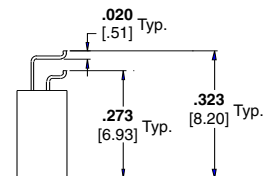
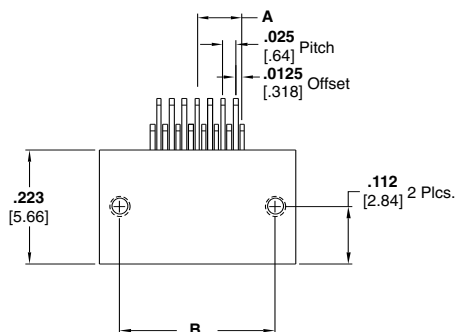
Receptacle Assembly
Drawing Number 1589462

Size	Dimensions			
	A	B	C	L
5	0.050 [1.27]	0.233 [5.92]	0.3085 [7.84]	0.100 [2.54]
9	0.100 [2.54]	0.333 [8.46]	0.4085 [10.38]	0.200 [5.08]
15	0.175 [4.45]	0.483 [12.27]	0.5585 [14.19]	0.350 [8.89]
25	0.300 [7.62]	0.733 [18.62]	0.8085 [20.54]	0.600 [15.24]
37	0.450 [11.43]	1.085 [26.24]	1.1085 [28.16]	0.900 [22.86]
51	0.625 [15.88]	1.383 [35.13]	1.4585 [37.05]	1.250 [31.75]

Surface Mount Connectors — Horizontal, Two Row

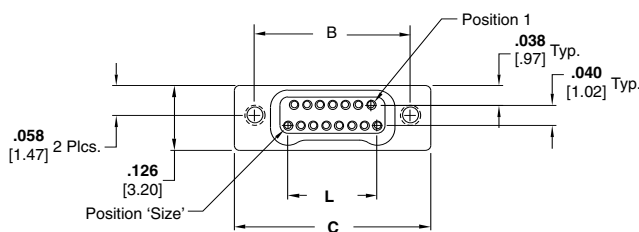


Receptacle

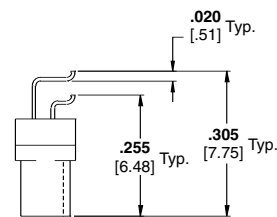
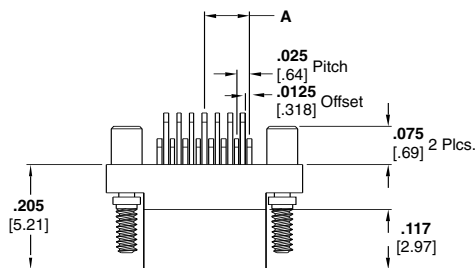


Product Facts

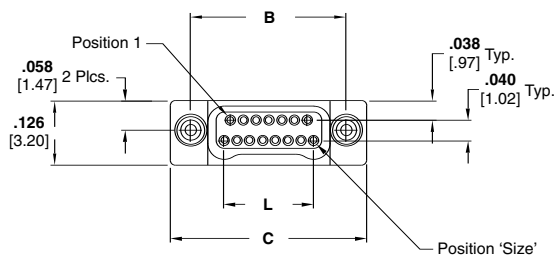
- Plastic or Metal Shell
- Standard Sizes: 9, 15, 25, 37, 51 and 65
- Contact Tyco Electronics for custom configurations
- Suggested pad layouts are available on the referenced drawings on the Tyco Electronics website



Receptacle Assembly
Drawing Number 1589483



Jackscrews Omitted for Clarity



Plug Assembly
Drawing Number 1589490

Size	Dimensions			
	A	B	C	L
9	0.050 [1.27]	0.229 [5.82]	0.3085 [7.84]	0.100 [2.54]
15	0.075 [2.23]	0.304 [7.72]	0.3835 [9.74]	0.175 [4.45]
25	0.150 [3.81]	0.429 [10.90]	0.5085 [12.92]	0.300 [7.62]
37	0.225 [5.72]	0.579 [14.71]	0.6585 [16.73]	0.450 [11.43]
51	0.313 [7.95]	0.754 [19.15]	0.8335 [21.17]	0.625 [15.88]
65	0.400 [10.16]	0.929 [23.60]	1.0085 [25.62]	0.800 [20.32]

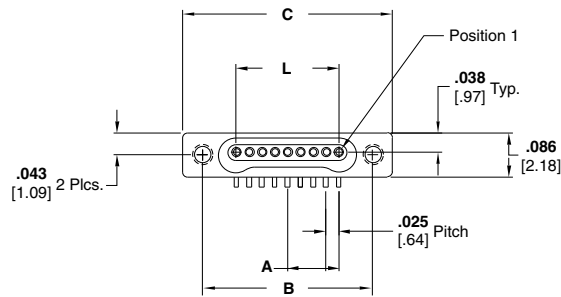
Surface Mount Connectors — Vertical, Single Row



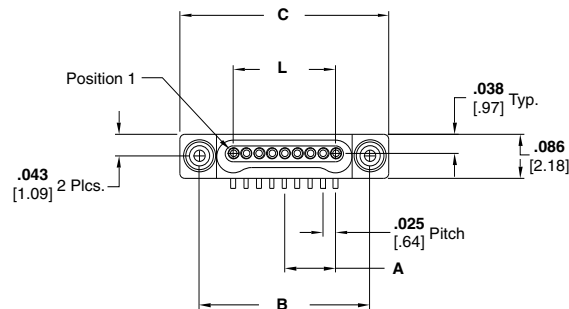
Receptacle

Product Facts

- Plastic or Metal Shell
- Standard Sizes: 5, 9, 15, 25, 37, and 51
- Contact Tyco Electronics for custom configurations
- Suggested pad layouts are available on the referenced drawings on the Tyco Electronics website



Receptacle Assembly
Drawing Number 1589463



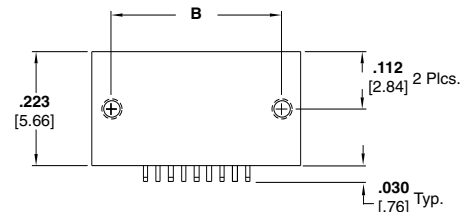
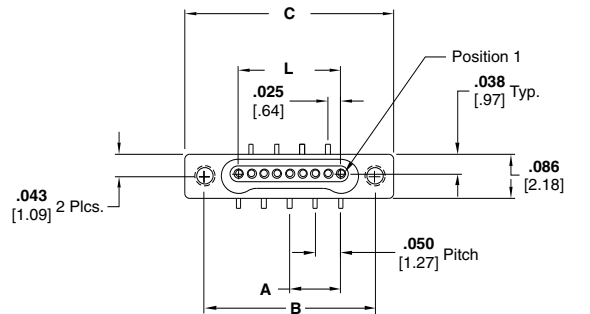
Plug Assembly
Drawing Number 1589465

Size	Dimensions			
	A	B	C	L
5	0.050 [1.27]	0.233 [5.92]	0.3085 [7.84]	0.100 [2.54]
9	0.100 [2.54]	0.333 [8.46]	0.4085 [10.38]	0.200 [5.08]
15	0.175 [4.45]	0.483 [12.27]	0.5585 [14.19]	0.350 [8.89]
25	0.300 [7.62]	0.733 [18.62]	0.8085 [20.54]	0.600 [15.24]
37	0.450 [11.43]	1.085 [26.24]	1.1085 [28.16]	0.900 [22.86]
51	0.625 [15.88]	1.383 [35.13]	1.4585 [37.05]	1.250 [31.75]

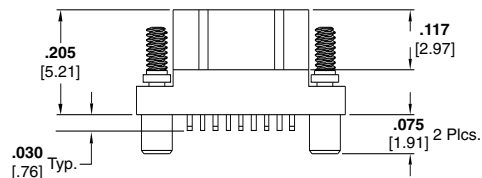
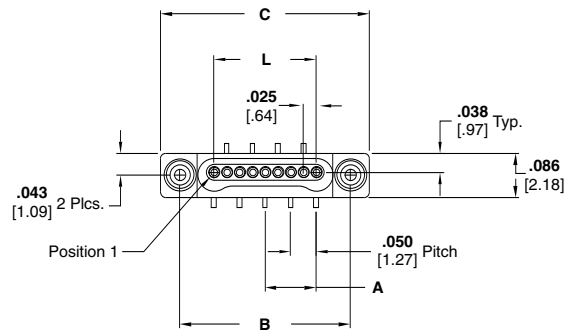
Surface Mount Connectors — Vertical, Single Row with Alternating Leads

Product Facts

- Plastic or Metal Shell
- Standard Sizes: 5, 9, 15, 25, 37, and 51
- Contact Tyco Electronics for custom configurations
- Suggested pad layouts are available on the referenced drawings on the Tyco Electronics website



Receptacle Assembly
Drawing Number 1589464



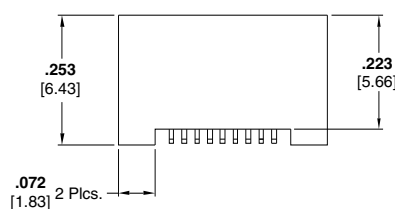
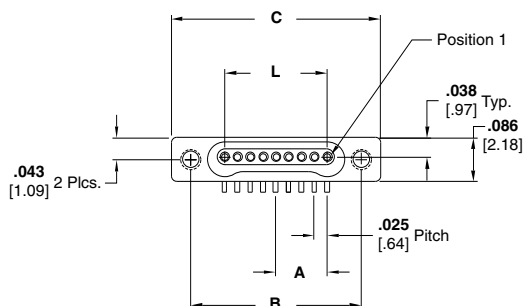
Plug Assembly
Drawing Number 1589466

Size	Dimensions			
	A	B	C	L
5	0.050 [1.27]	0.233 [5.92]	0.3085 [7.84]	0.100 [2.54]
9	0.100 [2.54]	0.333 [8.46]	0.4085 [10.38]	0.200 [5.08]
15	0.175 [4.45]	0.483 [12.27]	0.5585 [14.19]	0.350 [8.89]
25	0.300 [7.62]	0.733 [18.62]	0.8085 [20.54]	0.600 [15.24]
37	0.450 [11.43]	1.085 [26.24]	1.1085 [28.16]	0.900 [22.86]
51	0.625 [15.88]	1.383 [35.13]	1.4585 [37.05]	1.250 [31.75]

Surface Mount Connectors — Vertical, Single Row with Integrated Standoffs

Product Facts

- Metal Shell
- Standard Sizes: 5, 9, 15, 25, 37, and 51
- Contact Tyco Electronics for custom configurations
- Suggested pad layouts are available on the referenced drawings on the Tyco Electronics website



Receptacle Assembly
Drawing Number 1589467

Size	Dimensions			
	A	B	C	L
5	0.050 [1.27]	0.233 [5.92]	0.3085 [7.84]	0.100 [2.54]
9	0.100 [2.54]	0.333 [8.46]	0.4085 [10.38]	0.200 [5.08]
15	0.175 [4.45]	0.483 [12.27]	0.5585 [14.19]	0.350 [8.89]
25	0.300 [7.62]	0.733 [18.62]	0.8085 [20.54]	0.600 [15.24]
37	0.450 [11.43]	1.085 [26.24]	1.1085 [28.16]	0.900 [22.86]
51	0.625 [15.88]	1.383 [35.13]	1.4585 [37.05]	1.250 [31.75]

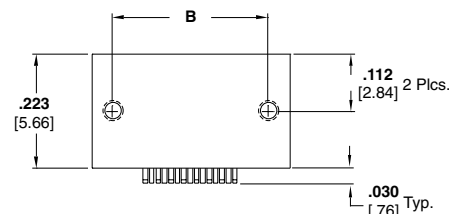
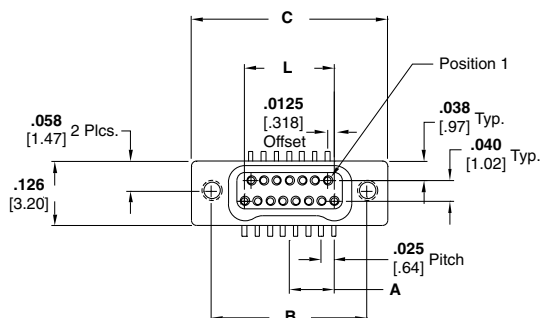
Surface Mount Connectors — Vertical, Two Row



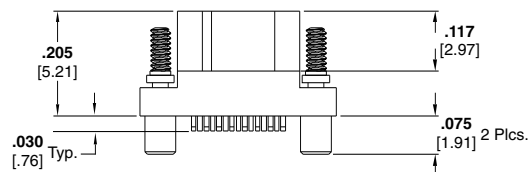
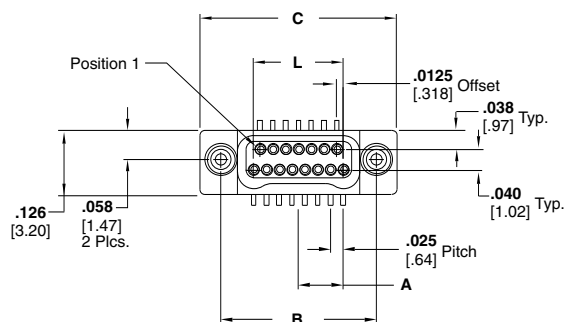
Receptacle

Product Facts

- Plastic or Metal Shell
- Standard Sizes: 9, 15, 25, 37, 51 and 65
- Contact Tyco Electronics for custom configurations
- Suggested pad layouts are available on the referenced drawings on the Tyco Electronics website



Receptacle Assembly
Drawing Number 1589484



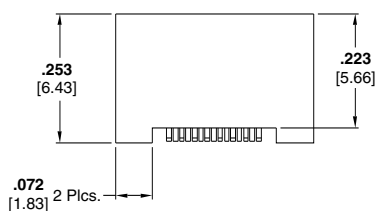
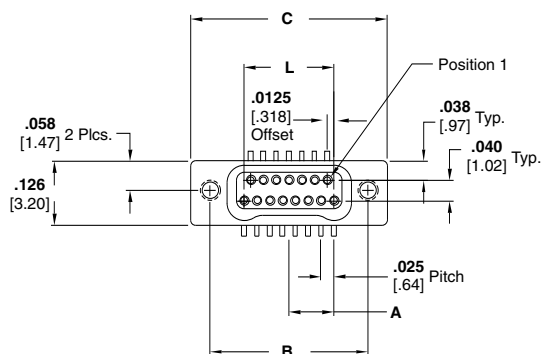
Plug Assembly
Drawing Number 1589485

Size	Dimensions			
	A	B	C	L
9	0.050 [1.27]	0.229 [5.82]	0.3085 [7.84]	0.100 [2.54]
15	0.075 [2.23]	0.304 [7.72]	0.3835 [9.74]	0.175 [4.45]
25	0.150 [3.81]	0.429 [10.90]	0.5085 [12.92]	0.300 [8.89]
37	0.225 [5.72]	0.579 [14.71]	0.6585 [16.73]	0.450 [11.43]
51	0.313 [7.95]	0.754 [19.15]	0.8335 [21.17]	0.625 [15.88]
65	0.400 [10.16]	0.929 [23.60]	1.0085 [25.62]	0.800 [20.32]

Surface Mount Connectors — Vertical, Two Row with Integrated Standoffs

Product Facts

- Metal Shell
- Standard Sizes: 9, 15, 25, 37, 51 and 65
- Contact Tyco Electronics for custom configurations
- Suggested pad layouts are available on the referenced drawings on the Tyco Electronics website



Receptacle Assembly
Drawing Number 1589486

Size	Dimensions			
	A	B	C	L
9	0.050 [1.27]	0.229 [5.82]	0.3085 [7.84]	.100 [2.54]
15	0.075 [2.23]	0.304 [7.72]	0.3835 [9.74]	.175 [4.45]
25	0.150 [3.81]	0.429 [10.90]	0.5085 [12.92]	.300 [8.89]
37	0.225 [5.72]	0.579 [14.71]	0.6585 [16.73]	.450 [11.43]
51	0.313 [7.95]	0.754 [19.15]	0.8335 [21.17]	.625 [15.88]
65	0.400 [10.16]	0.929 [23.60]	1.0085 [25.62]	.800 [20.32]

