



Ulti-Mate

Connector Inc.

***“Your Connection
To The Future”***



Micro-Miniature Interconnect Solutions

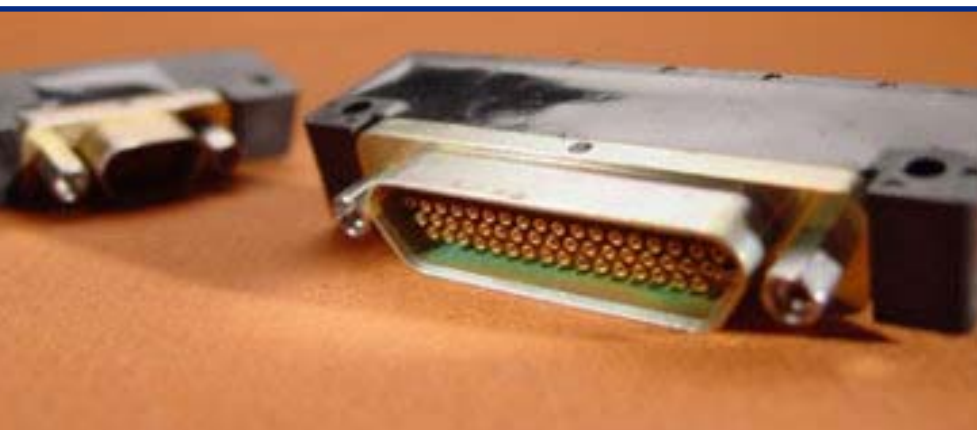
Ulti-Mate Connector, Inc. has been producing world class Micro-miniature connectors and interconnect systems since 1977. Our expertise in the design and production of customized solutions to the most demanding customer requirements has made Ulti-Mate a valued supplier to the electronic OEM Marketplace. Providing a broad range of Micro-miniature products, our engineering team is ready to work with you in designing the most cost effective solution to your interconnect needs.

Ulti-Mate specializes in serving the unique connector needs of military, space, aviation, medical and geophysical exploration electronic marketplaces. Our reputation for innovation and quality has placed Ulti-Mate connectors in many of our countries most advanced missile systems, manned space and satellite vehicles, and guidance and navigation systems. Our ability to meet the demanding environmental requirements of the geophysical exploration industry has made Ulti-Mate a leading supplier to the largest and most advanced companies in the field. Ulti-Mate has a long history of meeting the rigorous specifications of invasive and non-invasive medical imaging, patient monitoring and measured drug delivery markets.

Located in Orange, Calif. for over 25 years, Ulti-Mate prides itself on providing the highest levels of customer service and value with its "Made in America" Micro-miniature connectors. Our experienced staff is dedicated to serving your interconnect needs with the latest design tools, state of the art test equipment and a customer support staff ready to assist you in all of your Micro-miniature connector requirements.



Your Distributer:



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Quality Assurance Is Peace Of Mind

Ulti-Mate Connector, Inc. is committed to the highest levels of product and process quality assurance. We are dedicated to providing highly reliable Micro-D connector and cable assemblies to support various industry needs and specifications. Our quality system is based on ISO 9000:2000 and Mil-DTL-83513.

We have the latest in inspection equipment technology including OGP Smart Scope Field of View optical measuring system for visual and dimensional inspection, Cirris Touch I cable testers for point to point cable hipot testing and Connector Test International equipment for DWV and IR testing. All of our instruments are calibrated and traceable to NIST and are in full compliance with ANSI/ NCSL Z540-1. Additionally, we have SPC capabilities for monitoring process quality of critical characteristics.

Through continuous improvement, operator training and education, corrective and prevention action techniques and commitment to excellence, we are confident we will become your sole source for high quality interconnect products now and in the future.

Your Distributer:

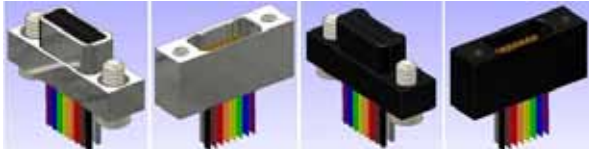
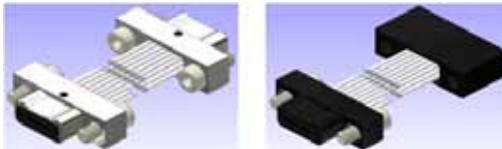
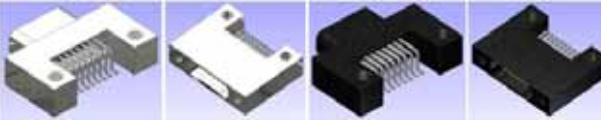
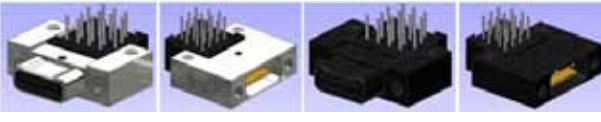
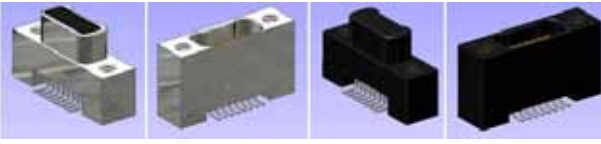
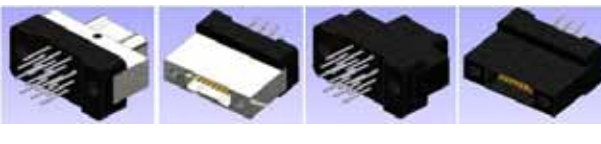
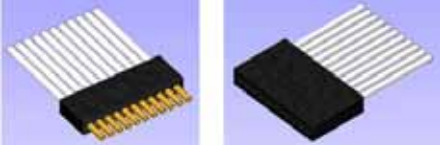
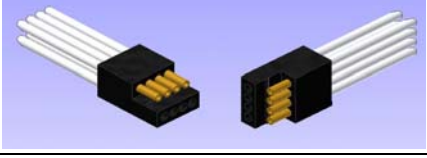
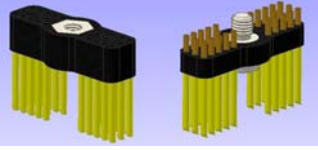



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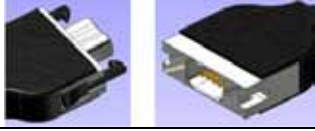


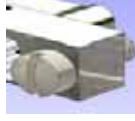
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Ulti-Mate Connectors introduces the broadest product offering in the industry. We are the only company that can offer inter mateable metal shell and plastic shell configurations in accordance with Mil-DTL-32139

	<p>Wired Nano Plug and Receptacle Single Ended 1 or 2 Row Metal or Plastic Housing 9, 15, 21, 25, 31, 37, 51 and 65 Positions</p>
	<p>Wired Nano Plug and Receptacle Double Ended 1 or 2 Row Metal or Plastic Housing 9, 15, 21, 25, 31, 37, 51 and 65 Positions</p>
	<p>PCB Nano Plug and Receptacle Right Angle SMT 1 or 2 Row Metal or Plastic Housing 9, 15, 21, 25, 31, 37, 51 and 65 Positions</p>
	<p>PCB Nano Plug and Receptacle Right Angle Thru Holes 1 or 2 Row Metal or Plastic Housing 9, 15, 21, 25, 31, 37, 51 and 65 Positions</p>
	<p>PCB Nano Plug and Receptacle Vertical Mount SMT 1 or 2 Row Metal or Plastic Housing 9, 15, 21, 25, 31, 37, 51 and 65 Positions</p>
	<p>PCB Nano Plug and Receptacle Vertical Mount Thru Holes 1 or 2 Row Metal or Plastic Housing 9, 15, 21, 25, 31, 37, 51 and 65 Positions</p>
	<p>Single Row Strip Nano Connector 2 to 40 Positions Wired and PCB Configurations</p>
	<p>Dual Row Nano Hermaphroditic 8 to 80 Positions Wired and PCB Configurations</p>
	<p>Dual Row Plastic Nano with Center Jackscrew 21 Positions Wired and PCB Configurations</p>
	<p>Circular Plastic Nano 7-12-19 Positions Wired Configurations</p>

ACCESSORIES

	<p>Overmolded Cable Assemblies for Metal or Plastic Nano-D and Circular Connectors</p>
	<p>Latch option for Metal or Plastic Nano-D Connector</p>
	<p>Phillips Head Hardware for Metal or Plastic Nano-D Connector</p>
	<p>Allen Head hardware for Metal or Plastic Nano-D Connector</p>
	<p>Slotted Head hardware for Metal or Plastic Nano-D Connector</p>

MATERIALS AND FINISHES

Contacts:	Pins: BeCu alloy strip per ASTM B 194 / Sockets: BeCu per ASTM-B-194
Molded Insulators into metal housing or Full plastic housing:	Insulating compound per MIL-M-24519
Contact Finish:	Gold plate per ASTM B 488, SAE AMS 2422
Shell:	Aluminum with electroless nickel or electrodeposited cadmium plating
Hardware:	Corrosion resistant steel per ASTM A 582/A582 or ASTM A 581/A581M Passivated per SAE AMS-2700

PERFORMANCE

Ulti-Mate Connector Inc. Nano Series meets or exceeds M32139 Performance Specifications

Contact Rating:	1-ampere maximum
Solderability:	Terminals (except crimp) tested in accordance with MIL-STD-202, Method 208
Wire Size:	Stranded #30 & #32 AWG or solid #30 AWG standard (consult factory for other sizes and types)
Test Voltage:	250 V, RMS, 60 Hz
Standard Operating Temperature:	-55° C to +125 ° C
High-Temperature configuration available:	-55° C to +200 ° C or +240 ° C
Insulation Resistance:	5,000 megohms minimum @ 100 VDC
Durability:	200 connector mating cycles tested in accordance with EIA-364-09
Vibration:	Tested in accordance with EIA-364-28, Condition IV
Shock:	Tested in accordance with EIA-364-27, Condition G
Salt Spray:	Mated connectors tested in accordance with EIA-364-26, Condition B
Humidity:	Mated connectors tested in accordance with EIA-364-26, Condition A (except steps
Thermal Shock:	Tested to the temperature extremes of EIA-364-32, Condition I
Contact Resistance:	0.021 volt maximum drop @ 1.0 amps (.021 ohms)
Contact Engaging Force:	5.0 ounce maximum, with minimum diameter test sleeve
Contact Separating Force:	0.4 ounce maximum, with minimum diameter test sleeve
Crimp Strength:	1 pound minimum tensile strength

Reference M32139

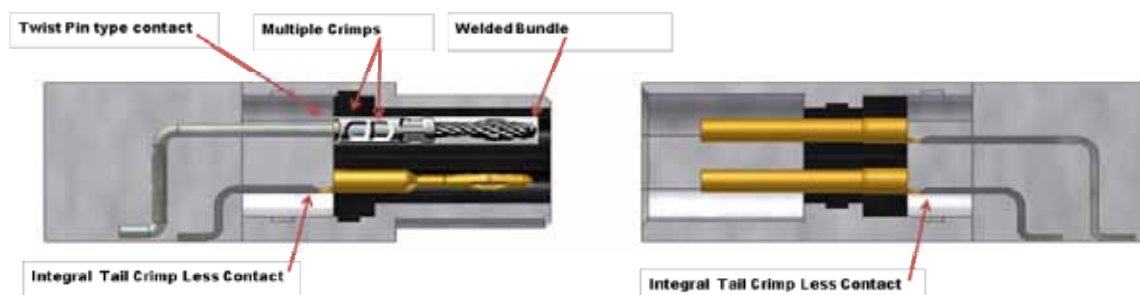
. Ulti-Mate Connector can manufacture special configurations for your exact specifications.