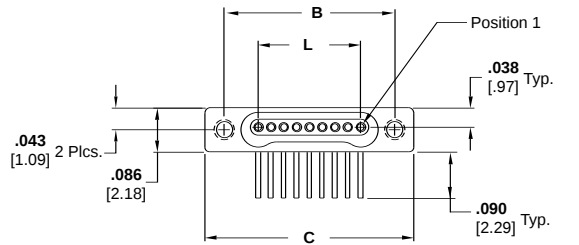
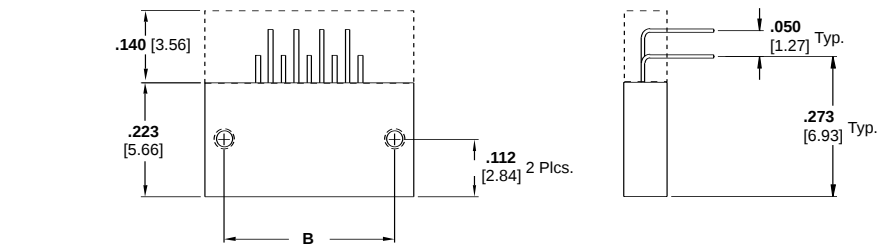
Thru-Hole Connectors — Horizontal, 1 Row to 2 Row, .050 Spacing



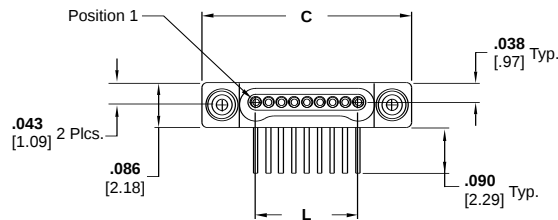
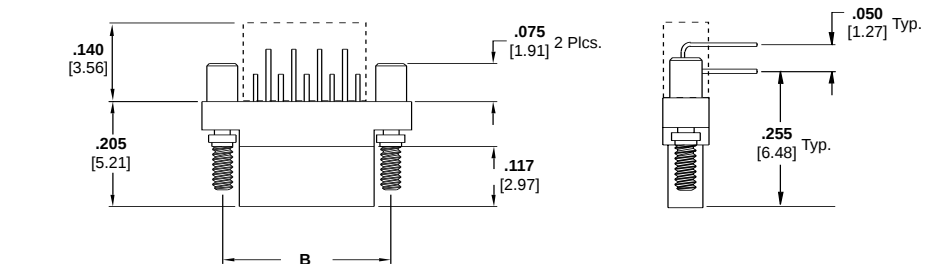
Receptacle

Product Facts

- Plastic or Metal Shell
- Standard Sizes: 5, 9, 15, 25, 37, and 51
- Contact Tyco Electronics for custom configurations
- Suggested thru-hole layouts are available on the referenced drawings on the Tyco Electronics website



Receptacle Assembly
Drawing Number 1589469



Plug Assembly
Drawing Number 1589471

Size	Dimensions		
	B	C	L
5	0.233 [5.92]	0.3085 [7.84]	0.100 [2.54]
9	0.333 [8.46]	0.4085 [10.38]	0.200 [5.08]
15	0.483 [12.27]	0.5585 [14.19]	0.350 [8.89]
25	0.733 [18.62]	0.8085 [20.54]	0.600 [15.24]
37	1.033 [26.24]	1.1085 [28.16]	0.900 [22.86]
51	1.383 [35.13]	1.4585 [37.05]	1.250 [31.75]

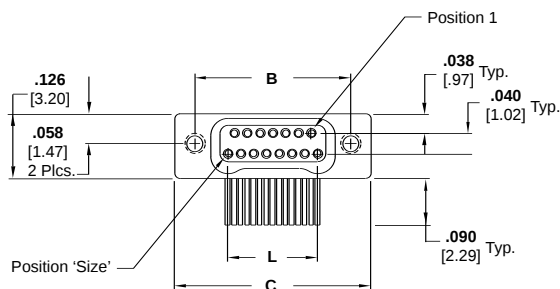
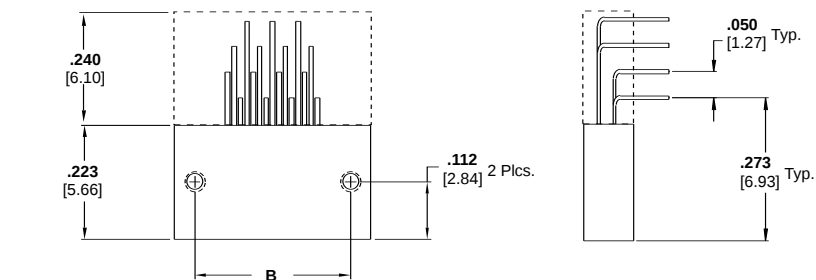
Thru-Hole Connectors — Horizontal, 2 Row to 4 Row, .050 Spacing



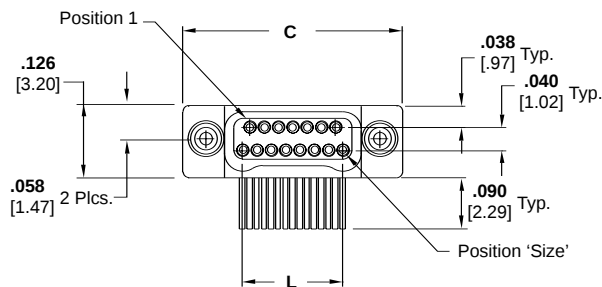
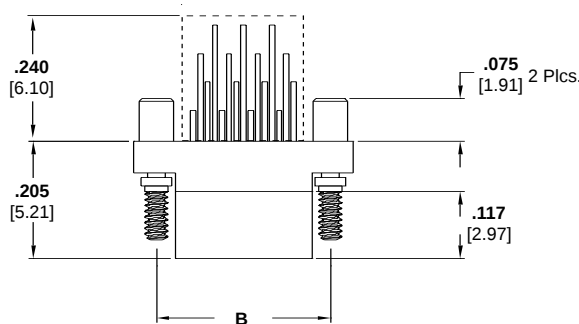
Receptacle

Product Facts

- Plastic or Metal Shell
- Standard Sizes: 9, 15, 25, 37, 51 and 65
- Contact Tyco Electronics for custom configurations
- Suggested thru-hole layouts are available on the referenced drawings on the Tyco Electronics website



Receptacle Assembly
Drawing Number 1589487



Plug Assembly
Drawing Number 1589481

Size	Dimensions		
	B	C	L
9	0.229 [5.82]	0.3085 [7.84]	0.100 [2.54]
15	0.304 [7.72]	0.3835 [9.74]	0.175 [4.45]
25	0.429 [10.90]	0.5085 [12.92]	0.300 [7.62]
37	0.579 [14.71]	0.6585 [16.73]	0.450 [11.43]
51	0.754 [19.15]	0.8335 [21.17]	0.625 [15.88]
65	0.929 [23.60]	1.0085 [25.62]	0.800 [20.32]

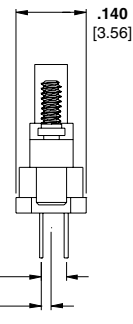
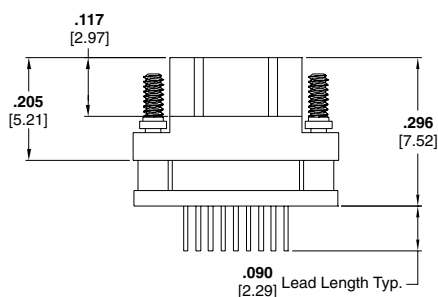
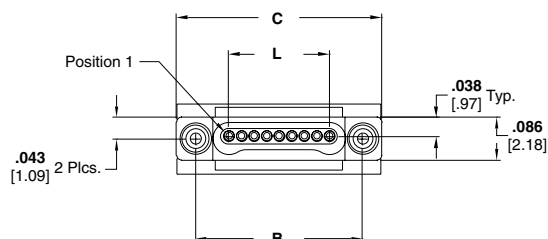
Thru-Hole Connectors — Vertical Mount, 1 Row to 2 Row Connectors, .050 Spacing



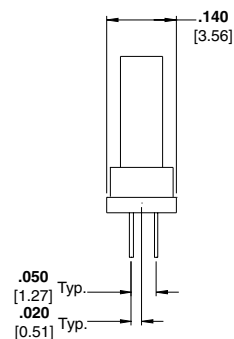
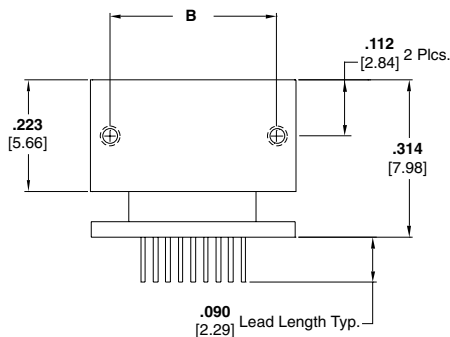
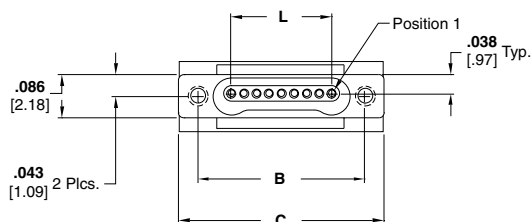
Receptacle

Product Facts

- Plastic or Metal Shell
- Standard Sizes: 5, 9, 15, 25, 37 and 51
- Contact Tyco Electronics for custom configurations
- Suggested thru-hole layouts are available on the referenced drawings on the Tyco Electronics website



Plug Assembly
Drawing Number 1589461



Receptacle Assembly
Drawing Number 1589470

Size	Dimensions		
	B	C	L
5	0.233 [5.92]	0.3085 [7.84]	0.100 [2.54]
9	0.333 [8.46]	0.4085 [10.38]	0.200 [5.08]
15	0.483 [12.27]	0.5585 [14.19]	0.350 [8.89]
25	0.733 [18.62]	0.8085 [20.54]	0.600 [15.24]
37	1.033 [26.24]	1.1085 [28.16]	0.900 [22.86]
51	1.383 [35.13]	1.4585 [37.05]	1.250 [31.75]

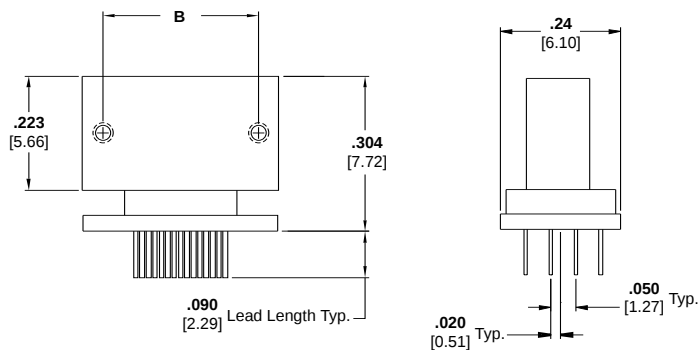
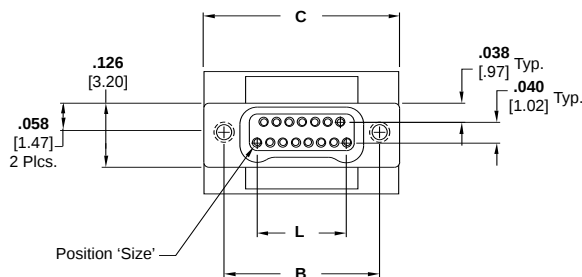
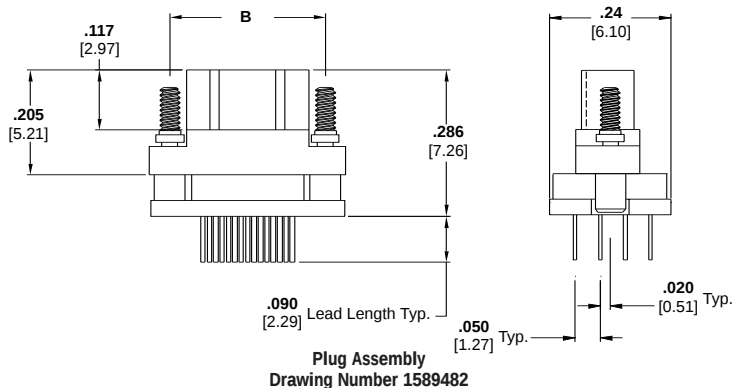
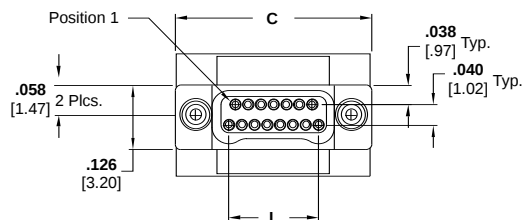
Thru-Hole Connectors — Vertical Mount, 2 Row to 4 Row Connectors, .050 Spacing



Receptacle

Product Facts

- Plastic or Metal Shell
- Standard Sizes: 9, 15, 25, 37, 51 and 65
- Contact Tyco Electronics for custom configurations
- Suggested thru-hole layouts are available on the referenced drawings on the Tyco Electronics website



Size	Dimensions		
	B	C	L
9	0.229 [5.82]	0.3085 [7.84]	0.100 [2.54]
15	0.304 [7.72]	0.3835 [9.74]	0.175 [4.45]
25	0.429 [10.90]	0.5085 [12.92]	0.300 [7.62]
37	0.579 [14.71]	0.6585 [16.73]	0.450 [11.43]
51	0.754 [19.15]	0.8335 [21.17]	0.625 [15.88]
65	0.929 [23.60]	1.0085 [25.62]	0.800 [20.32]

Part Numbering Guideline for Surface Mount and Thru-Hole Connectors

DUALOBE Connectors - Surface Mount and Thru Hole Terminations

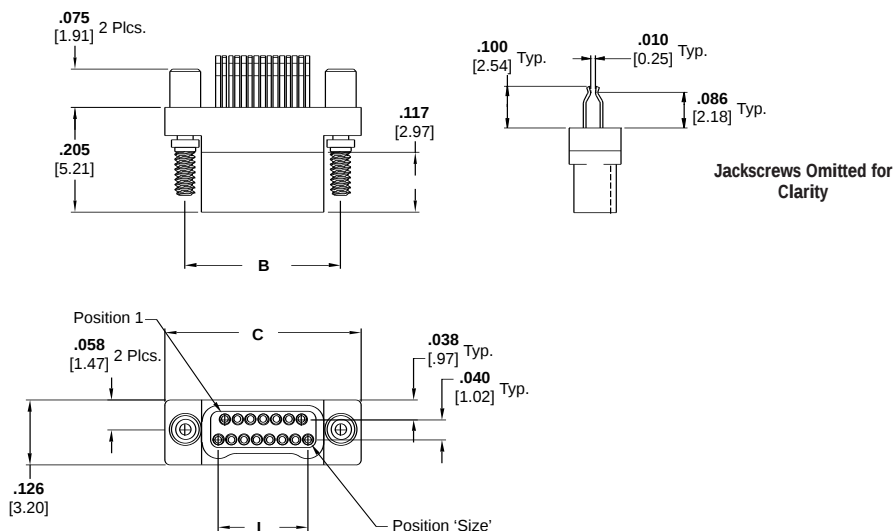
Class		S	X	X	XXX	XX(X)	X	X
S Duallobe								
Rows								
S 1 Row								
T 2 Row								
Type								
L LCP (Plastic)								
M Metal (Al, Ni Plate)								
Positions								
005 5 Position (single row only)								
009 9 Position								
015 15 Position								
025 25 Position								
037 37 Position								
051 51 Position								
065 65 Position (two row only)								

Threads/Jackscrew	
Threads (Receptacles Only)	Jackscrews (Plugs Only)
N Thread for 1.0 mm Jackscrews	M 1.0 mm Non Captive Jackscrews
Q Thread for 1.2 mm Jackscrews	N 1.0 mm Captive Jackscrews
	Q 1.2 mm Captive Jackscrews
Mounting Hardware	
A 1.2 mm x .160"	K 1.0 mm x .200" w/ 4 standoffs
C 1.0 mm x .200" w/ 2 standoffs	L 1.2 mm x .200" w/ 2 standoffs
D 1.2 mm x .160" w/ 2 standoffs	P 1.2 mm x .200" w/ 4 standoffs
H 1.0 mm x .160"	S 1.0 mm x .160" w/ 2 standoffs
I 1.2 mm x .200"	
Configurations	
B2 Plug, Horizontal SMT	
B4 Plug, Vertical SMT	
B42 Plug, Vertical SMT, .020" Extended Leads	
B44 Plug, Vertical SMT, .040" Extended Leads	
B43 Plug, Vertical SMT, .020" Extended Leads, 2 side exit (single row only)	
B45 Plug, Vertical SMT, .040" Extended Leads, 2 side exit (single row only)	
L2 Receptacle, Horizontal SMT	
L4 Receptacle, Vertical SMT	
L42 Receptacle, Vertical SMT, .020" Extended Leads	
L44 Receptacle, Vertical SMT, .040" Extended Leads	
L43 Receptacle, Vertical SMT, .020" Extended Leads, 2 side exit (single row only)	
L45 Receptacle, Vertical SMT, .040" Extended Leads, 2 side exit (single row only)	
L8 Receptacle, Vertical SMT, w/ integrated standoffs (metal shell only)	
L82 Receptacle, Vertical SMT, w/ integrated standoffs, .020" Extended Leads (metal shell only)	
L84 Receptacle, Vertical SMT, w/ integrated standoffs, .040" Extended Leads (metal shell only)	
L83 Receptacle, Vertical SMT, w/ integrated standoffs, .020" Extended Leads (single row and metal shell only)	
L85 Receptacle, Vertical SMT, w/ integrated standoffs, .040" Extended Leads (single row and metal shell only)	
C5 Plug, Vertical Mount, Thru Hole	
C6 Plug, Horizontal Mount, Thru Hole	
M5 Receptacle, Vertical Mount, Thru Hole	
M6 Receptacle, Horizontal Mount, Thru Hole	

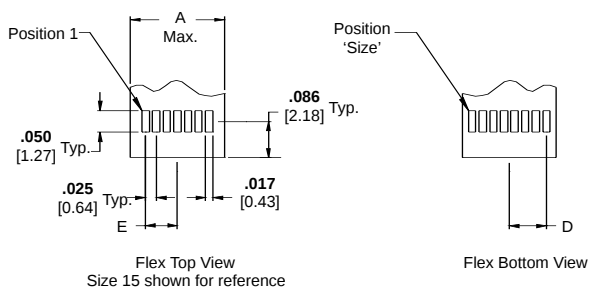
Flex Termination “Duckbill” Connectors — Two Row

Product Facts

- Plastic or Metal Shell
- Standard Sizes: 9, 15, 25, 37, 51 and 65
- Contact Tyco Electronics for custom configurations



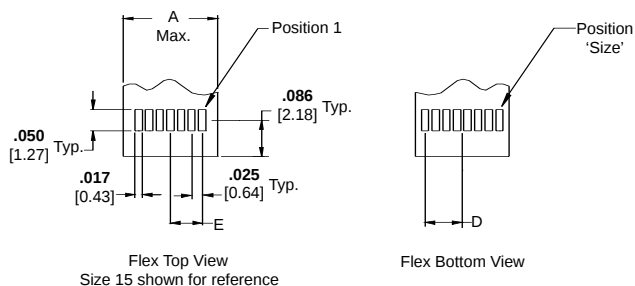
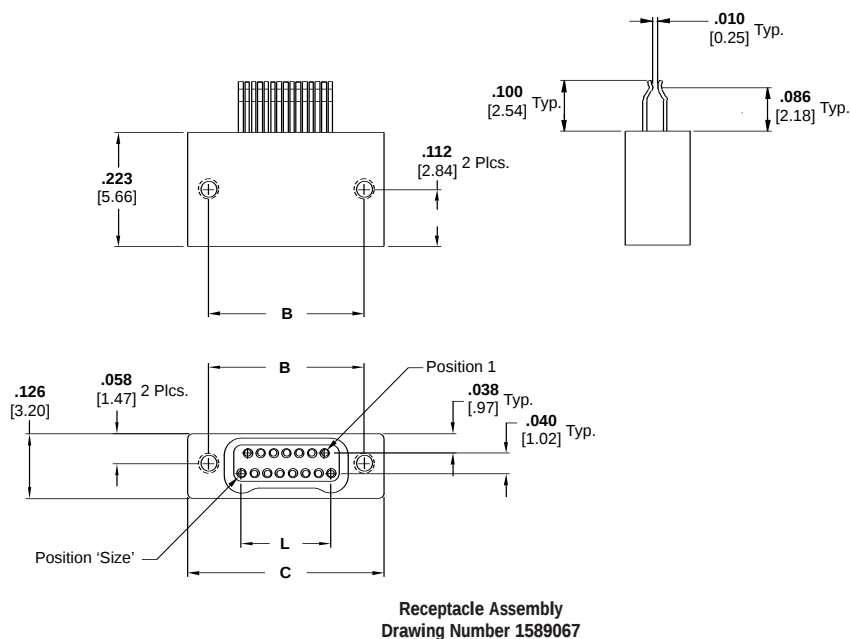
Plug Assembly
Drawing Number 1589066



Typical Flex Pad Layout

Size	Dimensions					
	A	B	C	D	E	L
9	0.150 [3.81]	0.229 [5.82]	0.3085 [7.84]	0.0500 [1.27]	0.0375 [0.95]	0.100 [2.54]
15	0.225 [5.72]	0.304 [7.72]	0.3835 [9.74]	0.0875 [2.22]	0.0750 [1.90]	0.175 [4.45]
25	0.350 [8.89]	0.429 [10.90]	0.5085 [12.92]	0.1500 [3.81]	0.1375 [3.49]	0.300 [7.62]
37	0.500 [12.7]	0.579 [14.71]	0.6585 [16.73]	0.2250 [5.72]	0.2125 [5.40]	0.450 [11.43]
51	0.675 [17.1]	0.754 [19.15]	0.8335 [21.17]	0.3125 [7.94]	0.3000 [7.62]	0.625 [15.88]
65	0.850 [21.6]	0.929 [23.60]	1.0085 [25.62]	0.4000 [10.2]	0.3875 [9.84]	0.800 [20.32]

Flex Termination "Duckbill" Connectors — Two Row (Continued)



Part Numbering Guideline for Flex Termination "Duckbill" Connectors

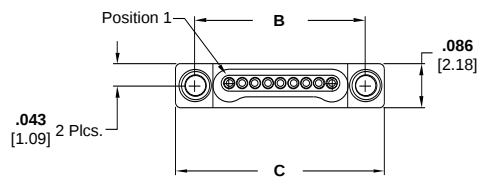
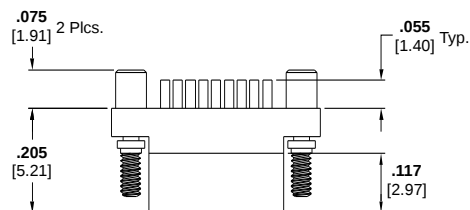
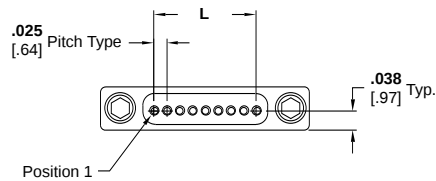
DUALOBE Connectors - "Duckbill" Termination

Class	S	T	X	XXX	11378	XX	X
S Dualobe							
Rows							
T 2 Row							
Type							
L LCP (Plastic)							
M Metal (Al, Ni Plate)							
Positions							
009 9 Position							
015 15 Position							
025 25 Position							
037 37 Position							
051 51 Position							
065 65 Position							
Threads/Jackscrew							
Threads (Receptacles Only)							
N Thread for 1.0 mm Jackscrews							
Q Thread for 1.2 mm Jackscrews							
Jackscrews (Plugs Only)							
M 1.0 mm Non Captive Jackscrews							
N 1.0 mm Captive Jackscrews							
Q 1.2 mm Captive Jackscrews							
Configuration							
PC Plug							
SC Receptacle							
Termination Code							
11378 "Duckbill" Termination							

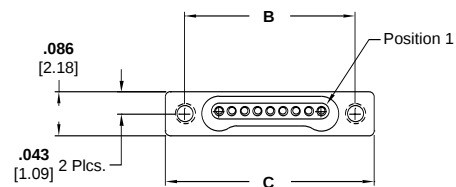
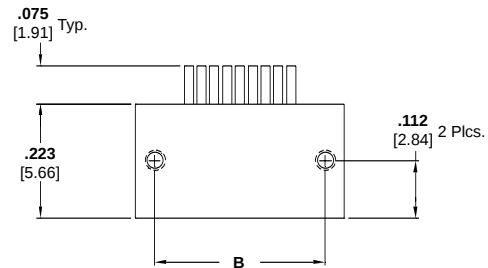
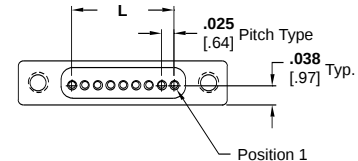
Solder Cup Connectors — Single Row

Product Facts

- Plastic or Metal Shell
- Standard Sizes: 5, 9, 15, 25, 37 and 51
- Contact Tyco Electronics for custom configurations



Plug Assembly
Drawing Number 1589051



Receptacle Assembly
Drawing Number 1589052

Size	Dimensions		
	B	C	L
5	0.233 [5.92]	0.3085 [7.84]	0.100 [2.54]
9	0.333 [8.46]	0.4085 [10.38]	0.200 [5.08]
15	0.483 [12.27]	0.5585 [14.19]	0.350 [8.89]
25	0.733 [18.62]	0.8085 [20.54]	0.600 [15.24]
37	1.033 [26.24]	1.1085 [28.16]	0.900 [22.86]
51	1.383 [35.13]	1.4585 [37.05]	1.250 [31.75]



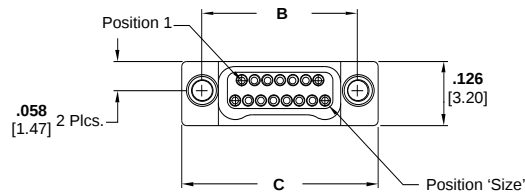
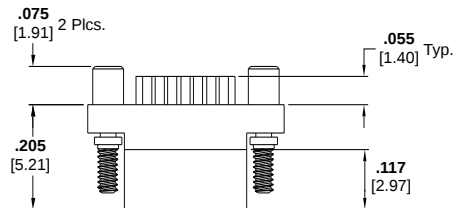
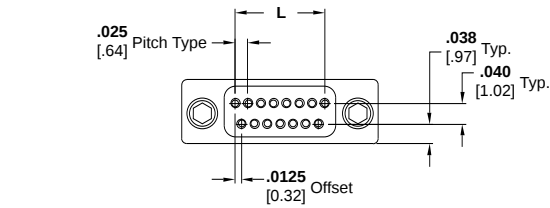
Plug



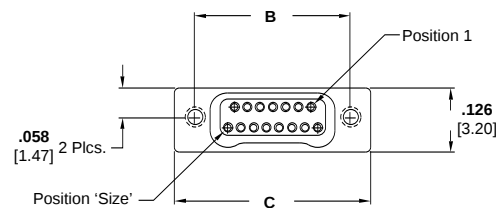
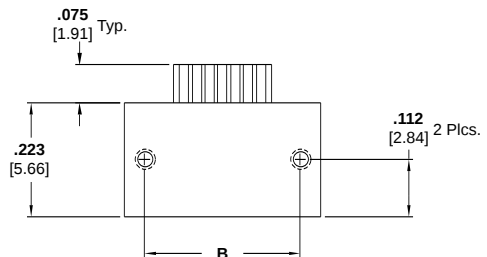
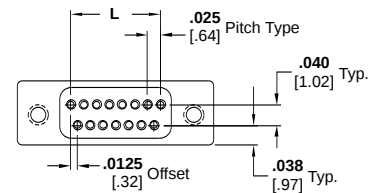
Receptacle

Product Facts

- Plastic or Metal Shell
- Standard Sizes: 9, 15, 25, 37, 51 and 65
- Contact Tyco Electronics for custom configurations



Plug Assembly
Drawing Number 1589053



Receptacle Assembly
Drawing Number 1589054

Size	Dimensions		
	B	C	L
9	0.229 [5.82]	0.3085 [7.84]	0.100 [2.54]
15	0.304 [7.72]	0.3835 [9.74]	0.175 [4.45]
25	0.429 [10.90]	0.5085 [12.92]	0.300 [7.62]
37	0.579 [14.71]	0.6585 [16.73]	0.450 [11.43]
51	0.754 [19.15]	0.8335 [21.17]	0.625 [15.88]
65	0.929 [23.60]	1.0085 [25.62]	0.800 [20.32]

Part Numbering Guideline for Solder Cup Connectors

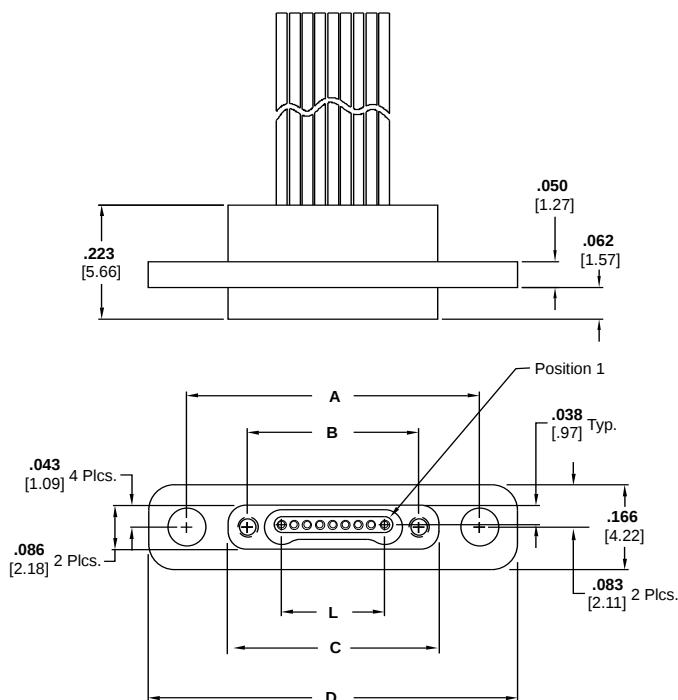
DUALOBE Connectors - Solder Cup Termination

Class	S	X	X	XXX	11500	XX	X	Threads/Jackscrew
S Duallobe								Threads (Receptacles Only)
Rows								Jackscrews (Plugs Only)
S 1 Row								N Thread for 1.0 mm Jackscrews
T 2 Row								Q Thread for 1.2 mm Jackscrews
Type								Configuration
L LCP (Plastic)								PC Plug
M Metal (Al, Ni Plate)								SC Receptacle
Positions								Termination Code
005 5 Position (single row only)								11500 Solder Cup Termination
009 9 Position								
015 15 Position								
025 25 Position								
037 37 Position								
051 51 Position								
065 65 Position (two row only)								

Panel Mount Connectors — Single Row, Flying Leads

Product Facts

- Metal Shell
- Standard Sizes: 5, 9, 15, 25, 37 and 51
- Factory wired to your specifications
- Contact Tyco Electronics for custom configurations



Receptacle Assembly
Drawing Number 1589851

Size	Dimensions				
	A	B	C	D	L
5	0.470 [11.94]	0.233 [5.92]	0.310 [7.87]	0.620 [15.75]	0.100 [2.54]
9	0.570 [14.48]	0.333 [8.46]	0.410 [10.41]	0.720 [18.29]	0.200 [5.08]
15	0.720 [18.29]	0.483 [12.27]	0.560 [14.22]	0.870 [22.10]	0.350 [8.89]
25	0.970 [24.64]	0.733 [18.62]	0.810 [20.57]	1.120 [28.45]	0.600 [15.24]
37	1.270 [32.26]	1.033 [26.24]	1.110 [28.19]	1.420 [36.07]	0.900 [22.86]
51	1.620 [41.15]	1.383 [35.13]	1.460 [37.08]	1.770 [44.96]	1.250 [31.75]

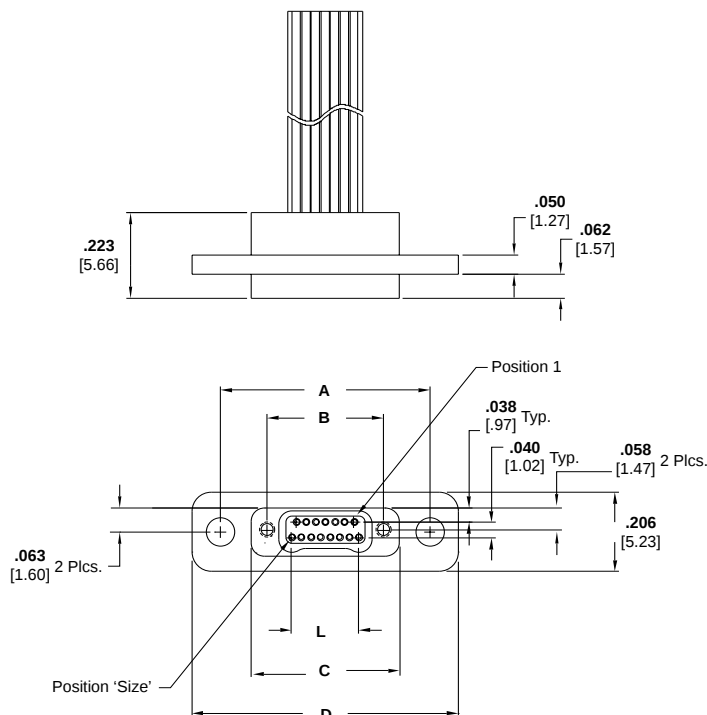
Panel Mount Connectors — Two Row, Flying Leads