. Please Consult the factory for part numbering information and specification

NANO SPRING CONTACTS ... ARE NOT ALL ALIKE

While the Mil-DTL-32139 gives wide design latitude in meeting the performance criteria of the specification, not all pin contact designs are equal. Every manufacturer touts the benefits of their technology as the best solution to derive the optimum performance of the Nano pin contact. The truth of the matter is, all of the existing Nano contact designs will exceed the performance demands of the harshest environment of which they are subjected. The reason for this is quite simple, there is so little mass within the contact system, that when subjected to the most extreme conditions, anything surrounding the connector will fail before the contact system itself. This is also a benefit of the reverse gender mating system. In this system the spring contact is the pin, which is recessed into the insulator, and breathes inward during mating while the socket is an exposed closed tube. During mating, the OD of the socket is closely matched to the ID of the mating pin insulator. Thus, in the mated condition, there is little room for contact movement.

Ulti-Mate Connector has developed and used a precision formed Nano size 30 contact system for twenty years. The benefits of using precision formed pin contacts are numerous. Each pin contact is captured on a reel, in its order of manufacture, assuring consistency of design and more importantly quality control. It is not a discrete contact where each one is unique in its manufacture. Unlike the twist pin type of contact, which requires two welds and two crimps to create a PC board contact, the precision formed pin is a single piece crimp less contact ready for PC board termination. Precision forming allows us to produce an integral PC tail contact eliminating the need for crimping a solid wire which effectively eliminates all crimp resistance issues. Our pin contact also possesses the highest columnar strength which resists the common crushed pin syndrome found in other discrete pin designs. The Ulti-Mate Connector pin contact design, manufactured from Copper-Beryllium Alloy, allows us to maintain consistent spring rates while lowering insertion forces and providing longer mating life cycles.



Do not be mislead by claims of superior performance used to hide the design flaws found in discretely manufactured contacts. Precision formed contacts are the answer to your design requirements of cost, quality, longer lifecycle, and operational performance. Remember, all nano spring contacts are not alike. Make the informed choice.



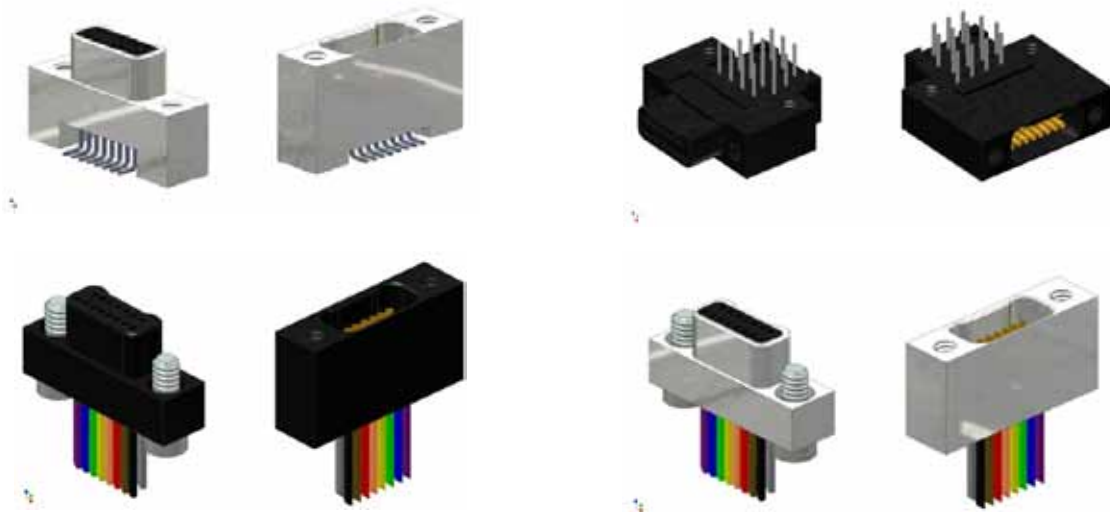
THE BROADEST NANO PRODUCT OFFERING IN THE INDUSTRY 0.635 mm (0.025") Pitch Connector

Only Ulti-Mate Offers Metal or Plastic shells in accordance with MIL-DTL-32139

In answer to the need for multiple Nano Miniature connector requirements that do not need the grounding or shielding of metal shells, Ulti-Mate connector Inc. has made available for immediate delivery the full line of MIL-DTL-32139 style connectors in fully molded Liquid Crystal Polymer bodies. This is the new cost effective alternative to our standard offering of Aluminum, Stainless Steel, and Titanium shells.

Configurations include:

- Wire to Wire
- Wire to Board
- Board to Board
- Single and Dual Row
- Surface Mount and Thru Hole



Features

- Precision Formed Pin Contact
- LCP Bodies and Insulators
- MIL-DTL-32139 compatible
- Broad product offering

Benefits

- Low cost repeatable quality
- 55°C to 240°C operating range
- Meets or exceeds Military performance requirements
- Design flexibility without tooling

Applications

- Defense Electronics
- Medical Electronics
- Geophysical Exploration
- Electronic surveillance
- Space vehicles
- UAV

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Performance Data For All Connectors

Electrical

Contact Resistance: @ 2.5 amperes is 8 milliohms max.

Current Rating: 3.0 amperes max.

Dielectric Withstanding Voltage: 900 VAC at sea level, 300 VAC @ 70,000 ft.; Solder cups & shielded cable same as MIL-DTL-83513; 600 VAC at sea level, 150 VAC at 70,000 ft.

Insulation Resistance: 5,000 megohms minimum.

Mechanical

Contact Engaging and Separating Forces: 6 oz. max. per MIL-DTL-83513 (contact average is 3 oz.), Separation force is 0.5 oz. minimum;

Contact Mating and Unmating Forces per MIL-DTL-83513: Mate= 10 oz. X number of contacts maximum.

Unmate= 10.5 oz. X number of contacts minimum.

Size 16 Power/ Coax Contacts

Current Rating (16 ga. Power): 10 amps

Impedance Data (Coax): 37 ohms +/- 5%.

Shock & Vibration

Vibration: No damage or interruption detected (one microsecond sensitivity) when subjected to Method 2005, Test Condition IV of MIL-STD-1344.

Shock: No damage or interruption detected (one microsecond sensitivity) when subjected to Test Condition E, Method 2004 of MIL-STD-1344.

Durability: No mechanical defects after 500 matings; Test criteria are mating force, contact resistance, contact engagement and separation forces.

Salt Spray: No exposure of base metal due to corrosion; no loss of performance as in durability above.

Materials & Finishes

Pin Contacts: Beryllium Copper (C17200) per QQ-C-533.

Socket Contacts: Copper alloy (C21000) or leaded commercial bronze (C-314000).

Contact Plating: Gold plated per MIL-G-45204. 50 microinches is the standard thickness.

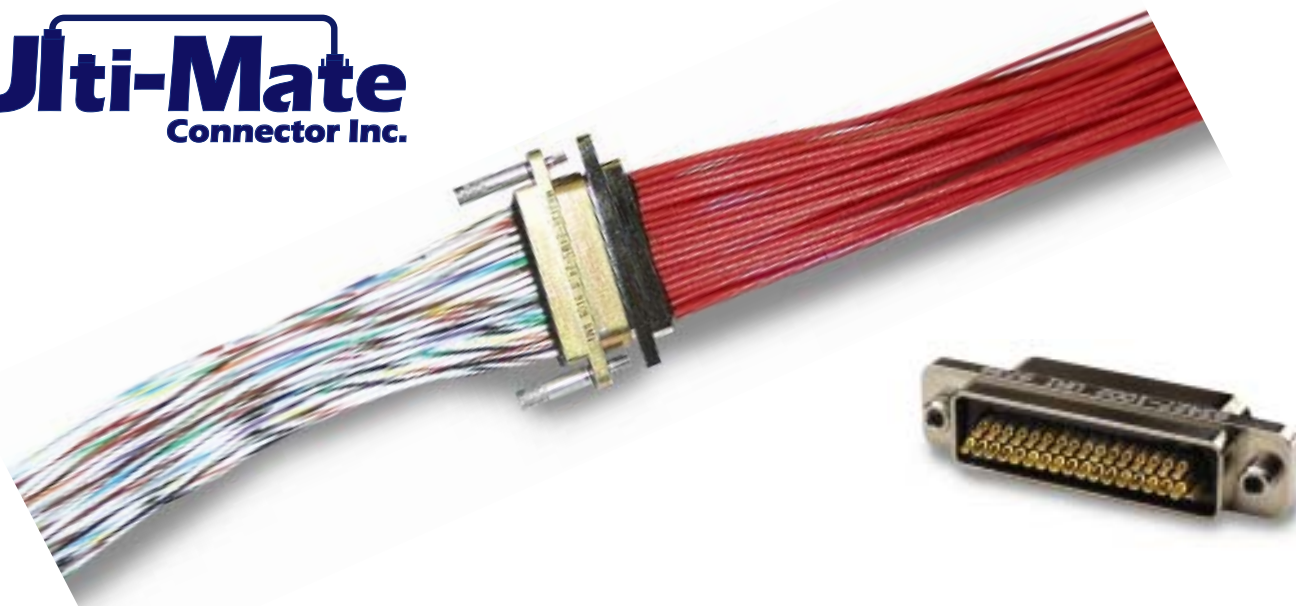
Metal Shells: Aluminum alloy per QQ-A200/8, type 6061-T6. Finish is cadmium per QQ-P-416 with yellow chromate.

Insulator Material: Preferred material is Polyphenylene sulfide per MIL-M-24519 GST 40F. Color: Black

LCP: Liquid Crystal Polymer-Vectra 130 (optional)

Interfacial Seals: Fluorosilicone elastomer per MIL-R-25988. Standard on "M" Series socket face.

Hardware: Stainless Steel, passivated.



How To Order Micro D Connectors

M R 25 P 05-26 E 5-18.0 S01-HT

Series Designation

M= Rugged Metal Shell
B= Rugged Plastic Shell
A= Low Profile Metal Shell
P= Low Profile Plastic Shell

Insulator Material

R= PPS per MIL-M-24519 GST-40F
L= LCP Vectra 130 (Consult Factory)

Size

Standard Configurations
9, 15, 21, 31, 37, 51-3, 100
For other sizes in 2 row
from 5-65 consult factory

Contact Type

P= Pin, Crimp N= Pin, Solder Cup
S= Socket, Crimp T= Socket, Solder Cup

Mounting/Coupling Hardware

0= None

For 5 thru 65 sizes

02= Jackscrew Assy., Low Allen Head *	=12
03= Jackscrew Assy., High Allen Head	=13
05= Jackscrew Assy., Low Slotted*	=15
06= Jackscrew Assy., High Slotted	=16
07= Jackpost Assy.*	=17

For 100 Size

Temp Range

Blank= 125°C*
HT=200°C
(Special Order)

Shell Finish

S01= Electroless Nickel*
Blank= Cadmium

Wire Length

3 Digits (i.e. 18.0") or M46 (cm)

Wire Color

1= All White*
2= All Yellow
3= Tin Plated Solid Wire
4= Gold Plated Solid Wire
5= Color Coded per MIL-STD-681C
6= Solid Colors Repeat/No Stripes

Wire Type

C= Solid Copper (Un-insulated) QQ-W-343
E= Type "E" Teflon per MIL-W-16878/4*
F= Type "ET" Teflon per MIL-W-16878/6
M= Teflon per MIL-W-22759/11*
Y= Tefzel per MIL-W-22759/33

Wire Size

24, 25, 26*, 28, 30 AWG

* = Indicates preferred standard

For float mount hardware please consult factory

3

Micro D Selection Guide

Select the type of rectangular connector you require. Note the "P" series of MIL-DTL-83513 is not designed to mate with the MIL-DTL-83513 "M" series. P/C board-mount styles are shown at the bottom of the page.



"P" Series
Low Profile Plastic
MIL-DTL-83513

Also mates with



"A" Series
Low Profile Metal
No MIL Spec.