Receptacle

Product Facts

- Metal Shell
- Standard Sizes: 9, 15, 25, 37, 51 and 65
- Contact Tyco Electronics for custom configurations



Receptacle Assembly
Drawing Number 1589050

Size	Dimensions				
	A	B	C	D	L
9	0.470 [11.94]	0.229 [5.82]	0.310 [7.87]	0.620 [15.75]	0.100 [2.54]
15	0.545 [13.84]	0.304 [7.72]	0.385 [9.78]	0.695 [17.65]	0.175 [4.45]
25	0.670 [17.02]	0.429 [10.90]	0.510 [12.95]	0.820 [20.83]	0.300 [7.62]
37	0.820 [20.83]	0.579 [14.71]	0.660 [16.76]	0.970 [24.64]	0.450 [11.43]
51	0.995 [25.27]	0.754 [19.15]	0.835 [21.21]	1.145 [29.08]	0.625 [15.88]
65	1.170 [29.72]	0.929 [23.60]	1.010 [25.65]	1.320 [33.53]	0.800 [20.32]

Part Numbering Guideline for Panel Mount Connectors

DUALOBE Connectors - Panel Mount

Class	P	X	M	XXX	SC	X	XX	XXX	X
P Panel Mount									Jackscrew Threads
Rows									Threads
S 1 Row									N Thread for 1.0 mm Jackscrews
T 2 Row									Q Thread for 1.2 mm Jackscrews
Type									Conductor Length
M Metal (Al, Ni Plate)									XXX Three numbers only, length is in inches (i.e. 012 = twelve inches)
Positions									CXX A "C" followed by two numbers, length is in centimeters (i.e. C06 = 6 centimet
005 5 Position (single row only)									MXX An "M" followed by two numbers, length is in meters (i.e. M02 = 2 meters)
009 9 Position									Conductor Type
015 15 Position									DX White Teflon
025 25 Position									DM Color Coded Teflon per MIL-STD-681
037 37 Position									DY White PTFE per M16878/6
051 51 Position									DT White Tefzel per M22759/33
065 65 Position (two row only)									DC Color Coded Teflon
Configuration									GX Teflon Ribbon Cable
SC Receptacle									Conductor Size/Strands
									0 28 AWG Solid
									1 30 AWG Solid
									2 30 AWG 7 Strand
									3 32 AWG 7 Strand
									4 34 AWG 7 Strand

Environmentally Sealed Circular Connectors



Nanonics environmentally sealed circular offering represents one of the industry's smallest and most reliable connector designs. These connectors are ideally suited for applications where high density and reliability, and reduced size and weight are serious design parameters. Along with these attributes, they also meet the immersion requirements of IP67, more specifically, one meter of water for two hours. Utilizing the same contact

system and materials as the Dualobe® rectangular series of connectors, the circular connectors are manufactured to the performance specifications of MIL-DTL-83513.

The plug connectors are offered in both a quick disconnect or threaded coupling configuration, and the receptacle connectors are offered in either a flush mount or panel mount configuration. The quick disconnect plug will mate with both the flush and panel

mount receptacles, while the threaded coupling plug will only mate with the panel mount receptacle. These connectors are available in pin counts of 7, 19, and 44. Optional backshells are also available for the plug connectors and the panel mount receptacle. Ideal for cable-to-cable or cable-to-panel applications, Tyco Electronics can also accommodate harness assemblies and custom configurations.

Specifications

Technical and Performance Data

Electrical

Contact Resistance – .003 - .008 ohms

Current Rating – 1 amp max. per contact

Dielectric Withstanding Voltage – Volts RMS 60 Hz at room ambient conditions. At sea level 500V. At 70,000 ft. 150V.

Insulation Resistance – 5000 megohms min. (@ 500 VDC) at room ambient conditions.

Magnetic Permeability – 2 mu max.

Temperature Range — -55°C to +200°C

Durability – 250 mates/demates

Jam Nut Torque—

7 Pos. - 6 in-lbs. max.

19 Pos. - 8 in-lbs. max.

44 Pos. - 10 in-lbs. max.

Coupling Nut Torque –

7 Pos. - 6 in-lbs. max.

19 Pos. - 8 in-lbs. max.

44 Pos. - 10 in-lbs. max.

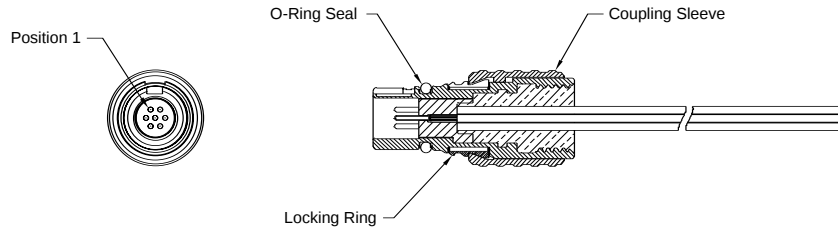
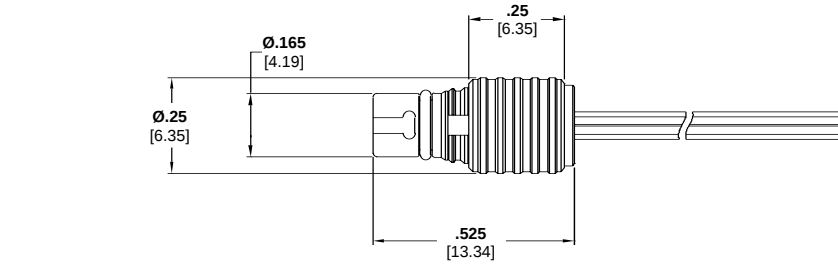
Quick Disconnect — Plug Assemblies



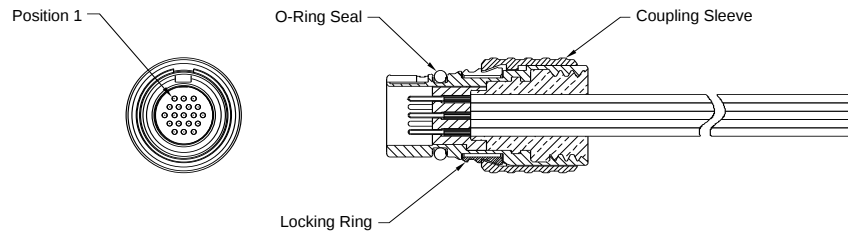
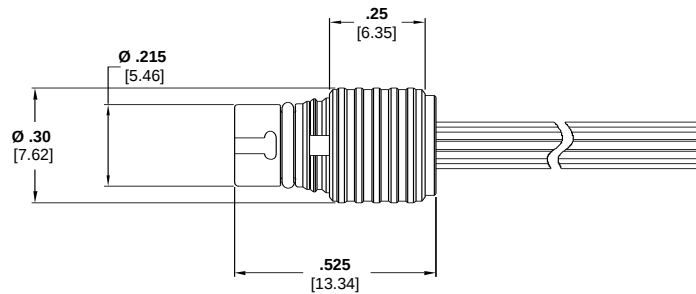
19 Position

Product Facts

- Metal Shell
- Positions: 7, 19 and 44
- Environmental O-ring seal
- Push-Pull quick-disconnect coupling
- Factory wired to your specifications
- Contact Tyco Electronics for custom configurations

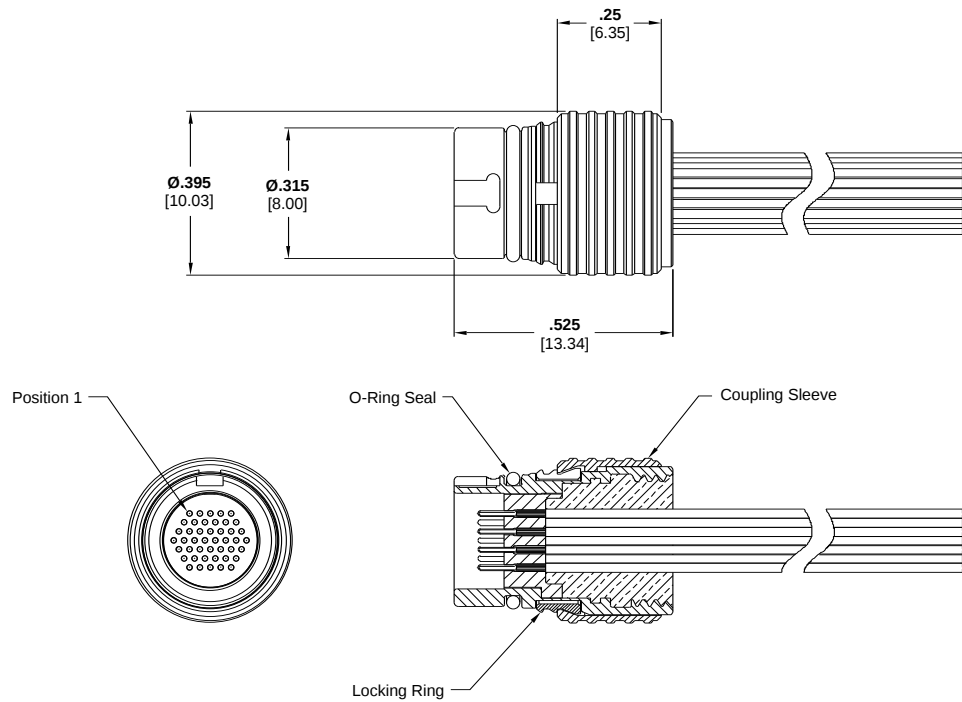


7 Position
Drawing Number 1589055



19 Position
Drawing Number 1589057

Quick Disconnect — Plug Assemblies (Continued)

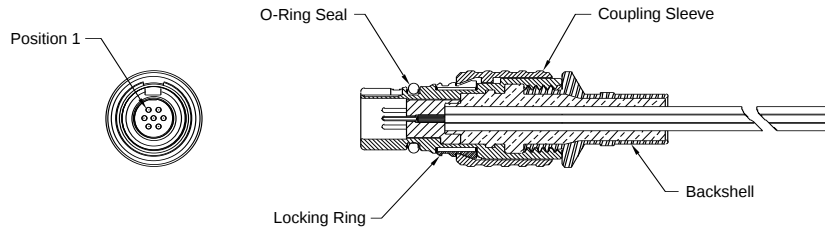
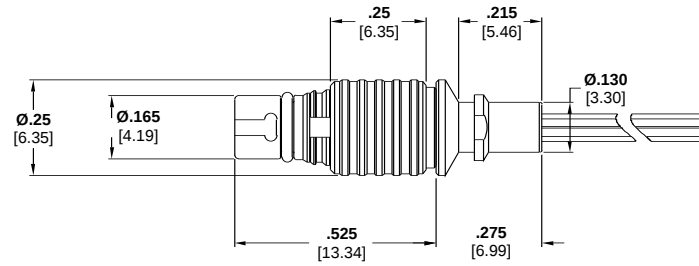


44 Position
Drawing Number 1589059

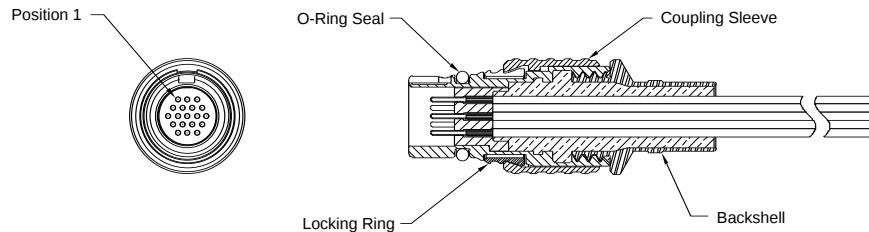
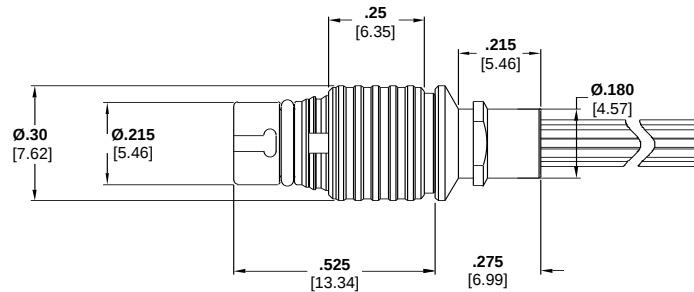
Quick Disconnect — Plug Assemblies with Backshells

Product Facts

- Metal Shell
- Positions: 7, 19 and 44
- Environmental O-ring seal
- Factory wired to your specifications
- Backshell installed at factory
- Contact Tyco Electronics for custom configurations

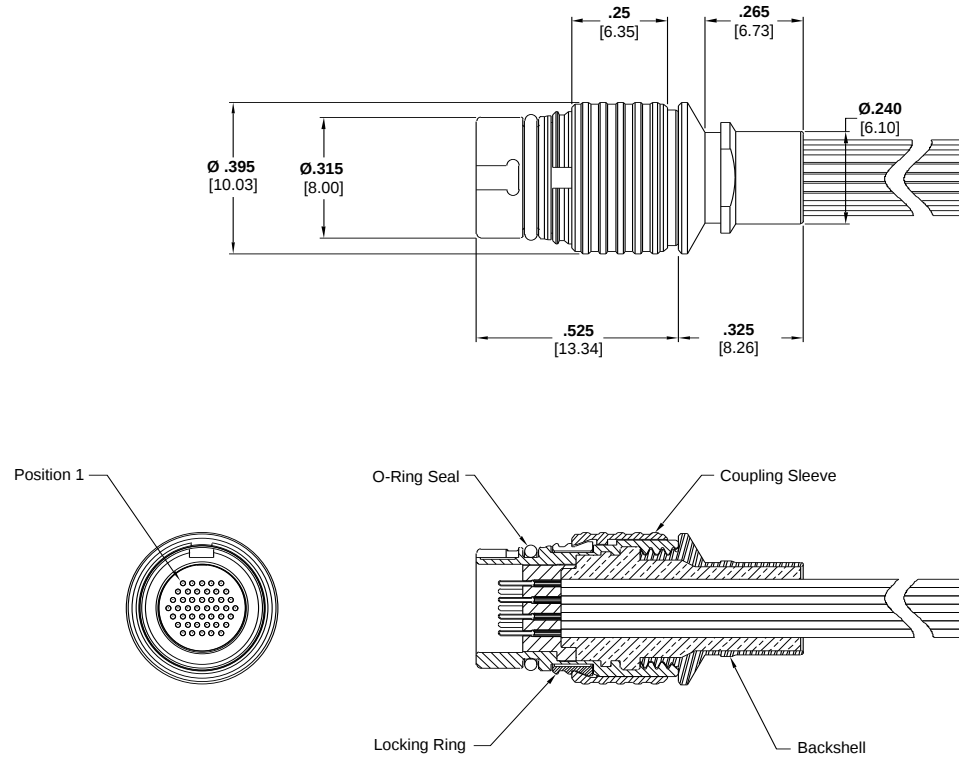


7 Position
Drawing Number 1589691



19 Position
Drawing Number 1589692

Quick Disconnect — Plug Assemblies with Backshells (Continued)



44 Position
Drawing Number 1589693

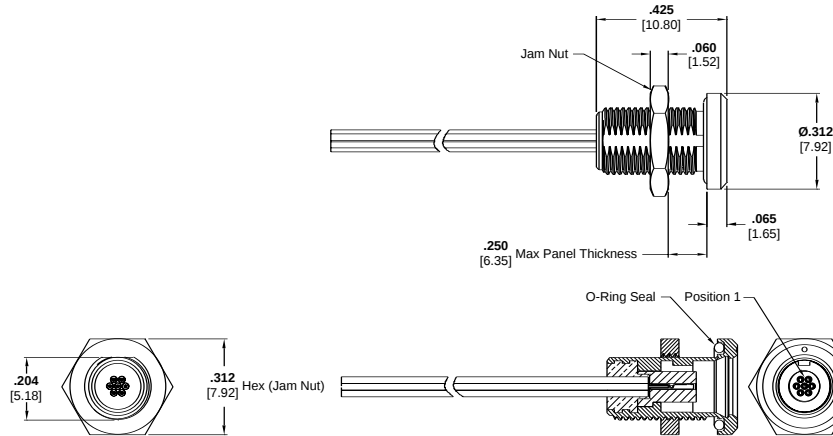
Quick Disconnect — Receptacle Assemblies, Flush Mount



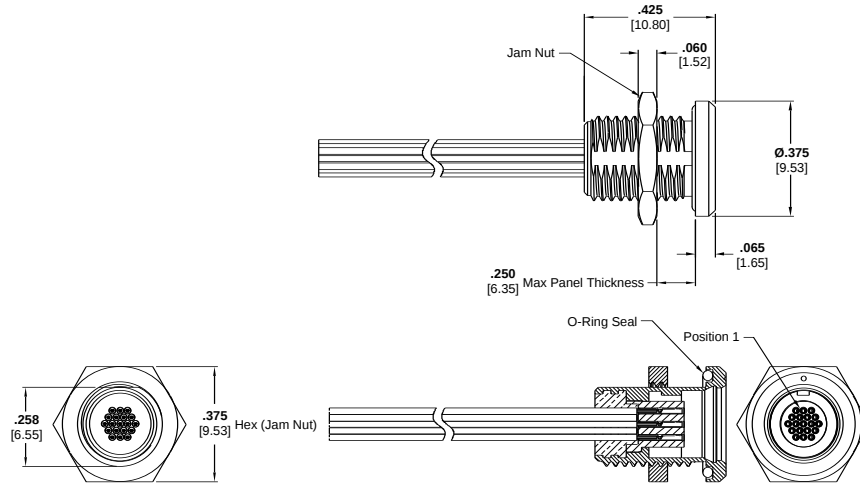
19 Position

Product Facts

- Metal Shell
- Positions: 7, 19 and 44
- Bulkhead O-ring seal
- Factory wired to your specifications
- Contact Tyco Electronics for custom configurations

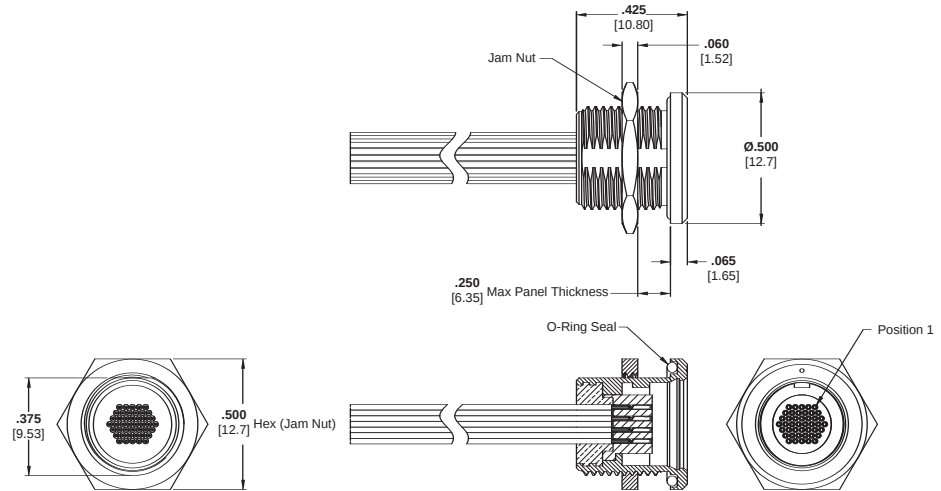


7 Position
Drawing Number 1589056



19 Position
Drawing Number 1589058

Quick Disconnect — Receptacle Assemblies, Flush Mount (Continued)



44 Position
Drawing Number 1589690

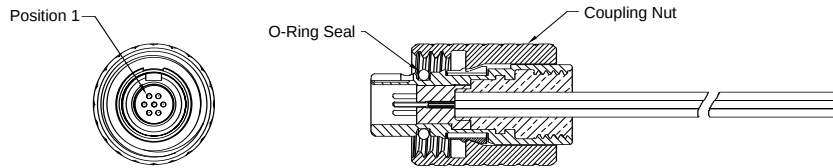
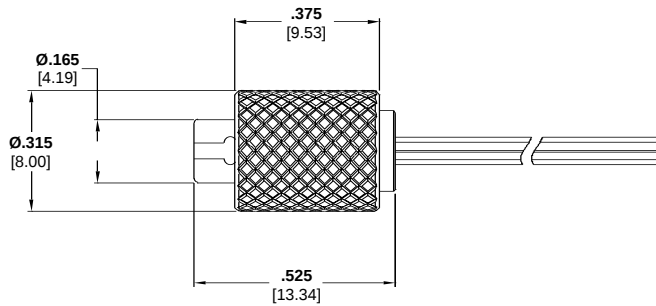
Threaded Coupling — Plug Assemblies



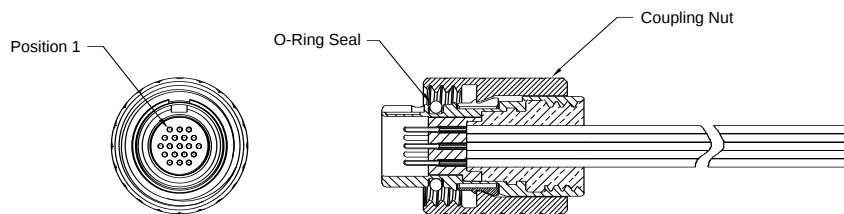
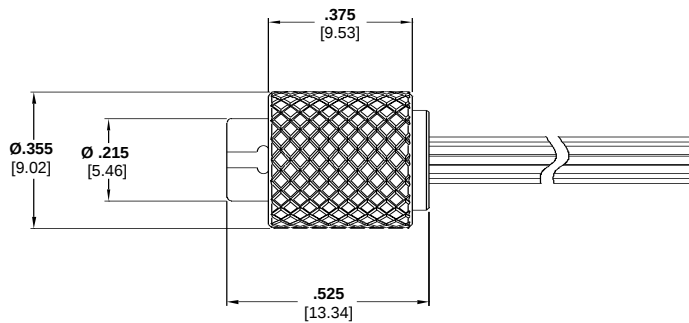
19 Position

Product Facts

- Metal Shell
- Positions: 7, 19 and 44
- Environmental O-ring seal
- Factory wired to your specifications
- Contact Tyco Electronics for custom configurations

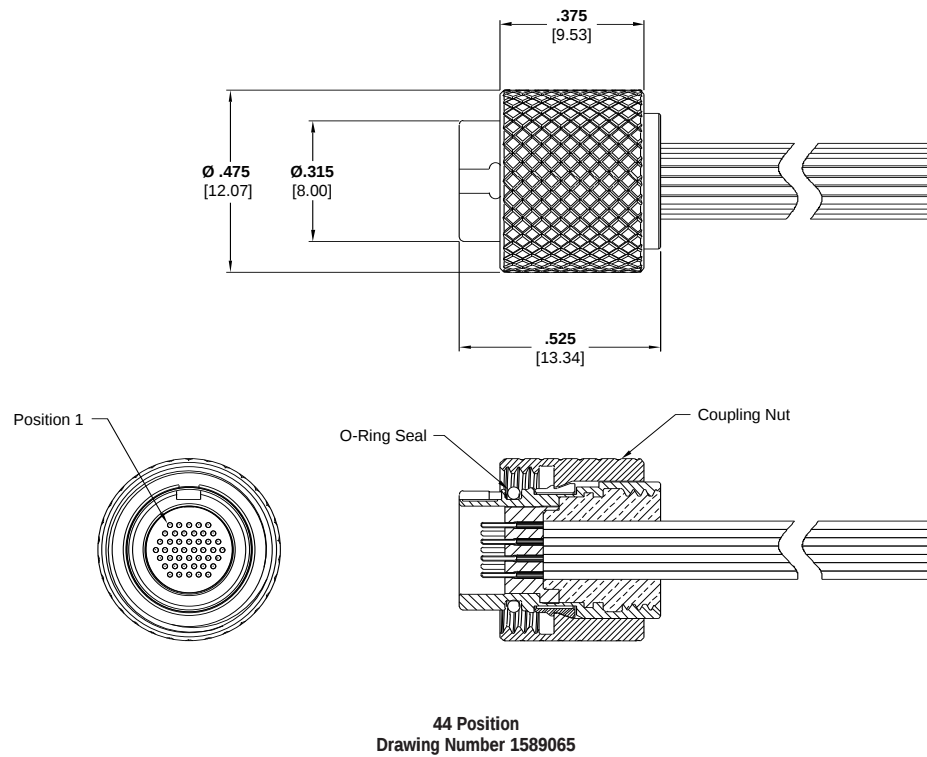


7 Position
Drawing Number 1589063



19 Position
Drawing Number 1589064

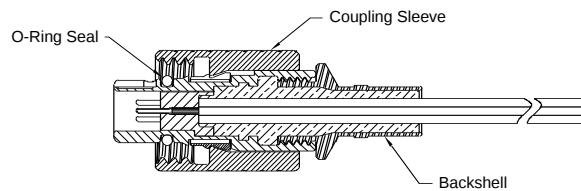
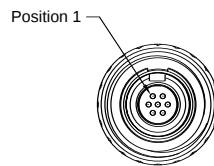
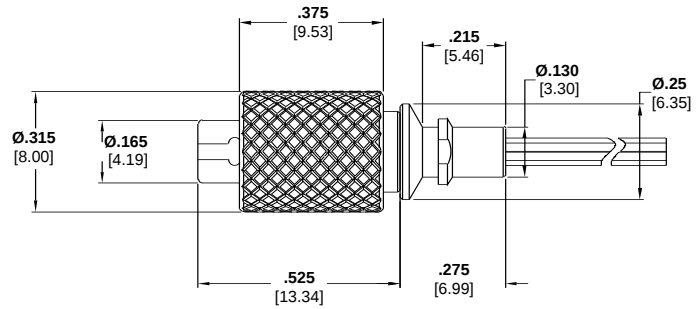
Threaded Coupling — Plug Assemblies (Continued)



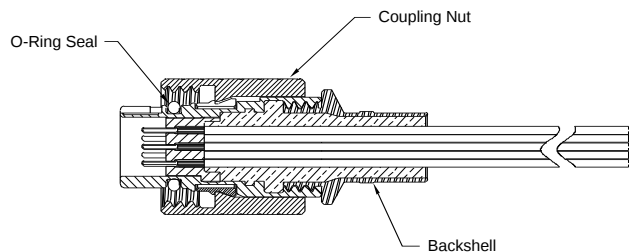
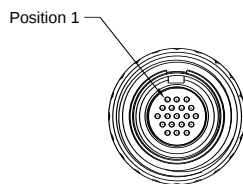
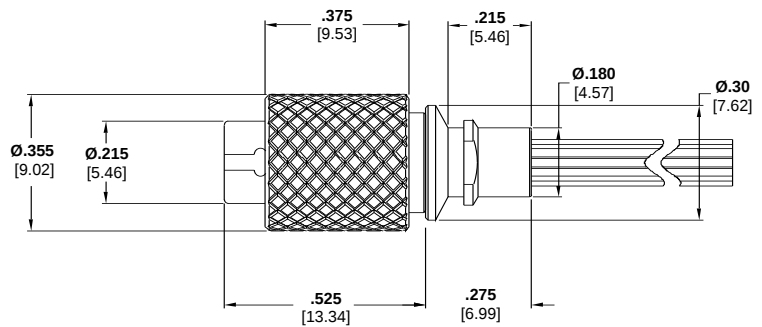
Threaded Coupling — Plug Assemblies with Backshells

Product Facts

- Metal Shell
- Positions: 7, 19 and 44
- Environmental O-ring seal
- Factory wired to your specifications
- Backshell installed at factory
- Contact Tyco Electronics for custom configurations

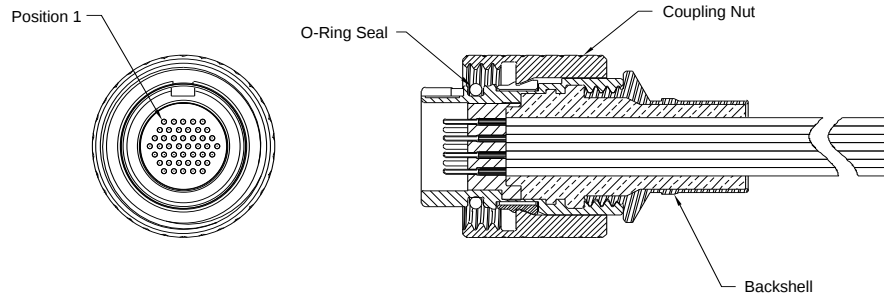
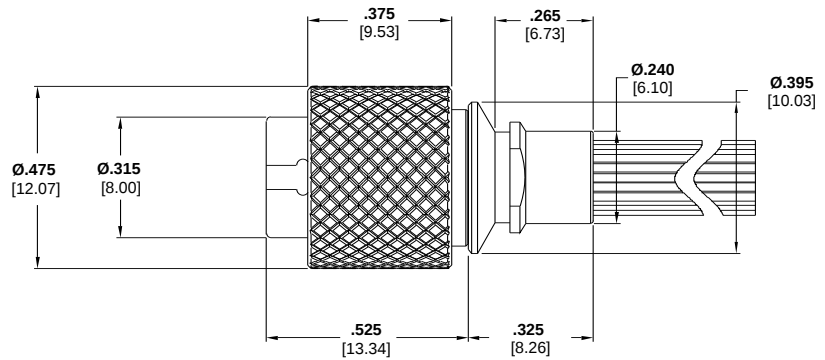


7 Position
Drawing Number 1589686



19 Position
Drawing Number 1589688

Threaded Coupling — Plug Assemblies with Backshells (Continued)

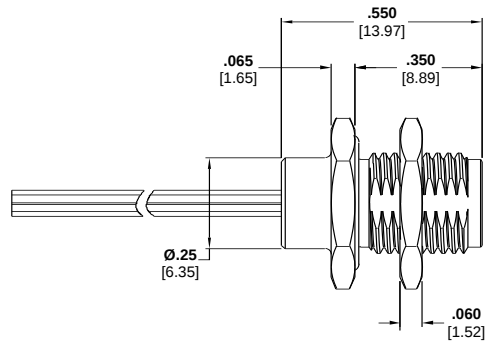


**44 Position
Drawing Number 1589694**

Threaded Coupling/Quick Disconnect — Receptacle Assemblies, Panel Mount

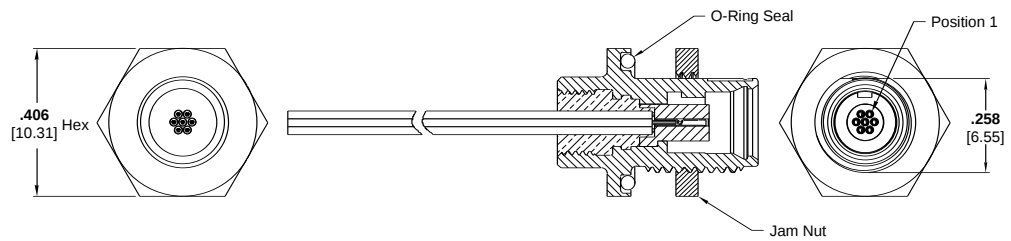


19 Position

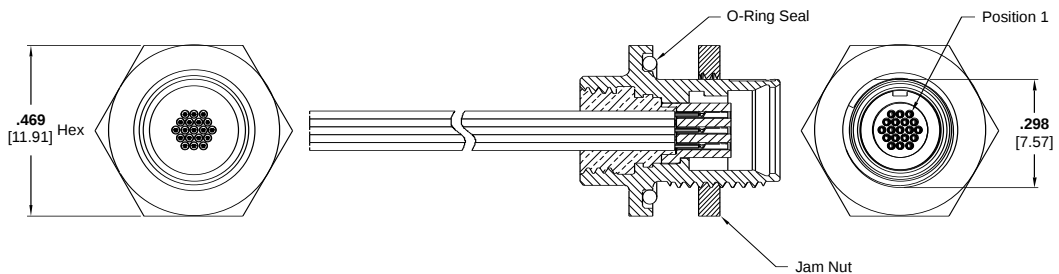
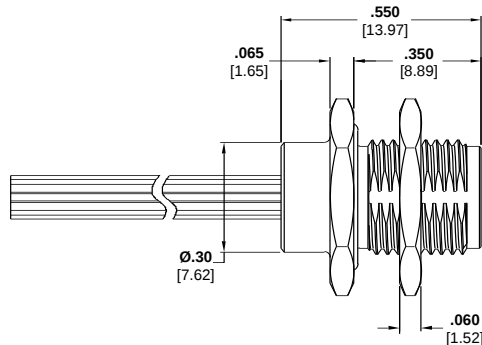


Product Facts

- Metal Shell
- Positions: 7, 19 and 44
- Bulkhead O-ring seal
- Factory wired to your specifications
- Panel Mount receptacle mates with the Quick Disconnect Plug and the Threaded Coupling Plug
- Contact Tyco Electronics for custom configurations