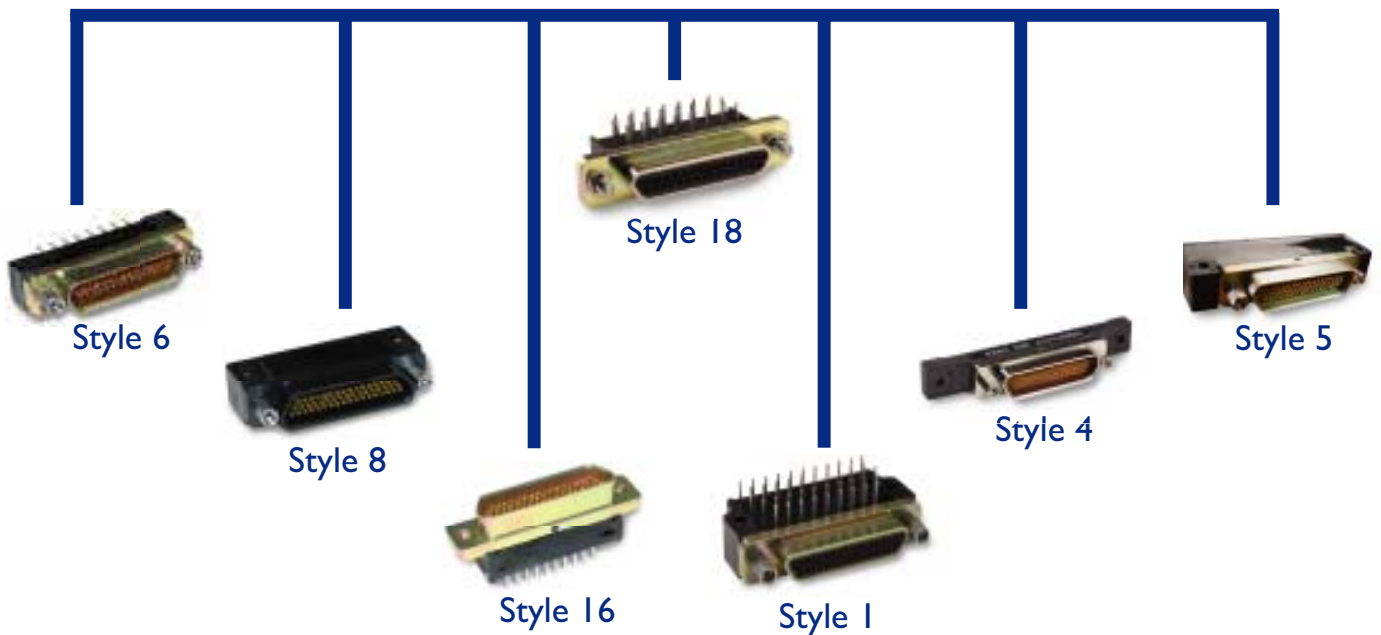
"M" Series
Rugged Metal
MIL-DTL-83513
(Factory Standard)

Also mates with



"B" Series
Rugged Plastic
No MIL Spec.
(Factory Standard)

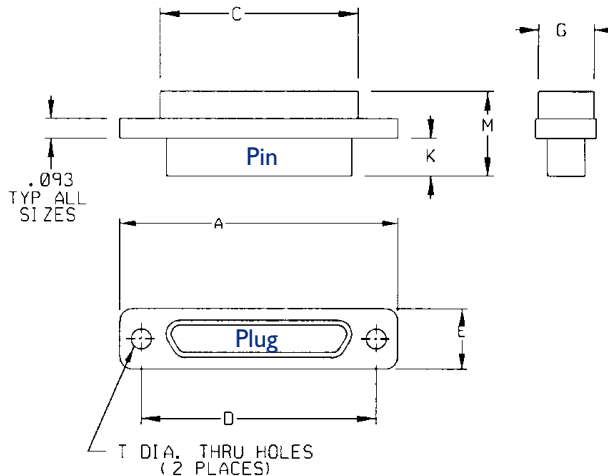
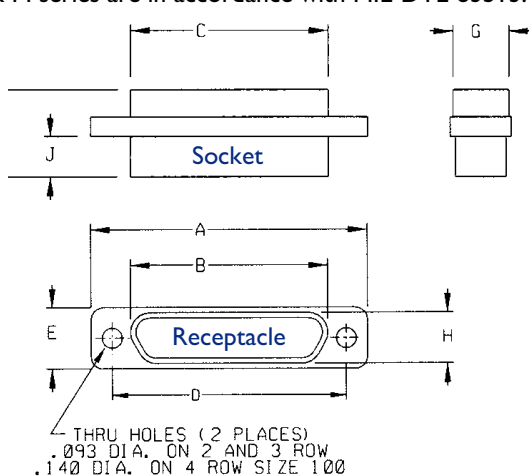
The above series will mate with the Circuit Series shown here



Micro D

Dimensional Data

A, P, M & B Series 50 mil Rectangular Connectors.
P & M series are in accordance with MIL-DTL-83513.



Micro-D Shell Dimensions (inches)

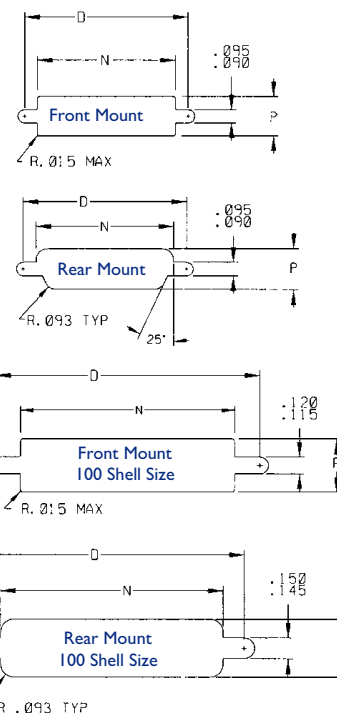
	All	A & P Series			M & B Series		
Size	A Max.	B Max.	C Max.	H Max.	B Max.	C Max.	H Max.
9	.777	.371	.399	.209	.402	.393	.248
15	.927	.521	.549	.209	.552	.543	.248
21	1.077	.671	.699	.209	.702	.693	.248
25	1.177	.771	.799	.209	.802	.793	.248
31	1.327	.921	.949	.209	.952	.943	.248
37	1.477	1.071	1.099	.209	1.102	1.093	.248
51	1.428	1.019	1.046	.250	1.054	1.041	.290
100	2.162	N/A	N/A	N/A	1.503	1.433	.391

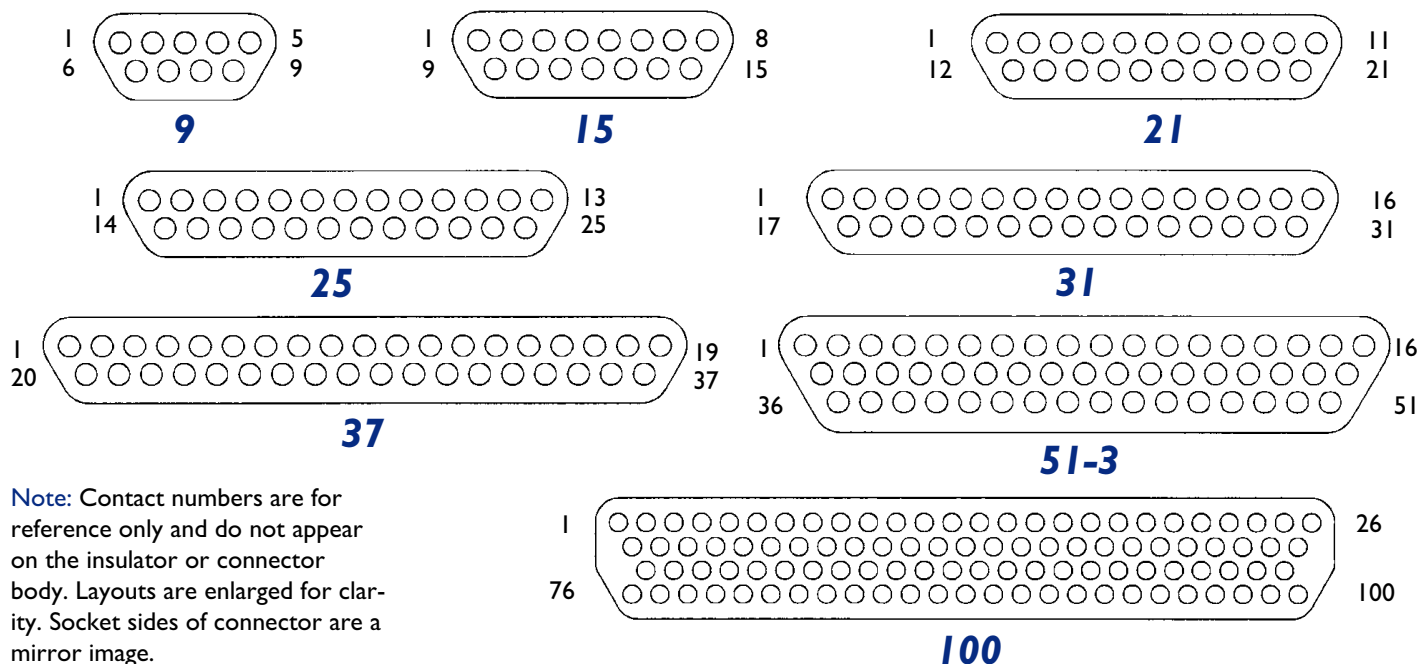
Micro-D Shell Dimensions (inches)

Rows	Series	E Max.	G Max.	J Max. Skt	K Max. Pin	L Max. Skt	M Max. Pin
2	A & P	.213	.171	.182	.202	.365	.385
2	M & B	.299	.272	.199	.187	.427	.415
3	A & P	.251	.220	.182	.202	.365	.385
3	M & B	.340	.310	.199	.187	.427	.415
4	M & B	.391	.349	.199	.187	.427	.415

Micro-D Panel Mounting Dimensions

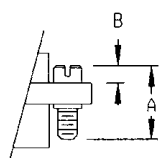
A & P Series						M & B Series				
Size	D Max.	Front Mount		Rear Mount		D Max.	Front Mount		Rear Mount	
		N+.006/-.00	P	N+.006/-.00	P		N+.006/-.00	P	N+.006/-.00	P
9	.565	.405	.175	.377	.219	.565	.399	.280	.408	.265
15	.715	.555	.175	.527	.219	.715	.549	.280	.558	.265
21	.865	.705	.175	.677	.219	.865	.699	.280	.708	.265
25	.965	.805	.175	.777	.219	.965	.799	.280	.808	.265
31	1.115	.955	.175	.927	.219	1.115	.949	.280	.958	.265
37	1.265	1.105	.175	1.077	.219	1.265	1.099	.280	1.108	.265
51	1.215	1.052	.225	1.025	.265	1.215	1.046	.320	1.060	.305
100	N/A	N/A	N/A	N/A	N/A	1.800	1.439	N/A	1.509	N/A



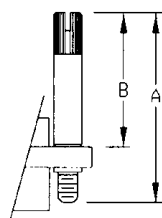


Note: Contact numbers are for reference only and do not appear on the insulator or connector body. Layouts are enlarged for clarity. Socket sides of connector are a mirror image.

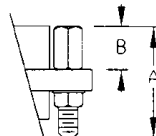
Mounting/Coupling Hardware



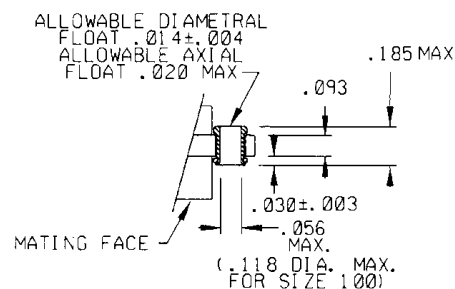
Jackscrew
Low Profile



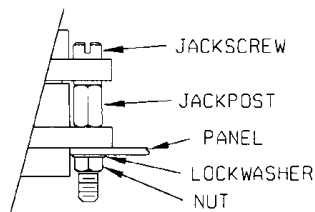
Jackscrew
High Profile



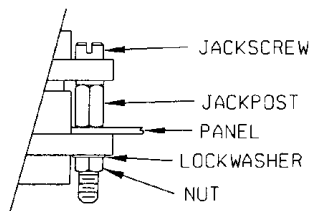
Jackpost



Float Mount



Front Panel Mount



Rear Panel Mount
(Consult Factory)

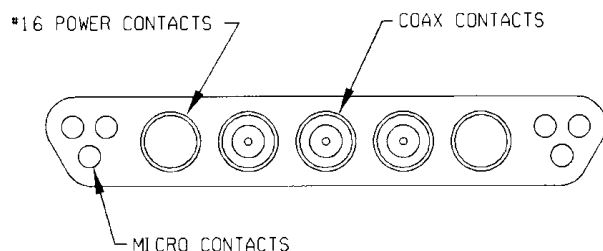
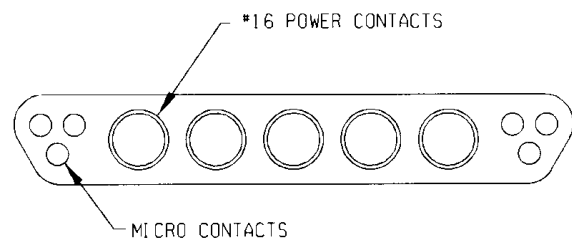
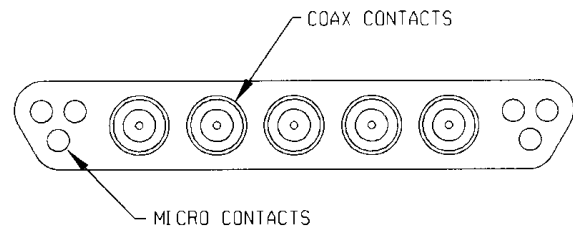
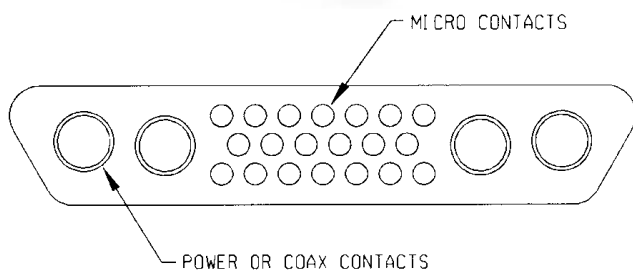
Description	Part Number	A Max.	B Max.	Thread	Rows
Jackscrew Lo Allen	M83513/05-02	.361	.103	2-56 UNC-2A	
Jackscrew Hi Allen	M83513/05-03	.868	.610	2-56 UNC-2A	2 Row
Jackscrew Lo Slot	M83513/05-05	.361	.103	2-56 UNC-2A	&
Jackscrew Hi Slot	M83513/05-06	.868	.610	2-56 UNC-2A	3 Row
Jackpost	M83513/05-07	.500	.190	2-56 UNC-2B	
Jackscrew Lo Allen	M83513/05-12	.390	.103	4-40 UNC-2A	
Jackscrew Hi Allen	M83513/05-13	.902	.610	4-40 UNC-2A	4
Jackscrew Lo Slot	M83513/05-15	.390	.103	4-40 UNC-2A	Row
Jackscrew Hi Slot	M83513/05-16	.902	.610	4-40 UNC-2A	100
Jackpost	M83513/05-17	.500	.185	4-40 UNC-2B	

Micro D Combo Series

Combination Power/Coax/Micro Contacts

Expandable tooling allows Ulti-Mate to offer any combination of Micro, Coax and Power contacts in any of our standard 2 row shells.

A Coax or a Power contact replaces 6 micro contacts. For example, a size 21 connector can have 2 power and 7 micro contacts. Coaxial contacts are for use with RG 178/U and RG 196/U miniature cables.



Three Row Configuration

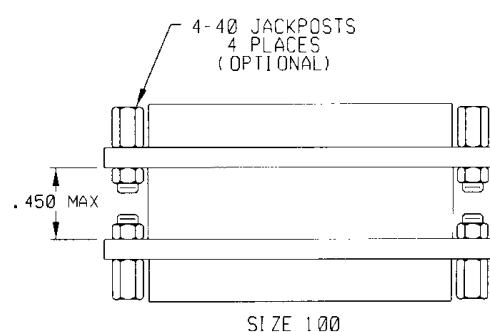
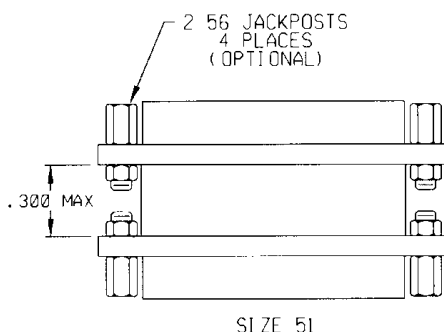
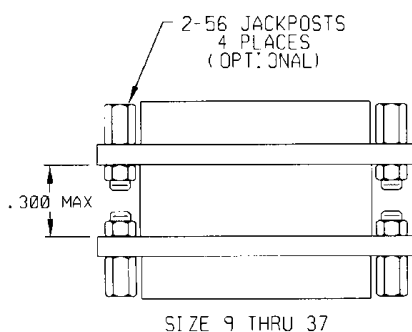
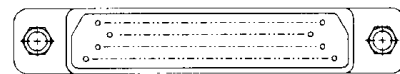
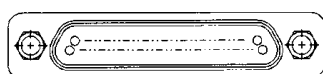
In addition to the variable 2 row configurations up to 65 positions, there is an available 3 row 51 shell connector with 4 power and / or coax combinations accompanied by 20 micro contacts.



(Consult Factory For Specific Configurations)

Connector Saver Series

Micro D Connector Savers are a "back to back" Pin to Socket configuration. Great for protecting test equipment or expensive electronic boxes from high mating cycles and excessive wear.



How To Order

M R 25 CS 07- S01

Series Designation

M= Rugged Metal Shell
B= Rugged Plastic Shell
A= Low Profile Metal Shell
P= Low Profile Plastic Shell

Insulator Material

R= PPS per MIL-M-24519 GST 40F
L= LCP Vectra 130 (Consult Factory)

Contact Arrangement

9,15,21,25,31,37,51-3,100

Shell Finish

S01= Electroless Nickel*
Blank= Cadmium

Mounting/Coupling Hardware

0= None

For 9 thru 51-3 sizes

07= Jackpost Assy.,

For 100 Size

=17

Connector Saver Series "CS"

* = Indicates preferred standard

Micro D Circuit Series



Ulti-Mate offers the widest variety of thru-hole solder tail connectors, of which seven styles are currently available. All have mating interfaces per MIL-DTL-83513 and 24 AWG (.020 dia.) exit leads. Styles 6 and 16 are available in the Mil Spec. "M" and the intermateable plastic "B" series. The other styles are available in the "M", "B", the narrower plastic "P" series and its intermateable metal shell "A" series. Style 1,4 and 5 are in accordance with MIL-DTL-83513 ("M" series only).



How To Order Circuit Series

C M 8 R 37 P 07 T- S01- HT

Circuit Series "C"

Interface

Connector Series

M= Rugged Metal Shell
B= Rugged Plastic Shell
A= Low Profile Metal Shell
P= Low Profile Plastic Shell

Style

6= Vertical 16= Vertical
8= Right Angle 18= Right Angle
1= Right Angle 4= Vertical
5= Right Angle

Insulator Material

R= PPS per MIL-M-24519 GST-40F
L= LCP Vectra 130 (consult factory)

Size

Number of Contacts 9,15,21,25,31,37,51-3,100

Temp Range

Blank= 125°C*
HT= 200°C
(Special Order)

Shell Finish

S01= Electroless Nickel*
Blank= Cadmium

Threaded Insert

T= Threaded Insert
Blank= Thru Hole

Mounting/Coupling Hardware

0= None

For 9 thru 51-3 sizes

07= Jackpost Assy.,

For 100 Size

=17

Contact Type

P= Pin

S= Socket

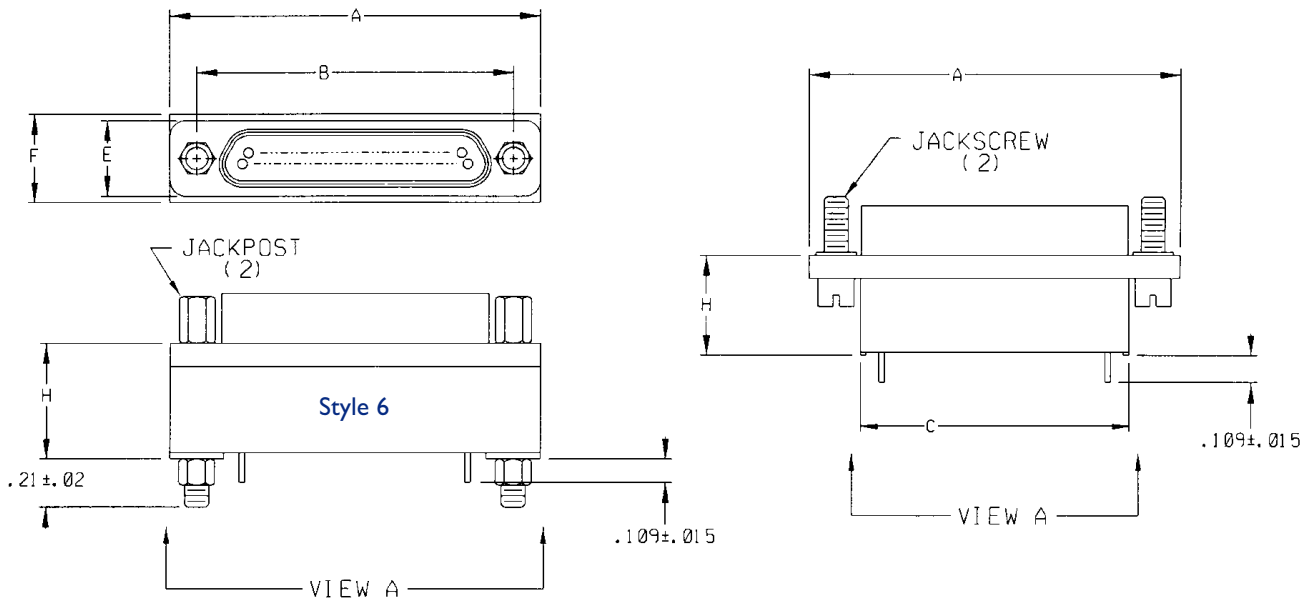
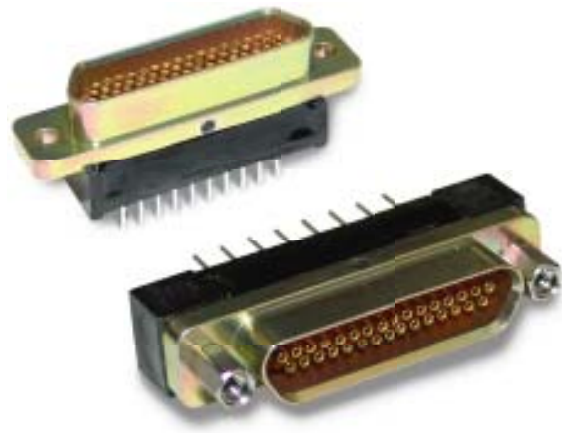
* = Indicates preferred standard.