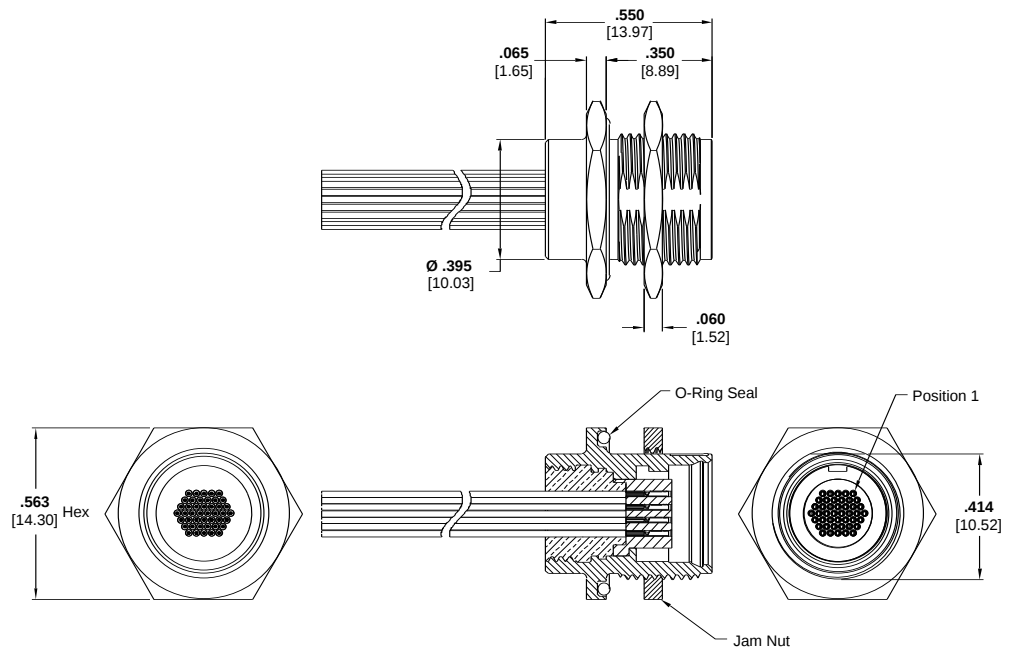


7 Position
Drawing Number 1589060



19 Position
Drawing Number 1589061

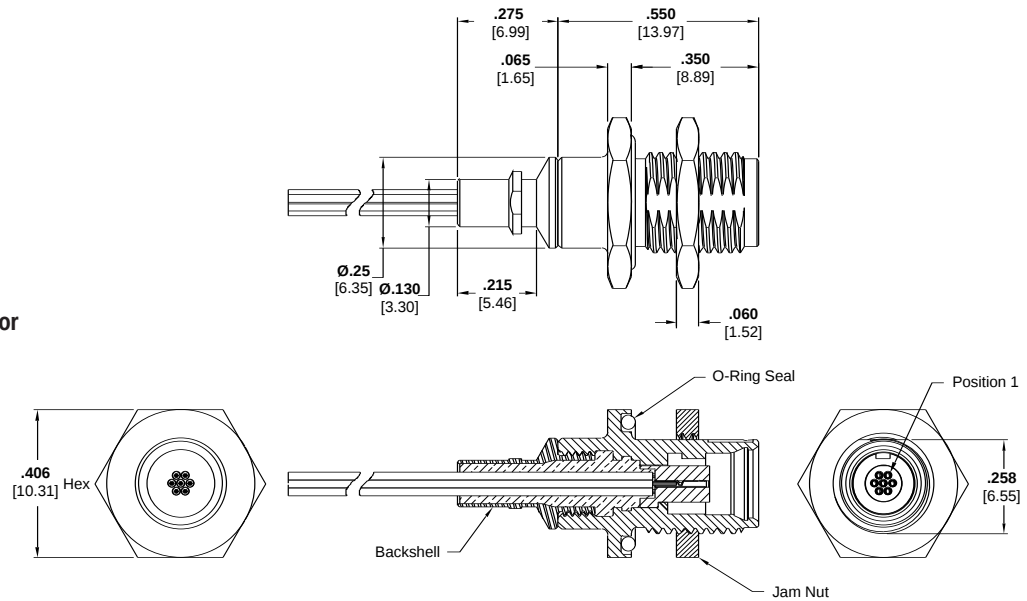
Threaded Coupling/Quick Disconnect — Receptacle Assemblies, Panel Mount (Continued)



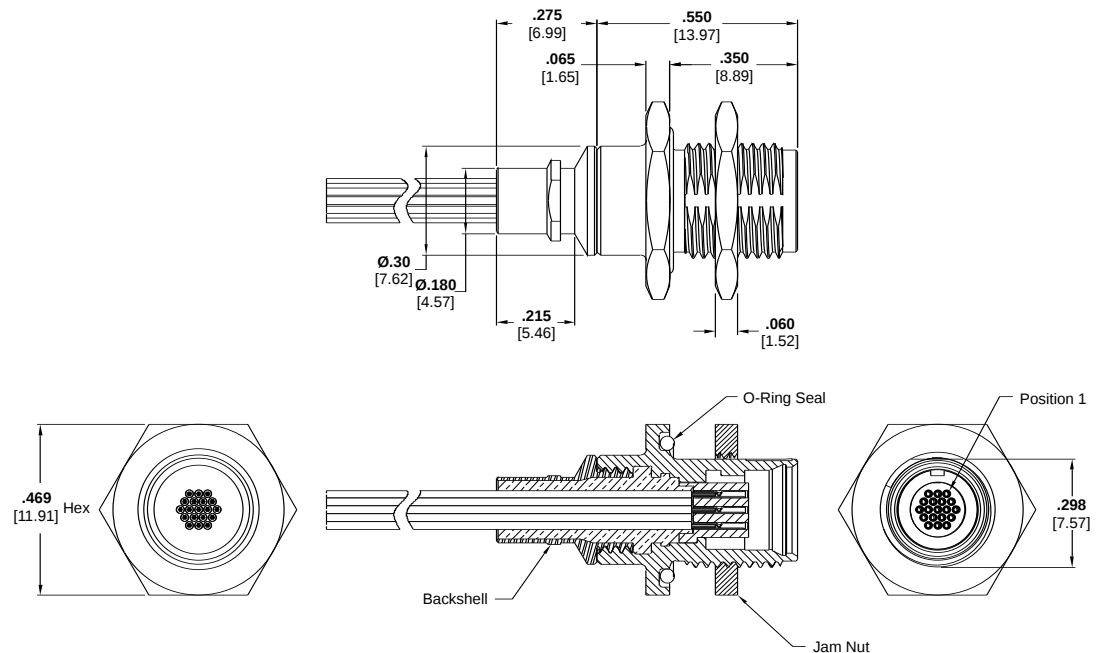
44 Position
Drawing Number 1589062

Product Facts

- Metal Shell
- Positions: 7, 19 and 44
- Bulkhead O-ring seal
- Factory wired to your specifications
- Panel Mount receptacle mates with the Quick Disconnect Plug and the Threaded Coupling Plug
- Contact Tyco Electronics for custom configurations

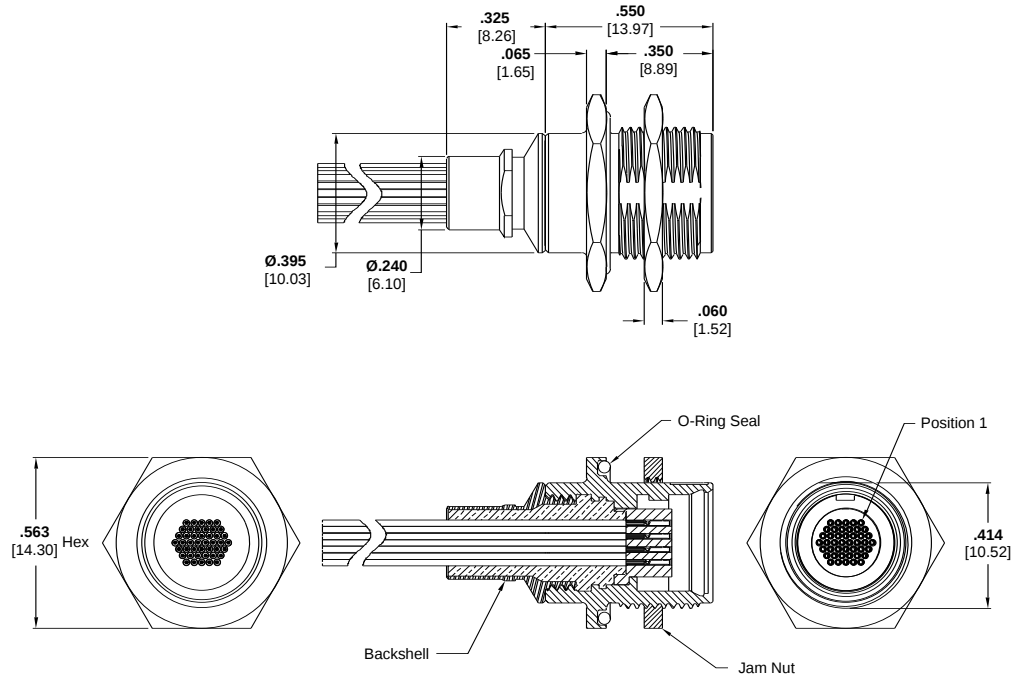


**Receptacle Assembly 7 Position
Drawing Number 1589685**



**Receptacle Assembly 19 Position
Drawing Number 1589687**

Threaded Coupling/Quick Disconnect — Panel Mount Recp. Assemblies w/Backshells (Continued)



**Receptacle Assembly 44 Position
Drawing Number 1589695**

Part Numbering Guideline for Environmentally Sealed Circular Connectors

Circular Connectors - Wire Terminations

Class/Type	XXX	XXX	XX	X	XX	XXX	X(X)	Circular Mounting/Features
QCM Quick Disconnect, Circular, Metal								Mounting (Receptacles Only)
TCM Threaded Coupling, Circular, Metal (TCM leadoff for plug only)								Features (Optional)
								P Panel Mount
								B Backshell (cannot be used with flush mount)
								F Flush Mount
Positions								Conductor Length
007 7 Position								XXX Three numbers only, length is in inches (i.e. 012 = twelve inches)
019 19 Position								CXX A "C" followed by two numbers, length is in centimeters (i.e. C06 = 6 centimeters)
044 44 Position								MX An "M" followed by two numbers, length is in meters (i.e. M02 = 2 meters)
Configuration								Conductor Type
PC Plug								DX White Teflon
SC Receptacle								DY White PTFE per M16878/6
								DC Color Coded Teflon
								DM Color Coded Teflon per MIL-STD-681
								DT White Tefzel per M22759/33
Conductor Size/Strands								
0 28 AWG Solid								
1 30 AWG Solid								
2 30 AWG 7 Strand								
3 32 AWG 7 Strand								
4 34 AWG 7 Strand								

Coaxial Connectors



The Nanonics 50 ohm coaxial connector system combines the benefits of the rectangular DUALOBE connectors while offering the flexibility to terminate up to nine coaxial contacts within the same metal connector housing. Furthermore, with this unique design, five signal contacts, terminated

with 30 AWG or smaller discrete wire, can also be integrated into this connector package. These connectors are typically used in applications with frequencies up to 20 GHz.

RG-178 coax coaxial cable is the standard cable used on these connectors. The

receptacle coax connector is also available in a horizontal surface mount configuration allowing for wire to board applications. Harness assemblies and custom configurations can also be accommodated.

Specifications

Technical and Performance Data

Electrical

Contact Resistance – .003 - .008 ohms

Current Rating – 1 amp max. per contact

Dielectric Withstanding Voltage – Volts RMS 60 Hz at room ambient conditions. At sea level 500V. At 70,000 ft. 150V.

Insulation Resistance – 5000 megohms min. (@ 500 VDC) at room ambient conditions.

Magnetic Permeability – 2 mu max.

Temperature Range — -55°C to +125°C

Outer Coaxial Contacts – BeCu Alloy plated with gold per MIL-G-45204 over nickel

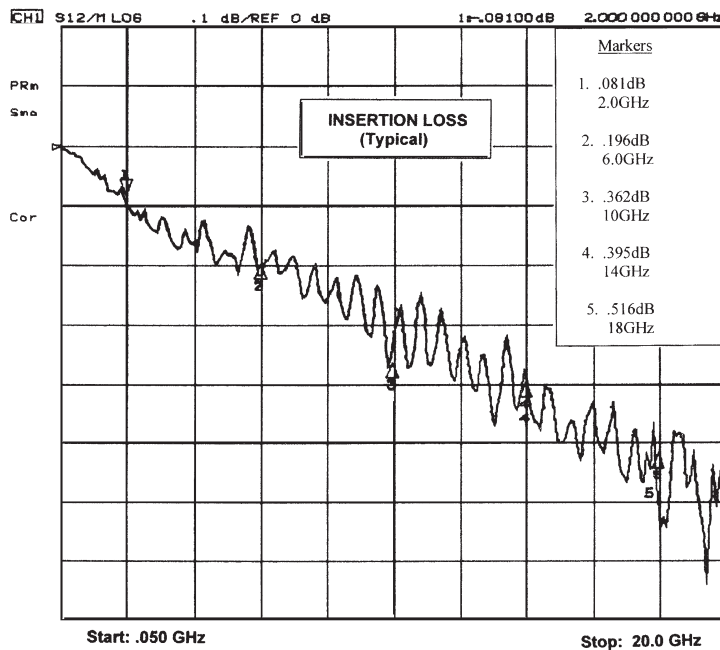
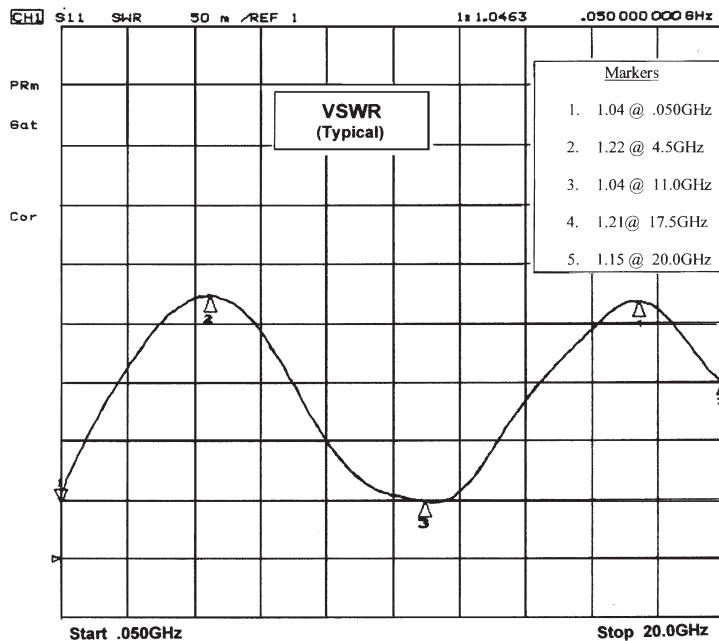
Dielectric Insert – Teflon

Braid Termination – Soldered to outer coaxial contacts with SN63P637 solder

Backpotting – Standard for wire terminations

Typical VSWR and Insertion Loss

Note: Insertion Loss of 30 AWG Coax Cable @ (50 Ohm) is approximately 1.0db/ft. @ 3 GHz. The connector system with 6" of coax on each side, is better than 1.5db @ 3 GHz.