Standard tail length is .109. (Consult factory for special lengths)

9

Styles 6&16

Style 6 is a vertical mount utilizing jackposts (optional). Style 16 is a vertical mount utilizing jackscrews (optional). Both of these connectors are recommended for new designs over the older Style 4. The advantage over previous styles is the termination footprints are contained within the envelope of the connector body, for optimal space savings.

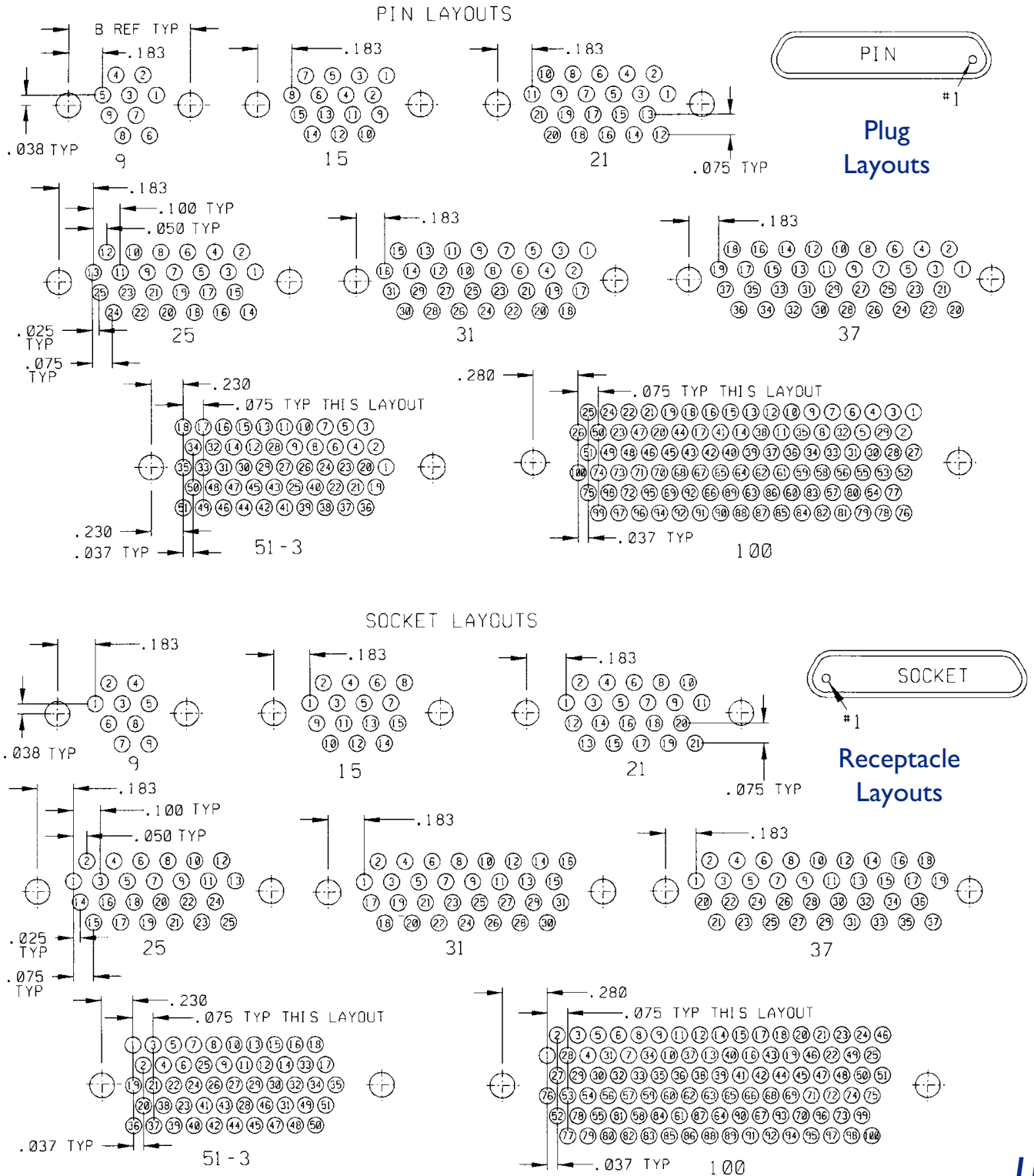


Size	A Max.	B Nominal	C Max.	E Max.	F Max.	H Max.
9	.785	.565	.400	.308	.310	.330
15	.935	.715	.550	.308	.310	.330
21	1.085	.865	.700	.308	.310	.330
25	1.185	.965	.800	.308	.310	.330
31	1.335	1.115	.950	.308	.310	.330
37	1.485	1.265	1.100	.308	.310	.330
51-3	1.435	1.215	1.045	.351	.400	.345
100	2.170	1.800	1.550	.394	.510	.400

Style 6&16

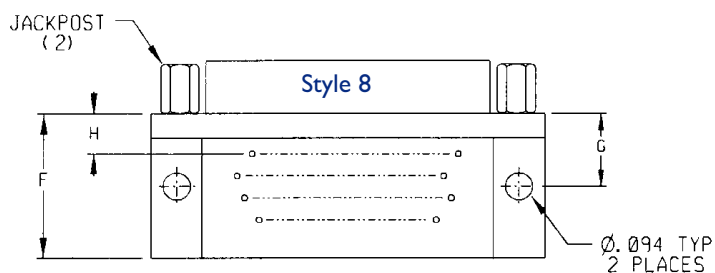
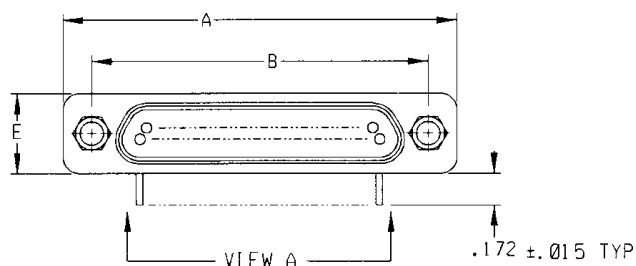
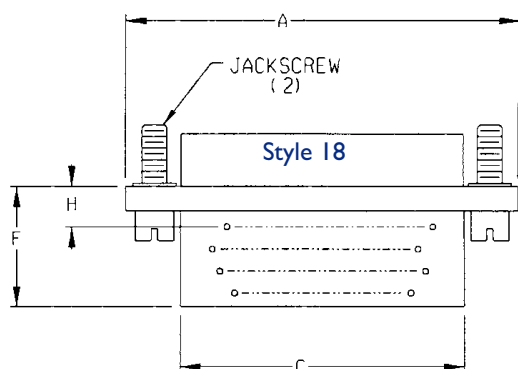
Spacing between rows is 0.075 on all layouts: spacing between contacts in any one row is 0.100 on the 9 thru 37 and 0.075 on the 51 and 100 layouts.

Termination footprints viewing connector, not circuit board. (View A)



Styles 8 & 18

Style 8 is a right angle mount utilizing jackposts (optional). Style 18 is a right angle mount utilizing jackscrews (optional). Recommended for new designs over Styles 1 & 5. The advantage is the termination footprints are contained within the envelope of the connector body for optimal space savings.

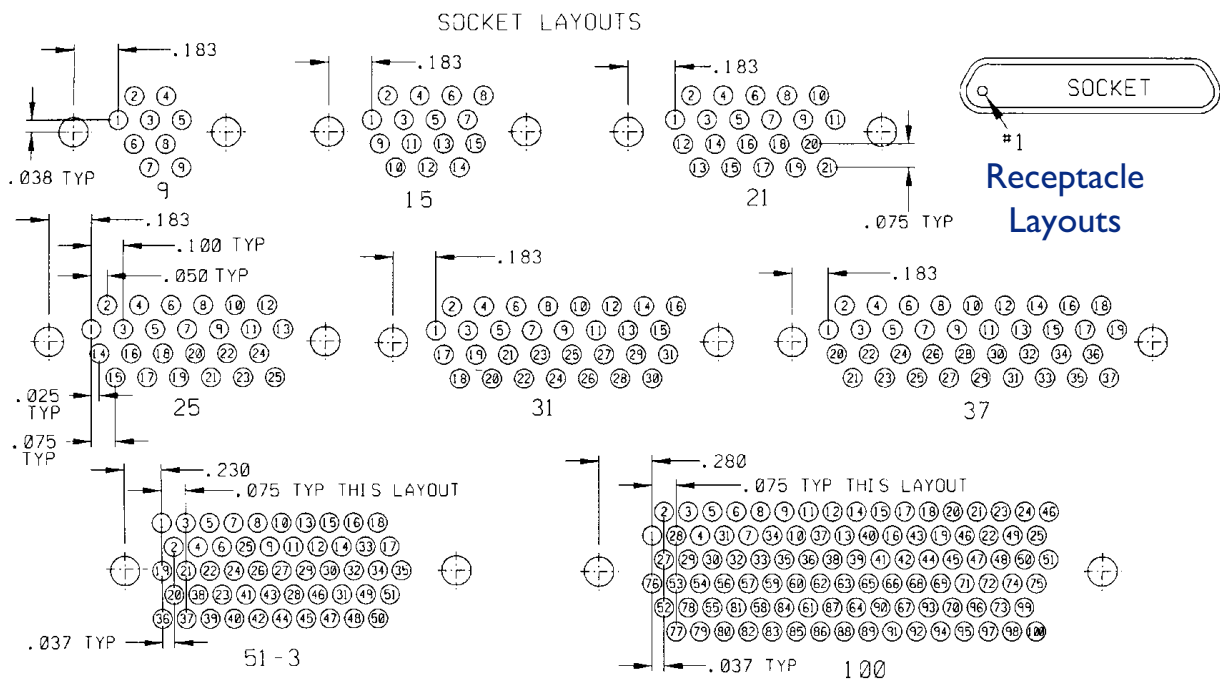
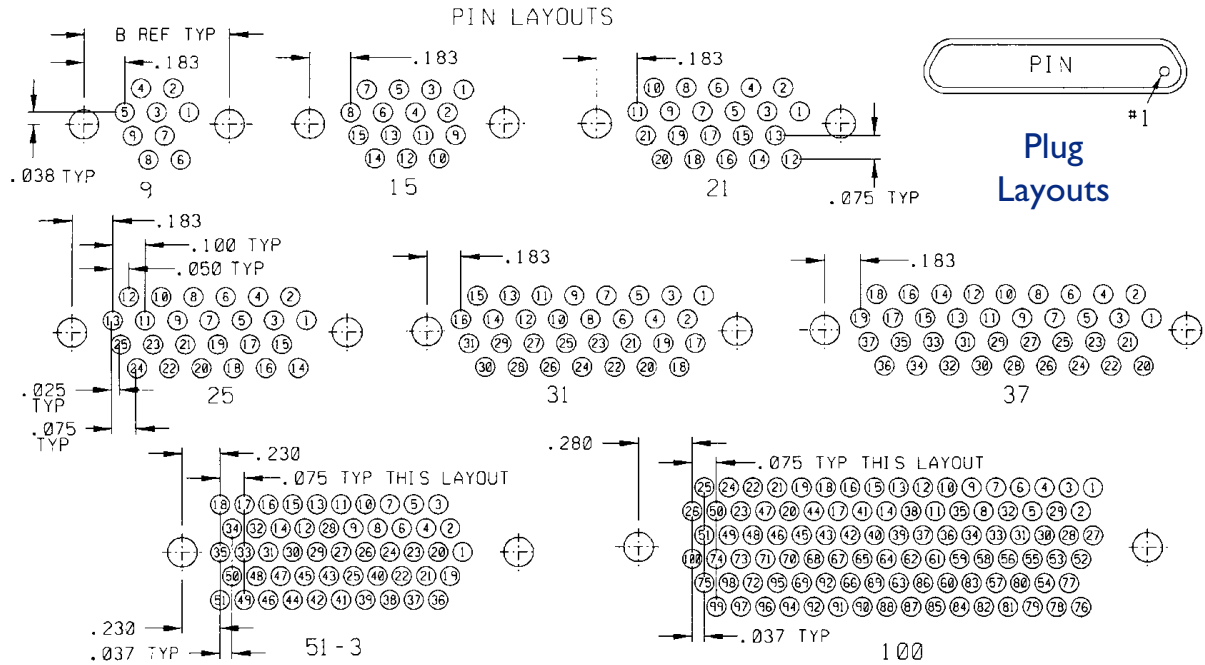


Size	A Max.	B Nom.	C Max.	E Max. A & P	E Max. M & B	F Max.	G Max.	H Max.
9	.785	.565	.400	.218	.308	.410	.250	.138
15	.935	.715	.550	.218	.308	.410	.250	.138
21	1.085	.865	.700	.218	.308	.410	.250	.138
25	1.185	.965	.800	.218	.308	.410	.250	.138
31	1.335	1.115	.950	.218	.308	.410	.250	.138
37	1.485	1.265	1.100	.218	.308	.410	.250	.138
51-3	1.435	1.215	1.045	.260	.351	.500	.295	.145
100	2.170	1.800	1.550	---	.394	.615	.350	.163

Styles 8&18

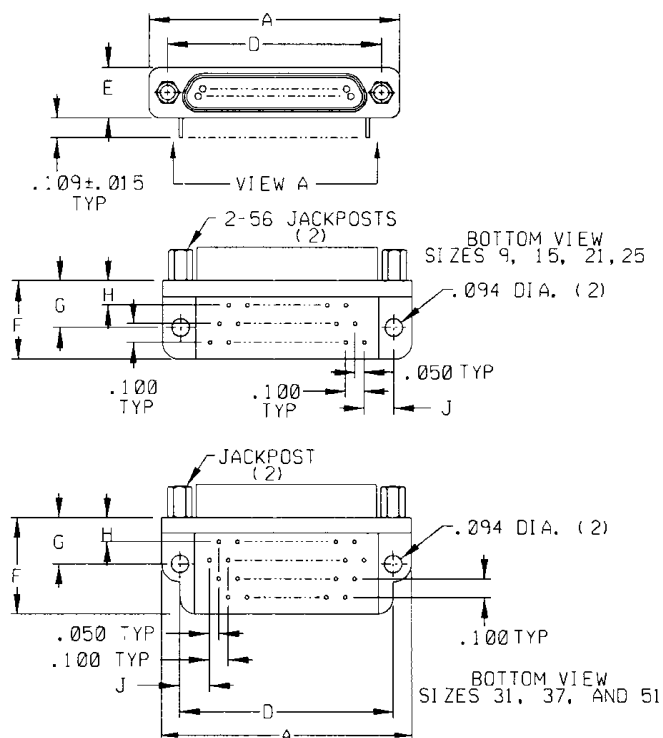
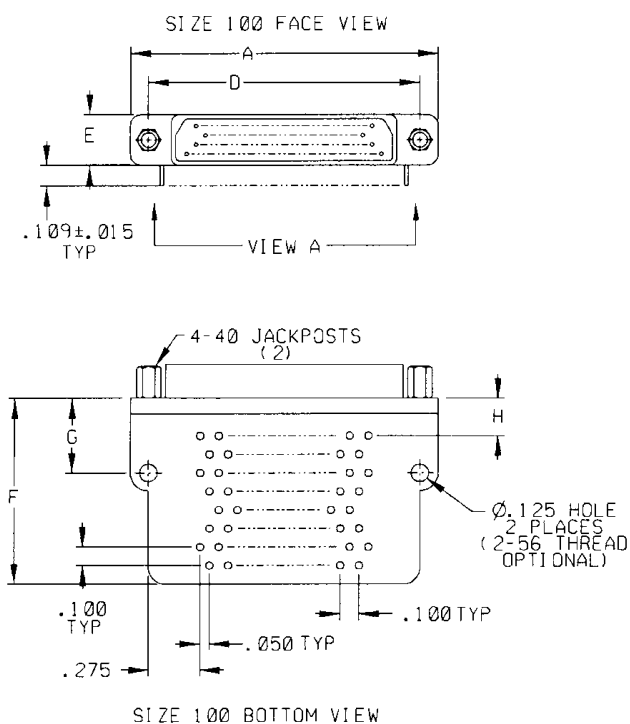
Spacing between rows is 0.075 on all layouts: spacing between contacts in any one row is 0.100 on the 9 thru 37 and 0.075 on the 51 and 100 layouts.

Termination footprints viewing connector, not circuit board. (View A)



Style I

Style I (CBR) is the original right angle mount p/c board connector with 90 degree termination exit leads on a .100 x .100 grid. Mounting thru holes are provided. Jackposts to receive Jackscrews are optional. Style I is in accordance with slash sheets 10 thru 15 of MIL-DTL-83513. ("M" series only)



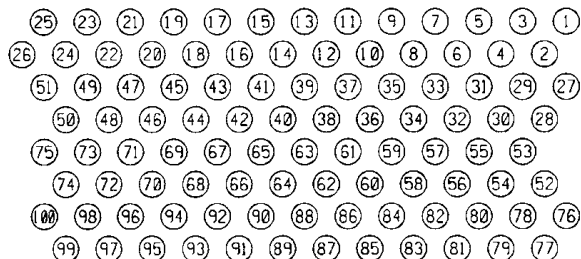
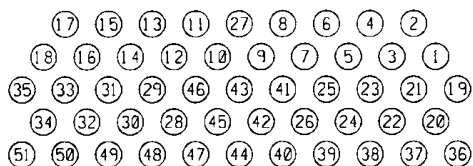
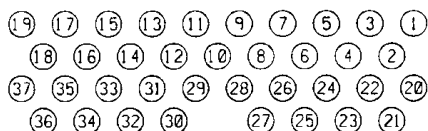
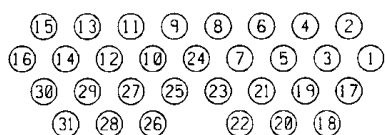
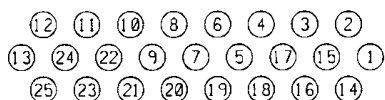
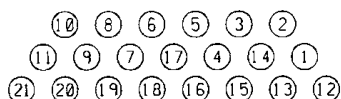
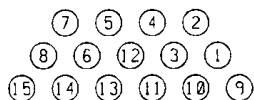
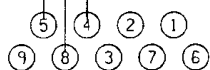
Size	A Max.	D +/- .005	E Max. M & B	E Max. A & P	F Max.	G +/- .010	H +/- .010	J +/- .005
9	.785	.565	.308	.218	.420	.250	.230	.083
15	.935	.715	.308	.218	.420	.250	.130	.108
21	1.085	.865	.308	.218	.420	.250	.130	.083
25	1.185	.965	.308	.218	.420	.250	.130	.083
31	1.335	1.115	.308	.218	.520	.250	.130	.158
37	1.485	1.265	.308	.218	.520	.250	.130	.183
51-3	1.435	1.215	.351	.260	.650	.300	.150	.108
100	2.165	1.800	.394	---	1.000	.400	.200	.275

Style I

View A
Termination footprints viewing
connector, not circuit board

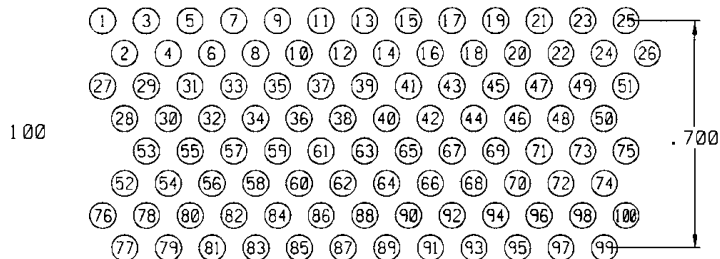
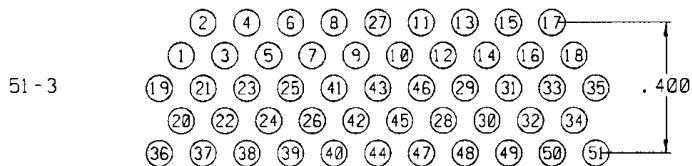
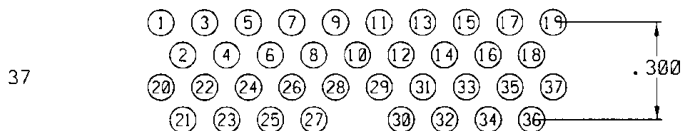
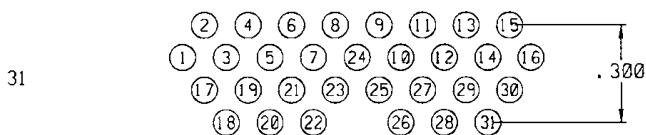
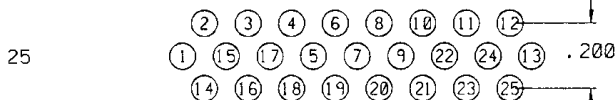
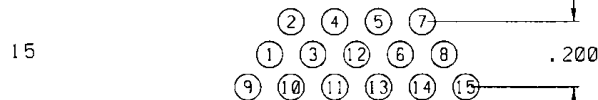
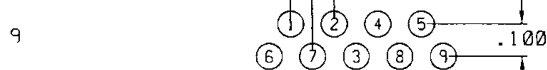
Plug Layouts (Pin side)

.100 TYP
.050 TYP



Receptacle Layouts (Socket side)

.100 TYP
.050 TYP

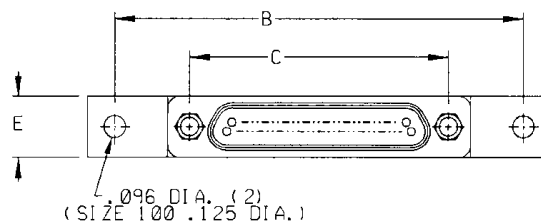
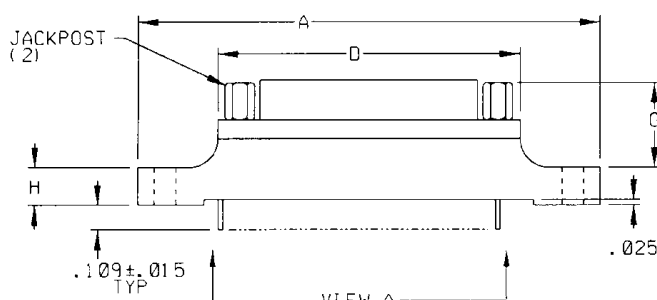


Style 4

Style 4 (BS) is a vertical mount p/c board connector with exit leads on a .100 x .100 grid. It has the same number of rows as the mating face ie; 9 thru 37 has 2 rows, the 51 has 3 rows and the 100 has 4 rows.