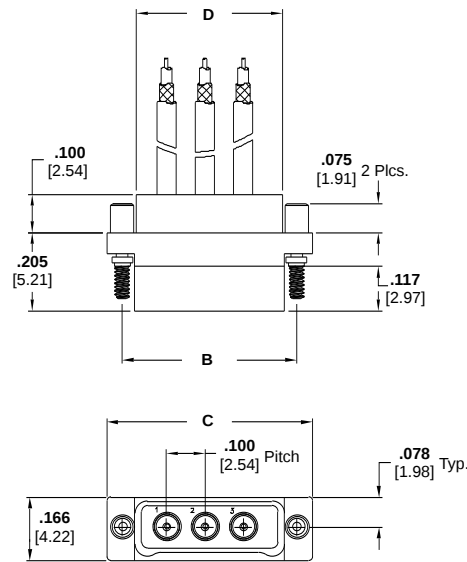
50 Ohm Coax Connectors



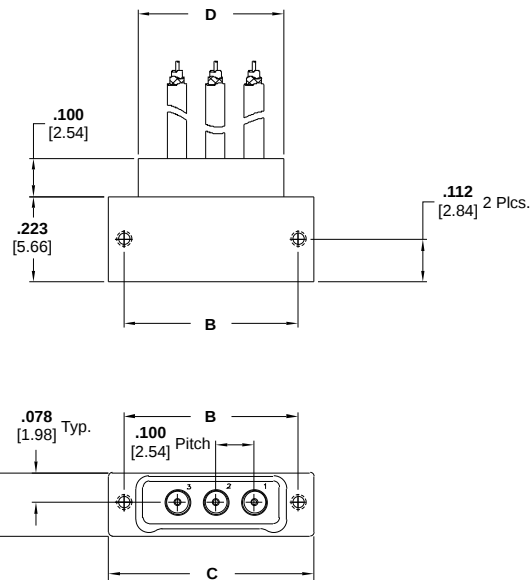
Plug



Receptacle



Plug Assembly
Drawing Number 1589070



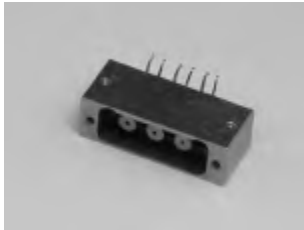
Receptacle Assembly
Drawing Number 1589071

Product Facts

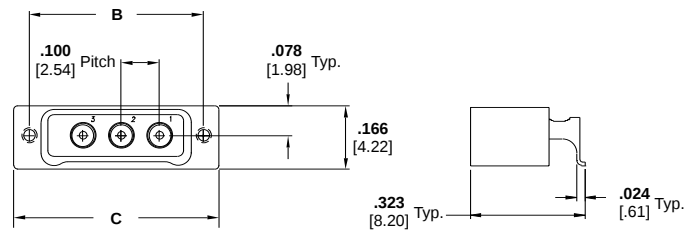
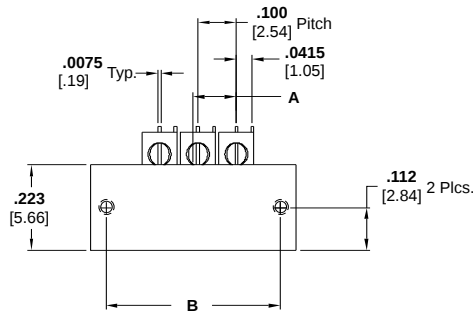
- Metal Shell
- Standard Sizes: 1-9
- Factory wired to your specifications
- Contact Tyco Electronics for custom configurations

Size	Dimensions			No. Coax
	B	C	D	
1	0.254 [6.45]	0.335 [8.51]	0.180 [4.57]	1
2	0.354 [8.99]	0.435 [11.05]	0.280 [7.11]	2
3	0.454 [11.53]	0.535 [13.59]	0.380 [9.65]	3
4	0.554 [14.07]	0.635 [16.13]	0.480 [12.19]	4
5	0.654 [16.61]	0.735 [18.67]	0.580 [14.73]	5
6	0.754 [19.15]	0.835 [21.21]	0.680 [17.27]	6
7	0.854 [21.69]	0.935 [23.75]	0.780 [19.81]	7
8	0.954 [24.23]	1.035 [26.29]	0.880 [22.35]	8
9	1.054 [26.77]	1.135 [28.83]	0.980 [24.89]	9

Horizontal SMT 50 Ohm Coax Connectors



Surface Mount



Receptacle Assembly
Drawing Number 1589072

Product Facts

- Metal Shell
- Standard Sizes: 1-9
- Factory wired to your specifications
- Contact Tyco Electronics for custom configurations

Size	Dimensions			No. Coax
	A	B	C	
1	0.0125 [.32]	0.254 [6.45]	0.335 [8.51]	1
2	0.0625 [1.59]	0.354 [8.99]	0.435 [11.05]	2
3	0.1125 [2.86]	0.454 [11.53]	0.535 [13.59]	3
4	0.1625 [4.13]	0.554 [14.07]	0.635 [16.13]	4
5	0.2125 [5.40]	0.654 [16.61]	0.735 [18.67]	5
6	0.2625 [6.67]	0.754 [19.15]	0.835 [21.21]	6
7	0.3125 [7.94]	0.854 [21.69]	0.935 [23.75]	7
8	0.3625 [9.21]	0.954 [24.23]	1.035 [26.29]	8
9	0.4125 [10.48]	1.054 [26.77]	1.135 [28.83]	9

Coax Only Connectors - SMT Termination

Class/Type	CX	XXX	L2	XXX	X
CX Coax, 50 ohm					Jackscrew Threads Threads N Thread for 1.0 mm Jackscrews Q Thread for 1.2 mm Jackscrews
Positions					Mounting Hardware A 1.2 mm x .160" H 1.0 mm x .160"
010 1 Position 020 2 Position 030 3 Position 040 4 Position 050 5 Position 060 6 Position 070 7 Position 080 8 Position 090 9 Position					Configuration L2 Receptacle, Horizontal SMT

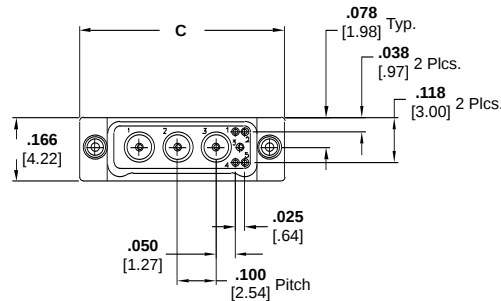
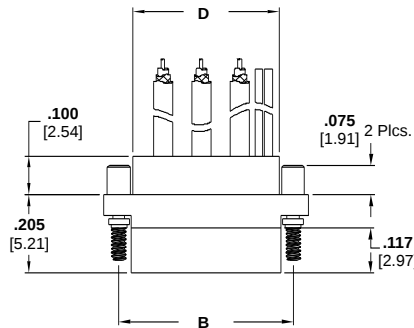
50 Ohm Coax with Mixed Signal Connectors



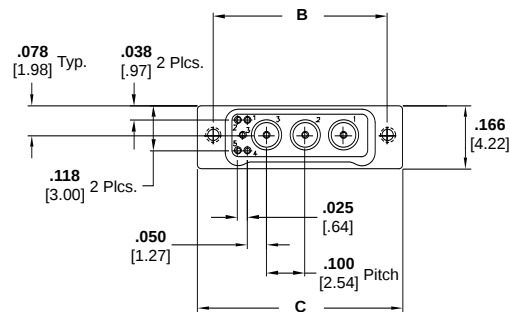
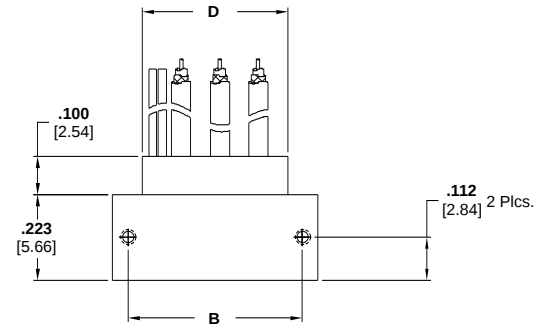
Plug



Receptacle



Plug Assembly
Drawing Number 1589068



Receptacle Assembly
Drawing Number 1589069

Product Facts

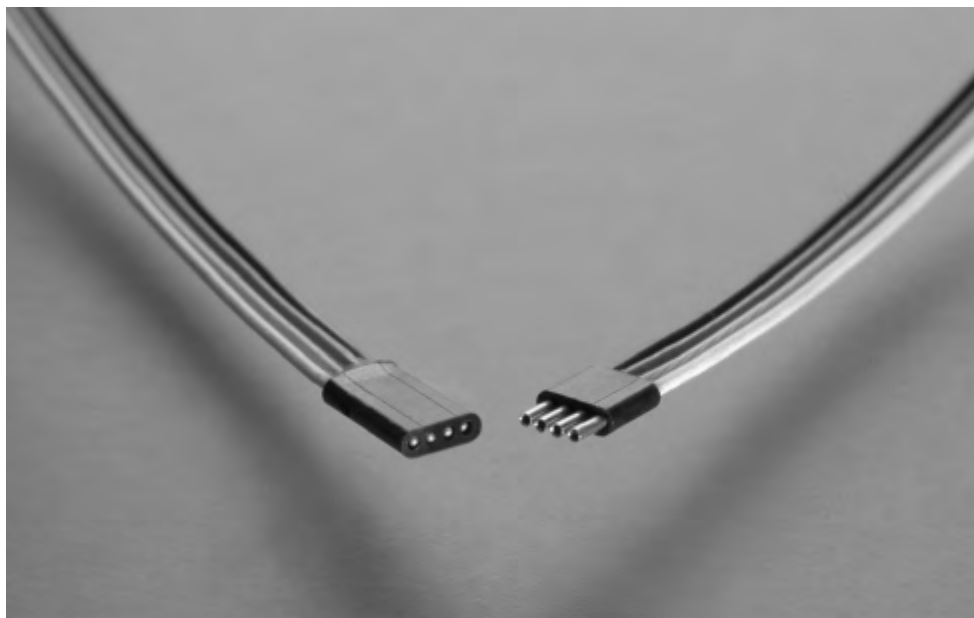
- Metal Shell
- Standard Sizes: 1-9 coaxial contacts with 5 signal contacts
- Factory wired to your specifications
- Contact Tyco Electronics for custom configurations

Size	Dimensions			No. Coax
	B	C	D	
1	0.254 [6.45]	0.335 [8.51]	0.180 [4.57]	1
2	0.354 [8.99]	0.435 [11.05]	0.280 [7.11]	2
3	0.454 [11.53]	0.535 [13.59]	0.380 [9.65]	3
4	0.554 [14.07]	0.635 [16.13]	0.480 [12.19]	4
5	0.654 [16.61]	0.735 [18.67]	0.580 [14.73]	5
6	0.754 [19.15]	0.835 [21.21]	0.680 [17.27]	6
7	0.854 [21.69]	0.935 [23.75]	0.780 [19.81]	7
8	0.954 [24.23]	1.035 [26.29]	0.880 [22.35]	8
9	1.054 [26.77]	1.135 [28.83]	0.980 [24.89]	9

Part Number Index Cross Reference

Nanonics Part Number	Tyco Part Number	Nanonics Part Number	Tyco Part Number	Nanonics Part Number	Tyco Part Number
Coax Only		Coax with Mixed Signals		Horizontal SMT Coax	
CX010PC2RG006N	0-1589070-1	CX015PC2RC012	0-1589068-1	CX010L2AQ	1-1589072-3
CX010PC2RG018N	0-1589070-2	CX015PC2RC012N	0-1589068-5	CX010L2HN	0-1589072-1
CX010PC2RG048Q	2-1589070-8	CX015SC2RC012N	0-1589069-1	CX020L2HN	1-1589072-2
CX010PC2RG072N	0-1589070-3	CX035PC2RC006N	0-1589068-2	CX030L23N	0-1589072-2
CX010PC2RGC10Q	2-1589070-1	CX035PC2RC018N	0-1589068-3	CX030L23Q	0-1589072-5
CX010SC2RG048Q	2-1589071-3	CX035SC2RC006N	0-1589069-2	CX030L2HN	0-1589072-3
CX020PC2RG018N	0-1589070-4	CX035SC2RC018N	0-1589069-3	CX040L2AQ	1-1589072-0
CX020PC2RG048N	2-1589070-5	CX045PC2RC006N	0-1589068-4	CX040L2HN	1-1589072-6
CX020PC2RG060N	1-1589070-8	CX045PC2RC036N	0-1589068-9	CX050L23Q	0-1589072-6
CX020SC2RG012N	2-1589071-0	CX045PC2RC036Q	1-1589068-0	CX050L2HN	0-1589072-9
CX020SC2RG018N	2-1589071-5	CX045SC2RC006N	0-1589069-4	CX060L2AQ	1-1589072-1
CX020SC2RG024N	0-1589071-8	CX045SC2RC006Q	0-1589069-7	CX060L2HN	1-1589072-5
CX020SC2RG024Q	2-1589071-8	CX055PC2RC006N	0-1589068-6	CX070L2AQ	1-1589072-4
CX020SC2RG060N	2-1589071-2	CX055SC2RC006N	0-1589069-5	CX080L2HN	0-1589072-4
CX030PC2RG006N	0-1589070-5	CX095PC2RC006N	0-1589068-7		
CX030PC2RG012	0-1589070-6	CX095PC2RC036N	0-1589068-8		
CX030PC2RG012N	0-1589070-7	CX095SC2RC006N	0-1589069-6		
CX030PC2RG018N	0-1589070-8				
CX030PC2RG020Q	0-1589070-9				
CX030PC2RG048N	2-1589070-4				
CX030PC2RG060N	2-1589070-6				
CX030SC2RG006N	0-1589071-3				
CX030SC2RG012	0-1589071-4				
CX030SC2RG012N	1-1589071-8				
CX030SC2RG060N	2-1589071-1				
CX040PC2RG012N	1-1589070-0				
CX040PC2RG030N	1-1589070-1				
CX040PC2RG039Q	3-1589070-7				
CX040PC2RG060N	1-1589070-7				
CX040SC2RG012	0-1589071-5				
CX040SC2RG024N	0-1589071-7				
CX050PC2RG006N	1-1589070-4				
CX050SC2RG006N	1-1589071-9				
CX060PC2RG012N	3-1589070-8				
CX060PC2RG012Q	3-1589070-3				
CX060PC2RG018N	3-1589070-5				
CX060PC2RG036N	3-1589070-0				
CX060PC2RG072N	3-1589070-1				
CX060PC2RG144N	3-1589070-2				
CX060PC2RGC10Q	2-1589070-0				
CX060SC2RG012Q	2-1589071-6				
CX070PC2RGC10Q	2-1589070-3				
CX080PC2RG006N	2-1589070-2				
CX080PC2RG012N	3-1589070-9				
CX080PC2RG012Q	3-1589070-4				
CX080PC2RG018N	3-1589070-6				
CX080PC2RG024N	2-1589070-9				
CX080PC2RG036N	1-1589070-5				
CX080PC2RG048N	1-1589070-6				
CX080PC2RG060N	1-1589070-9				
CX080PC2RGC10N	2-1589070-7				
CX080SC2RG012N	2-1589071-4				
CX080SC2RG012Q	2-1589071-7				
CX080SC2RG015N	1-1589071-7				
CX080SC2RG024N	0-1589071-9				
CX090PC2RG036N	1-1589070-2				
CX090SC2RG036N	0-1589071-6				

Strip Connectors



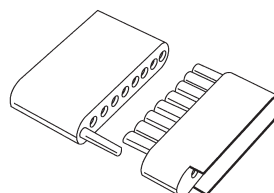
The Nanonics strip connectors are the smallest connectors in the Nanonics product line. They are molded from LCP and are ideal for applications where the height and weight of the connector is a serious design parameter. Just .040" in height, these

connectors are well suited for low-profile applications. Standard sizes are 4, 9, and 15, while 25, 37, and 51 are also available upon request. Standard configurations include wired, surface mount, or thru-hole terminations.

Guide pins are available for polarization. Harness assemblies and custom configurations can also be accommodated.

Polarization

Polarization of the strips is accomplished with the use of optional polarizing guide posts.