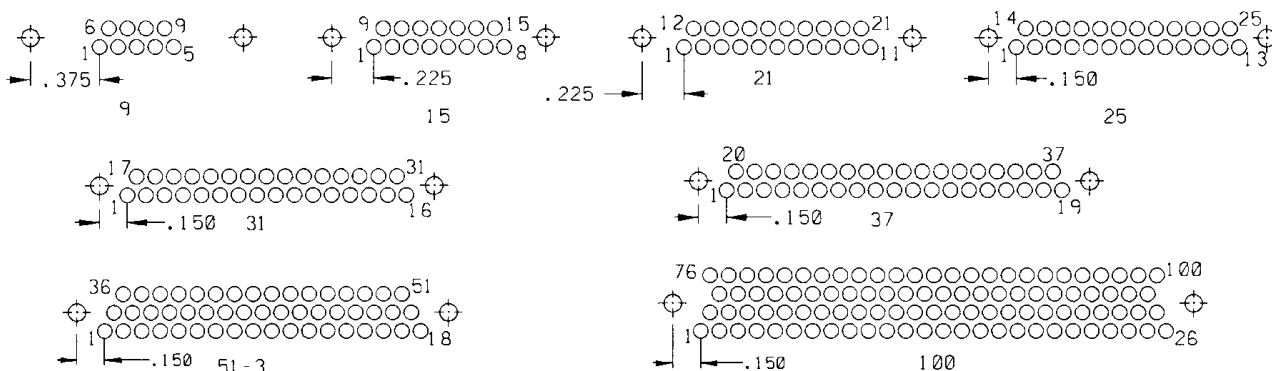
Jackposts for coupling are optional. For new applications, we suggest you consider

Style 6 which has a denser footprint of .075. Style 4 configuration is in accordance with slash sheets 22 thru 27 of MIL-DTL-83513. ("M" series only)

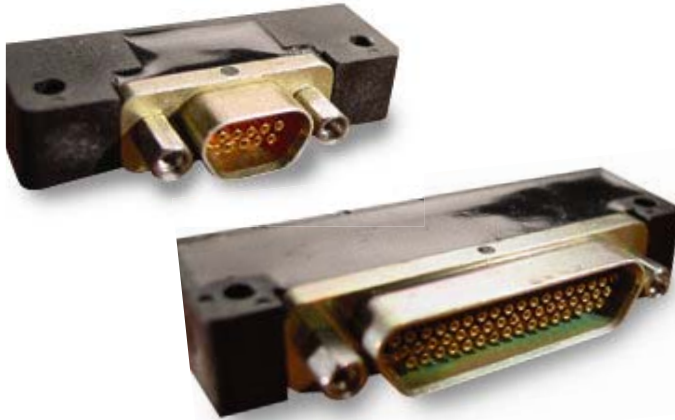


Size	A Max.	B +/- .007	C +/- .005	D Ref.	E Max. M & B	E Max. A & P	G Max.	H Max.
9	1.390	1.150	.565	.785	.308	.218	.555	.165
15	1.390	1.150	.715	.935	.308	.218	.555	.165
21	1.690	1.450	.865	1.085	.308	.218	.555	.165
25	1.740	1.500	.965	1.185	.308	.218	.555	.165
31	2.040	1.800	1.115	1.335	.308	.218	.555	.165
37	2.340	2.100	1.265	1.485	.308	.218	.555	.165
51-3	2.270	2.000	1.215	1.435	.351	.260	.555	.165
100	3.070	2.800	1.800	2.175	.394	---	.750	.303

Pin side termination footprints viewing connector not circuit board. (View A)*

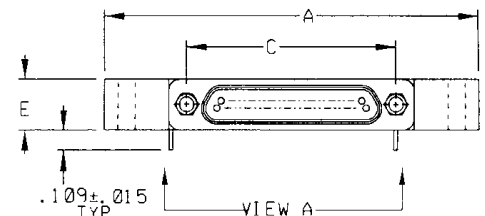
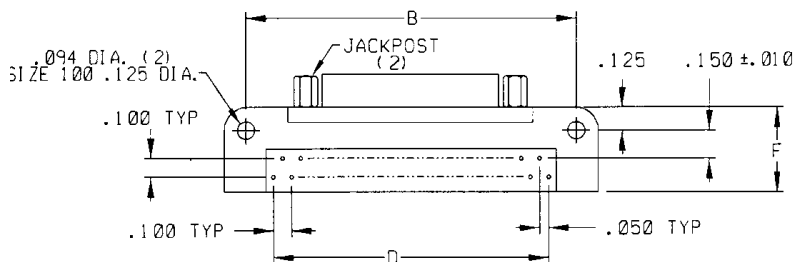


* Socket sides are mirror image



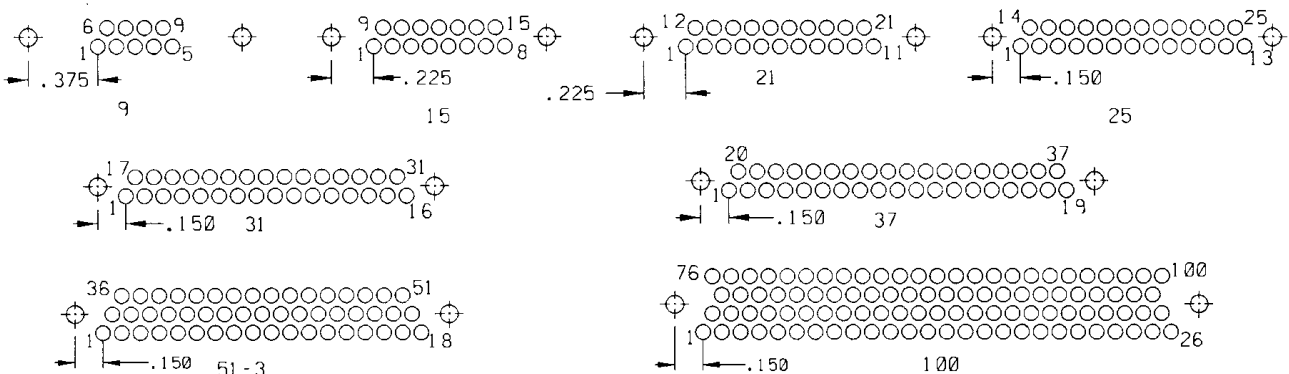
Style 5

Style 5 (BR) is a right angle mount connector. Exit leads are on a .100 x .100 grid with the same footprint as Style 4. Mounting thru-holes and Jackposts for coupling are provided. For new applications consider Style 8 which has a denser footprint of .075. Style 5 is in accordance with slash sheets 16 thru 21 of MIL-DTL-83513. ("M" series only)



Size	A Max.	B +/- .007	C +/- .005	D Ref.	E Max. M & B	E Max. A & P	F Max.
9	1.390	1.150	.565	.400	.308	.218	.455
15	1.540	1.300	.715	.700	.308	.218	.455
21	1.690	1.450	.865	1.000	.308	.218	.455
25	1.790	1.550	.965	1.200	.308	.218	.455
31	2.040	1.800	1.115	1.500	.308	.218	.455
37	2.340	2.100	1.265	1.800	.308	.218	.455
51-3	1.875	1.600	1.215	1.700	.351	.260	.565
100	2.780	2.500	1.800	2.500	.394	---	.665

Termination footprints viewing connector not circuit board. (View A)*



*Socket connectors are mirror image

50mil Strip Series

The plastic molded body of the 50 mil Strip is made to accommodate up to 43 micro contacts, however, you may select the number of contacts you need from 1 to 43. There are many options to choose from: guide pins, jackscrews, securing latch, mounting holes and six circuit termination styles.



Basic Strip

Dimensional Formula

$A = (\text{No. of positions} - 1) \times .050$ 1st to last contacts.

$B = A + .075$ - overall with out ears.

$C = A + .200$ - center to center of mounting holes.

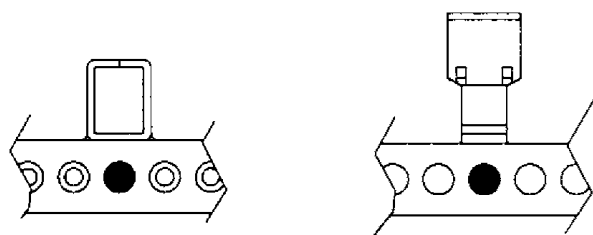
$D = A + .375$ - overall with ears.

Ordering Notes

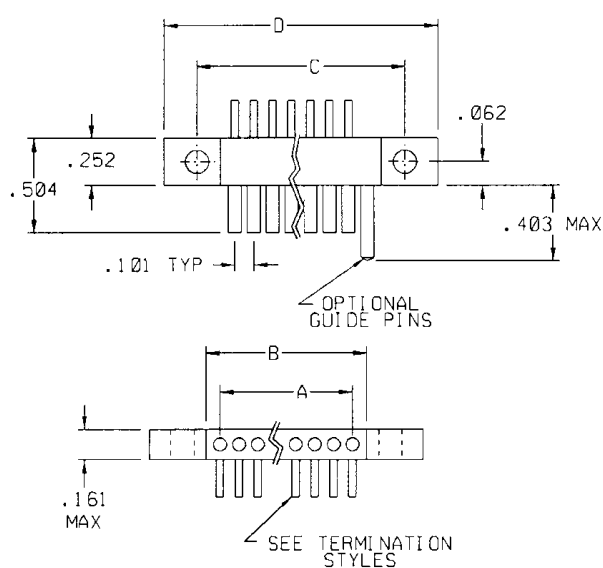
Each guide pin will replace a contact cavity thereby increasing the overall length. The overall length will also increase for one or two cross mounting holes or for jackscrews. Use 3 positions for each cross mounting hole or jackscrew.

Securing Latch Feature

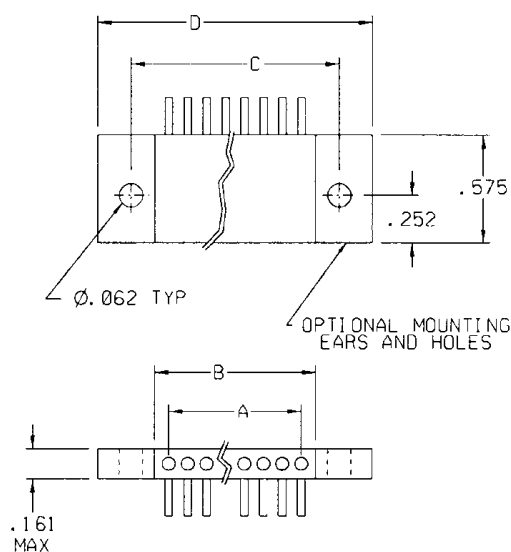
*Consult factory for part numbers for Strip Series connectors with Securing Latch.



Socket



Pin

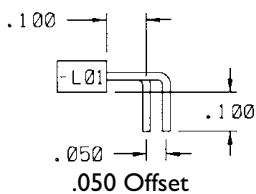
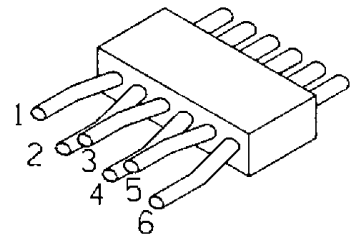
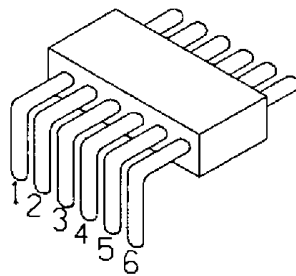
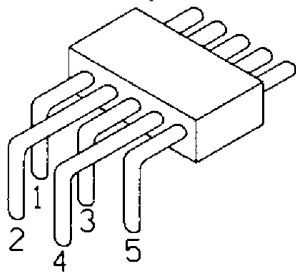


Strip Series

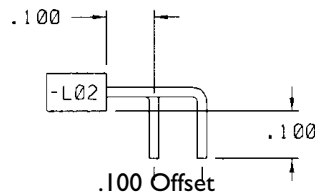
50 mil Center Line Spacing



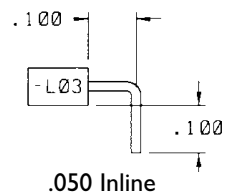
Optional Circuit Terminations (Terminations Are Solid 24 AWG Wire)



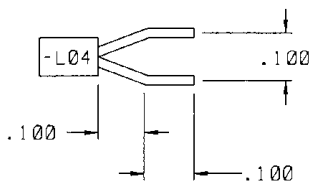
.050 Offset



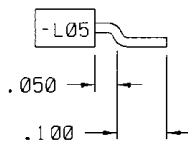
.100 Offset



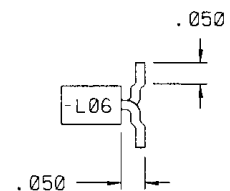
.050 Inline



Offset Vertical



Surface Mount



Surface Mount Vertical

How To Order

S R 15 P 2 - 26 E 5 - 18.0

or L01

Series "S"

Insulator Material

R= PPS per MIL-M-24519 GST-40F *

Size

Number of contacts up to 43

Contact Type

P= Pin, Crimp N= Pin, Solder Cup
S= Socket, Crimp T= Socket, Solder Cup

Hardware

(Combine as required)

0= None

1= One guide pin (socket side), One hole (pin side)
2= Two guide pins (socket side), Two holes (pin side)
3= One center jackscrew (socket side),
One threaded hole (pin side)
4= Mounting hole at each end
5= Jackscrews hole at each end (socket side)
Threaded holes each end (pin side)

* = Indicates preferred standard

Wire Length

3 Digits (ie. 18.0") or M46 (cm)

Wire Color/Finish

1= All white
2= All yellow
3= Tin plated-solid
4= Gold plated-solid
5= Color coded per MIL-STD-681C

Wire Type

C= Solid copper per QQ-W-343
E= Type "E" Teflon per MIL-W-16878/4
F= Type "ET" Teflon per MIL-W-16878/6
M= Teflon per MIL-W-22759/11
Y= Tefzel per MIL-W-22759/33

Wire Size

24,25,26*,30 AWG

Circuit Termination

(Ends part#)

-L01, -L02, -L03, -L04, -L05, -L06 **19**

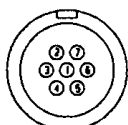
RQ Receptacle

The Ulti-Mate "RQ" Series was originally designed for a quick disconnect connector for a small missile with a lanyard release. It has since grown into a family of a simple push-pull hand disconnect. All have precision machined metal shells and are available in the sizes 1, 2 and 3 layouts. Environmental sealing is optional.