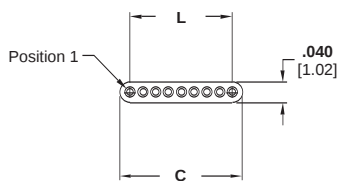
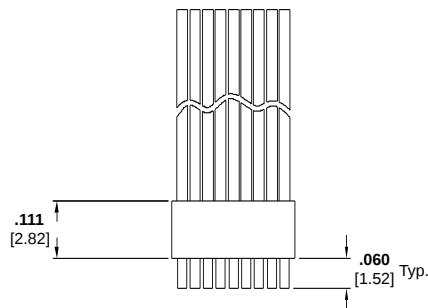
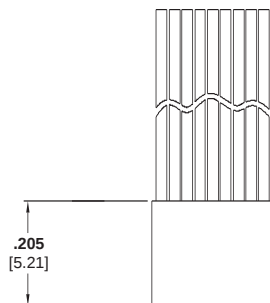


Polarization Position
"T" Shown

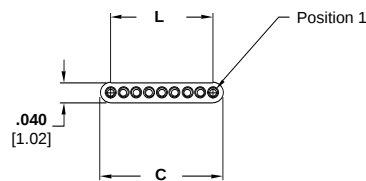
Wired Connectors — Unshrouded, Flying Leads

Product Facts

- Plastic Shell
- Standard Sizes: 4, 9, 15, 25, 37 and 51
- Factory wired to your specifications
- Contact Tyco Electronics for custom configurations



Plug Assembly
Drawing Number 1589448



Receptacle Assembly
Drawing Number 1589449

Size	Dimensions	
	C	L
4	0.115 [2.92]	0.075 [1.91]
9	0.240 [6.10]	0.200 [5.08]
15	0.390 [9.91]	0.350 [8.89]
25	0.640 [16.26]	0.600 [15.24]
37	0.940 [23.88]	0.900 [22.86]
51	1.290 [32.77]	1.250 [31.75]

Part Numbering Guideline for Strip Wired Connectors

Strip Connectors - Wire Terminations

Class/Row/Type	USS	XXX	XX	X	XX	XXX	X
USS Unshrouded, 1 row, strip							Polarization (optional) Plug contains guide post Receptacle accepts guide post
Positions							Conductor Length XXX Three numbers only, length is in inches (i.e. 012 = twelve inches) CXX A "C" followed by two numbers, length is in centimeters (i.e. C06 = 6 centimeters) MXX An "M" followed by two numbers, length is in meters (i.e. M02 = 2 meters)
004 4 Position 009 9 Position 015 15 Position 025 25 Position							Conductor Type DX White Teflon DY White PTFE per M16878/6 DC Color Coded Teflon DM Color Coded Teflon per MIL-STD-681 DT White Tefzel per M22759/33
Configuration PC Plug SC Receptacle							
Conductor Size/Strands 0 28 AWG Solid 1 30 AWG Solid 2 30 AWG 7 Strand 3 32 AWG 7 Strand 4 34 AWG 7 Strand							

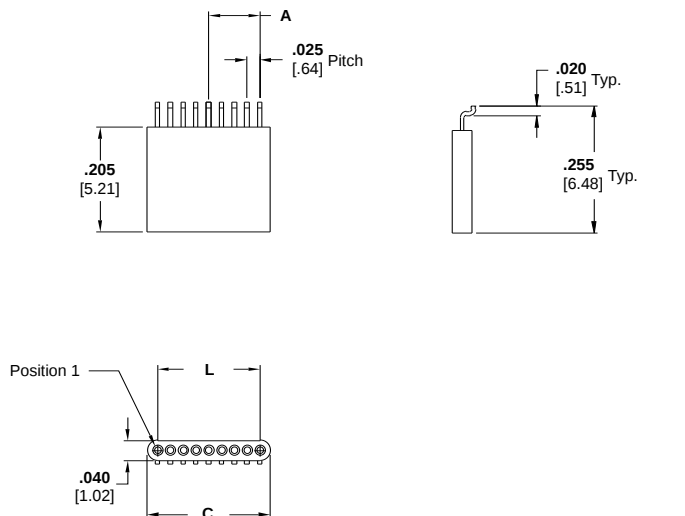
Polarization (Strip Type Only)

T = One Pin	
U = One Pin	
V = One Pin	
W = Two Pin	
Y = Two Pin	
Z = Two Pin	

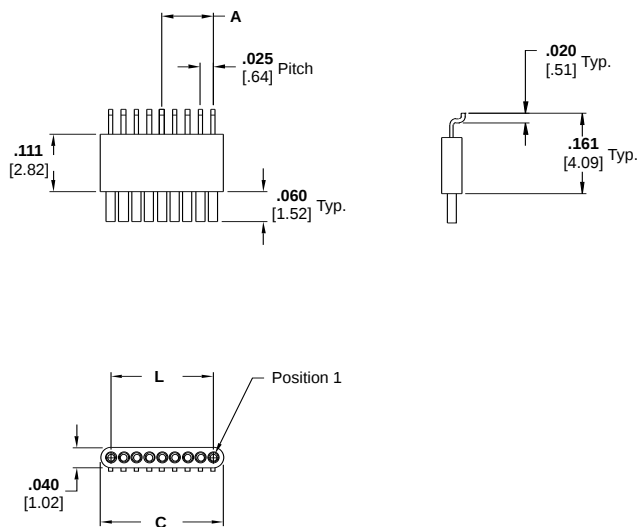
Surface Mount Connectors — Unshrouded

Product Facts

- Plastic Shell
- Standard Sizes: 4, 9, 15, 25, 37 and 51
- Factory wired to your specifications
- Contact Tyco Electronics for custom configurations
- Suggested Pad Layouts are available on the referenced drawings on the Tyco Electronics website



Plug Assembly
Drawing Number 1589451



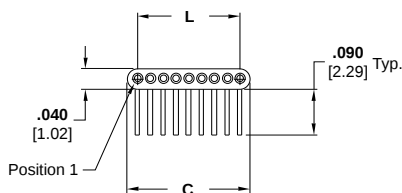
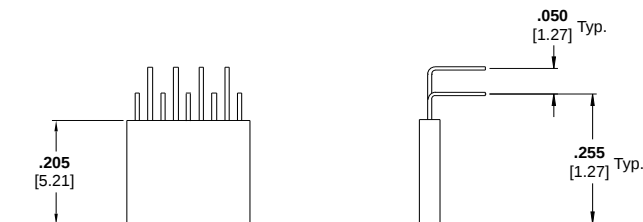
Receptacle Assembly
Drawing Number 1589452

Size	Dimensions		
	A	C	L
4	0.0375 [.95]	0.115 [2.92]	0.075 [1.91]
9	0.1000 [2.54]	0.240 [6.10]	0.200 [5.08]
15	0.1750 [4.45]	0.390 [9.91]	0.350 [8.89]
25	0.3000 [7.62]	0.640 [16.26]	0.600 [15.24]
37	0.4500 [11.43]	0.940 [23.88]	0.900 [22.86]
51	0.6250 [15.88]	1.290 [32.77]	1.250 [31.75]

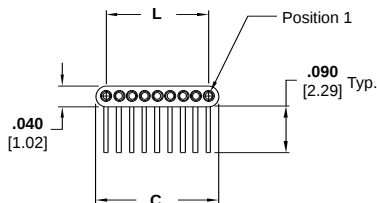
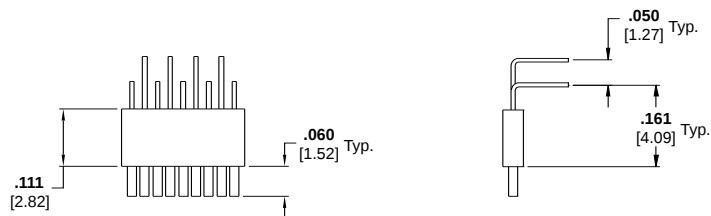
Thru-Hole Connectors — Unshrouded, Horizontal, 1 Row to 2 Row, .050 Spacing

Product Facts

- Plastic Shell
- Standard Sizes: 4, 9, 15, 25, 37 and 51
- Factory wired to your specifications
- Contact Tyco Electronics for custom configurations
- Suggested Thru-Hole Layouts are available on the referenced drawings on the Tyco Electronics website



Plug Assembly
Drawing Number 1589453



Receptacle Assembly
Drawing Number 1589454

Size	Dimensions	
	C	L
4	0.115 [2.92]	0.075 [1.91]
9	0.240 [6.10]	0.200 [5.08]
15	0.390 [9.91]	0.350 [8.89]
25	0.640 [16.26]	0.600 [15.24]
37	0.940 [23.88]	0.900 [22.86]
51	1.290 [32.77]	1.250 [31.75]

Part Numbering Guideline for Surface Mount and Thru Hole Termination

Strip Connectors - Surface Mount and Thru Hole Terminations

Class/Row/Type	USS	XXX	XX	X
USS Unshrouded, 1 row, strip				Polarization (optional)
				Plug contains guide post Receptacle accepts guide post
Positions				Configuration
004 4 Position				B2 Plug, Horizontal SMT
009 9 Position				L2 Receptacle, Horizontal SMT
015 15 Position				C6 Plug, Horizontal Mount, Thru Hole
025 25 Position				M6 Receptacle, Horizontal Mount, Thru Hole

Polarization (Strip Type Only)

T = One Pin	
U = One Pin	
V = One Pin	
W = Two Pin	
Y = Two Pin	
Z = Two Pin	

Part Number Index Cross Reference

Nanonics Part Number	Tyco Part Number	Nanonics Part Number	Tyco Part Number	Nanonics Part Number	Tyco Part Number	Nanonics Part Number	Tyco Part Number
Wire Terminations		USS004SC3DC018	1-1589449-8	USS009SC3DC036	7-1589449-6	Surface Mount	
USS004PC2DC003	0-1589448-1	USS004SC3DX004T	1-1589449-9	USS009SC3DX004T	4-1589449-4	USS004B2	0-1589451-1
USS004PC2DC006	0-1589448-2	USS004SC4DXC30	8-1589449-2	USS015PC1DC036T	7-1589448-3	USS004B2T	0-1589451-2
USS004PC2DC006T	5-1589448-5	USS009PC0DC006T	1-1589448-6	USS015PC1DC036W	7-1589448-4	USS004B4	0-1589775-1
USS004PC2DC008	6-1589448-8	USS009PC2DC006	1-1589448-7	USS015PC2DC006	3-1589448-5	USS004B45T	0-1589450-1
USS004PC2DC012	0-1589448-3	USS009PC2DC006W	1-1589448-8	USS015PC2DC012	3-1589448-6	USS004B4T	3-1589683-2
USS004PC2DC012T	0-1589448-4	USS009PC2DC008U	5-1589448-2	USS015PC2DC012T	3-1589448-7	USS004L2	0-1589452-1
USS004PC2DC012U	0-1589448-5	USS009PC2DC012	1-1589448-9	USS015PC2DC012V	3-1589448-8	USS004L2T	0-1589452-2
USS004PC2DC024	0-1589448-6	USS009PC2DC012T	2-1589448-0	USS015PC2DC018	3-1589448-9	USS009B2	0-1589451-3
USS004PC2DC036	0-1589448-7	USS009PC2DC012V	2-1589448-1	USS015PC2DC018V	5-1589448-6	USS009B2T	0-1589451-5
USS004PC2DC036T	0-1589448-8	USS009PC2DC018V	2-1589448-2	USS015PC2DMC60T	4-1589448-0	USS009B2TE	1-1589451-5
USS004PC2DCC20T	5-1589448-9	USS009PC2DC024	2-1589448-3	USS015PC2DX004T	4-1589448-1	USS009B2Z	0-1589451-6
USS004PC2DCC30	0-1589448-9	USS009PC2DC036	2-1589448-4	USS015PC2DX012	4-1589448-2	USS009B43T	5-1589683-6
USS004PC2DCM01	5-1589448-7	USS009PC2DC036T	2-1589448-5	USS015PC2DX024T	4-1589448-3	USS009B4T	5-1589683-7
USS004PC2DM012T	7-1589448-2	USS009PC2DC036U	2-1589448-6	USS015PC3DC036	6-1589448-6	USS009L2	0-1589452-3
USS004PC2DM024T	7-1589448-6	USS009PC2DC036V	2-1589448-7	USS015SC1DC036T	8-1589449-6	USS009L2T	0-1589452-4
USS004PC2DMC30	6-1589448-9	USS009PC2DCC05T	2-1589448-8	USS015SC1DC036W	8-1589449-7	USS009L2U	0-1589452-5
USS004PC2DMC40	7-1589448-1	USS009PC2DCM01	5-1589448-8	USS015SC2DC006	4-1589449-6	USS009L2V	0-1589452-6
USS004PC2DMC50	6-1589448-7	USS009PC2DM012T	7-1589448-5	USS015SC2DC012	4-1589449-7	USS015B2	0-1589451-8
USS004PC2DMM01	6-1589448-0	USS009PC2DM024T	7-1589448-7	USS015SC2DC012T	4-1589449-8	USS015B2T	0-1589451-9
USS004PC2DMM02	6-1589448-1	USS009PC2DX001	2-1589448-9	USS015SC2DC018V	6-1589449-4	USS015B4T	7-1589683-6
USS004PC2DNC40	1-1589448-0	USS009PC2DX004T	3-1589448-0	USS015SC2DC024T	6-1589449-1	USS015L2	0-1589452-7
USS004PC2DX006	1-1589448-1	USS009PC2DX006T	3-1589448-1	USS015SC2DC036	7-1589449-8	USS015L2T	0-1589452-8
USS004PC2DX012	1-1589448-2	USS009PC2DX012	3-1589448-2	USS015SC2DC036T	4-1589449-9	USS015L2V	0-1589452-9
USS004PC2GX006	1-1589448-3	USS009PC2GX006	3-1589448-3	USS015SC2DMC60T	5-1589449-0	USS025B2	1-1589451-0
USS004PC2GX024	1-1589448-4	USS009PC2GX012	3-1589448-4	USS015SC2DX004T	5-1589449-1	USS025B4T	8-1589683-6
USS004PC3DC018	1-1589448-5	USS009PC3DC036	6-1589448-5	USS015SC2DX006T	6-1589449-5	USS025L2	1-1589452-0
USS004PC4DXC10	7-1589448-0	USS009SC0DC006T	7-1589449-0	USS015SC2DX018T	5-1589449-2	USS025L4T	8-1589683-7
USS004SC2DC002	0-1589449-1	USS009SC2DC004	2-1589449-0	USS015SC3DC036	7-1589449-7	USS037B2	1-1589451-1
USS004SC2DC003	0-1589449-2	USS009SC2DC006	2-1589449-1	USS015SC3DX004T	5-1589449-3	USS037B2T	1-1589451-4
USS004SC2DC003T	0-1589449-3	USS009SC2DC006W	2-1589449-2	USS025PC2DC006	4-1589448-4	USS037L2	1-1589452-1
USS004SC2DC004	0-1589449-4	USS009SC2DC006Z	2-1589449-3	USS025PC2DC012	6-1589448-2	USS037L2T	1-1589452-2
USS004SC2DC006	0-1589449-5	USS009SC2DC008	2-1589449-4	USS025PC2DT006T	5-1589448-3	USS051B2	1-1589451-3
USS004SC2DC006T	6-1589449-2	USS009SC2DC012	2-1589449-5	USS025PC2DX018T	4-1589448-5	USS051L2	1-1589452-3
USS004SC2DC008	8-1589449-0	USS009SC2DC012T	2-1589449-6	USS025SC2DC006	5-1589449-4		
USS004SC2DC012	0-1589449-6	USS009SC2DC012Z	2-1589449-7	USS025SC2DC012	7-1589449-4	Thru-Hole	
USS004SC2DC012T	0-1589449-7	USS009SC2DC018	2-1589449-8	USS025SC2DT006T	5-1589449-9	USS004C6	0-1589453-1
USS004SC2DC012U	0-1589449-8	USS009SC2DC018T	2-1589449-9	USS037PC1DXC20	4-1589448-6	USS004C6T	0-1589453-6
USS004SC2DC024	0-1589449-9	USS009SC2DC018V	6-1589449-3	USS037PC2DC006	4-1589448-7	USS004M6	0-1589454-1
USS004SC2DC036	1-1589449-0	USS009SC2DC024	3-1589449-0	USS037PC2DC012	6-1589448-4	USS009C6	0-1589453-2
USS004SC2DC048	1-1589449-1	USS009SC2DC025T	3-1589449-1	USS037PC2DC020T	4-1589448-8	USS009C6T	0-1589453-3
USS004SC2DCC20T	7-1589449-1	USS009SC2DC036T	3-1589449-2	USS037PC2DNC50	4-1589448-9	USS009C6V	0-1589453-4
USS004SC2DCC30	1-1589449-2	USS009SC2DC036U	3-1589449-3	USS037PC2DT006T	5-1589448-4	USS009M6	0-1589454-2
USS004SC2DCM01	6-1589449-7	USS009SC2DC036V	3-1589449-4	USS037SC1DXC20	5-1589449-5	USS015C6	0-1589453-5
USS004SC2DM012T	8-1589449-4	USS009SC2DC036W	3-1589449-5	USS037SC1DY006	6-1589449-6		
USS004SC2DM024T	8-1589449-9	USS009SC2DC060T	3-1589449-6	USS037SC2DC006	5-1589449-6		
USS004SC2DMC30	8-1589449-1	USS009SC2DCC05T	3-1589449-7	USS037SC2DC012	7-1589449-5		
USS004SC2DMC40	8-1589449-3	USS009SC2DCM01	6-1589449-8	USS037SC2DC036T	6-1589449-9		
USS004SC2DMC50	7-1589449-9	USS009SC2DCM01T	3-1589449-8	USS037SC2DT006T	6-1589449-0		
USS004SC2DMM01	7-1589449-2	USS009SC2DM012T	8-1589449-8	USS037SC2DX006T	5-1589449-7		
USS004SC2DMM02	7-1589449-3	USS009SC2DM024T	9-1589449-0	USS051PC2DC012	5-1589448-0		
USS004SC2DNC40	1-1589449-3	USS009SC2DT012T	9-1589449-1	USS051PC2DX012	5-1589448-1		
USS004SC2DTC20T	8-1589449-5	USS009SC2DX004T	3-1589449-9	USS051SC2DC012	5-1589449-8		
USS004SC2DX006	1-1589449-4	USS009SC2DX006T	4-1589449-0				
USS004SC2DX012T	1-1589449-5	USS009SC2DX012	4-1589449-1				
USS004SC2GX006	1-1589449-6	USS009SC2GX006	4-1589449-2				
USS004SC2GX024	1-1589449-7	USS009SC2GX012	4-1589449-3				