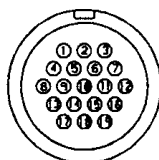


Contact Arrangements

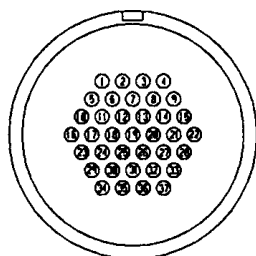
Face View / Pin Side
Enlarged for Clarity



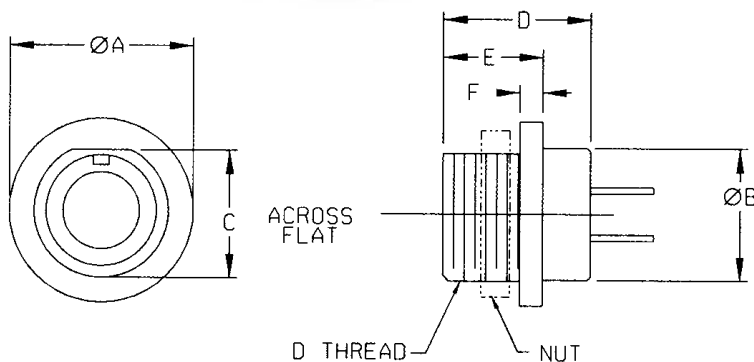
7 Contacts
(Size 1)



19 Contacts
(Size 1 or 2)

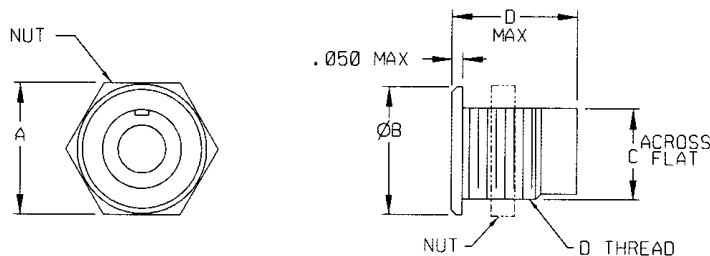


37 Contacts
(Size 3)



Rear Mount

Shell Size	A Max.	B Max.	C Max.	D Max.	E Max.	F Max.
1	.605	.435	.418	.485	.330	.080
2	.655	.460	.480	.510	.345	.095
3	.885	.745	.725	.490	.300	.050



Front Mount

Shell Size	A Max.	B Max.	C Max.	D Max.
1	.510	.510	.360	.495
2	.575	.565	.480	.510
3	.855	.850	.735	.495

Front Panel Mount Cutouts

Shell Size	A +/- .005	B Dia.
1	.364	.390
2	.475	.515
3	.729	.755

Rear Panel Mount Cutouts

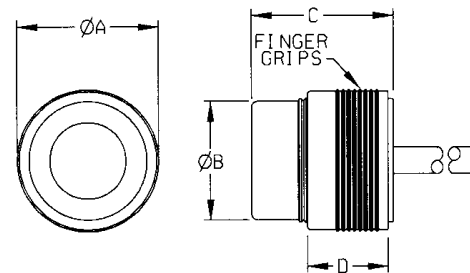
Shell Size	A +/- .005	B Dia.
1	.425	.440
2	.535	.564
3	.729	.755

RQ Plug

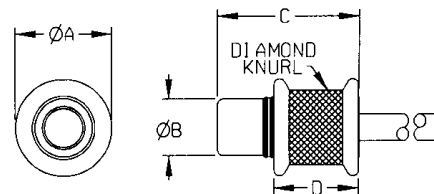
This family provides all the advantages of circular connectors: ease of coupling, round cable bundle form, ease of panel mounting and space efficiency.

Shell Size	A Max.	B Max.	C Ref.
1	.500	.300	.770
2	.610	.410	.755
3	.760	.635	.760

Shell Size	D Max.	No. of Contacts
1	.770	7 or 9
2	.755	19
3	.760	37



Size 3



Size 1 & 2

How To Order

R Q P 0 B 1 -7 S 26 E 5 -18.0

Circular Series

Connector Type

Q= Quick disconnect

Shell Style

P= Plug

R= Receptacle

Mounting Style

0= Plug

1= Front Mount Receptacle

2= Rear Mount Receptacle

Material

B= Brass, nickel plated

Shell Size

1= 7 or 19 Position

2= 19 Position

3= 37 Position

* = Indicates preferred standard

Wire Length

3 Digits (ie. 18.0") or M46 (cm)

Wire Color

Reference page 3

Wire Type

Reference page 3

Wire Size

24,25,26*,30 AWG

Contact Type

P= Pin

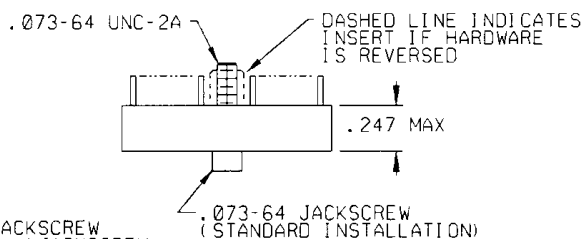
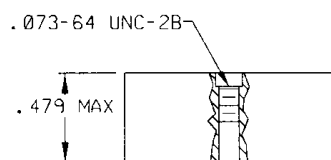
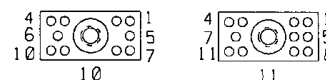
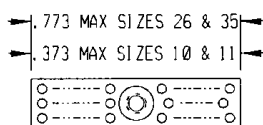
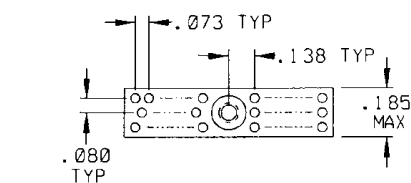
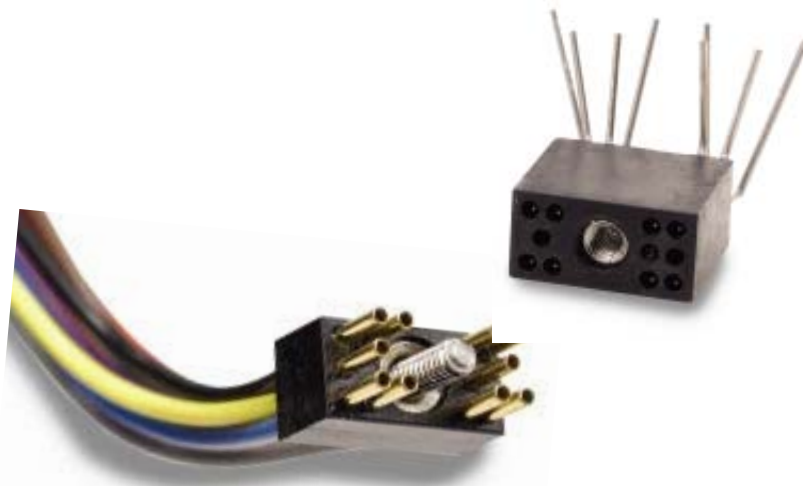
S= Socket

Contact Layout

7,19,37

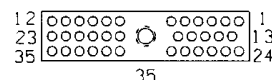
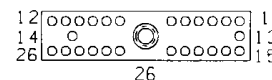
JSB Series

A family of microminiature center jack-screw connectors. The JSB Series, is available with layouts of 10, 11, 26 and 35 contacts. The JSB Series has a full range of terminations including cable to cable, board to cable, board to board and various other combinations.



MAY BE ORDERED WITH JACKSCREW AND JACKPOST REVERSED. (JACKSCREW SHOWN AT RIGHT IS STANDARD.)

.073-64 JACKSCREW (STANDARD INSTALLATION)



How To Order

JSB R -26 P -26 E 5 -18.0 S

Series "JSB"

Insulator Material

R= PPS Per Mil-M-24519 GST-40F

Contact Arrangement

10, 11, 26, 35

Contact Type

P= Pin Crimp
S= Socket Crimp
N= Pin Solder Cup
T= Socket Solder Cup

Coupling

S= Standard
R= Reversed

Wire Length

3 Digits (ie. 18.0") or M46 (cm)

Wire Color

Refer To Page 3

Wire Type

Refer To Page 3

Wire Size

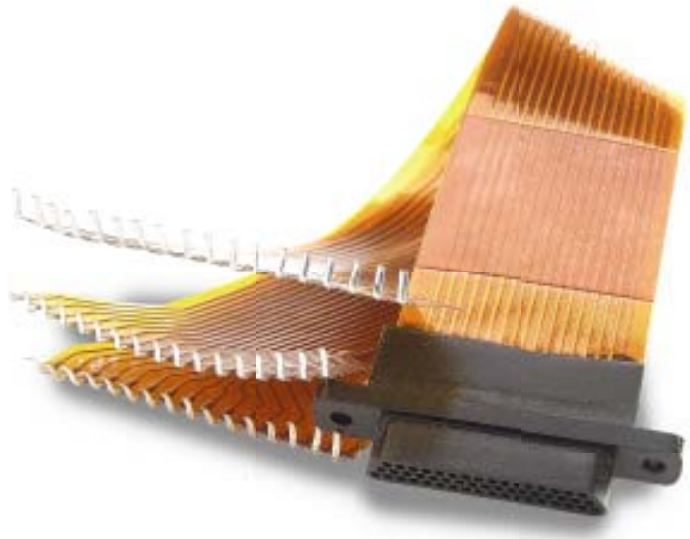
24, 25, 26*, 28, 30 AWG

* = Indicates preferred standard

Custom Connectors



When your system requirements demand more than a standard Microminiature connector, Ulti-Mate is prepared to offer custom interconnect solutions to meet the most rigid performance requirements. Our development time from concept to production is unequalled. We are tooled on more Microminiature configurations than anyone else in the marketplace. When tooling is necessary we are equipped with the lat-



est in design tools to speed your concept to reality. Let our experienced team design and build your next interconnect solution.

Custom Cable Assemblies

As a high end cable assembly supplier to the Military, Commercial airframe, Medical and Communications industries let us put our expertise to work for you. We design, manufacture and test custom pre-



cision interconnect turnkey solutions to meet your requirements. From over molded back-to-back cables to multiple connector "3D" system harness assemblies, the team at Ulti-Mate is ready to make your concept a reality.



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