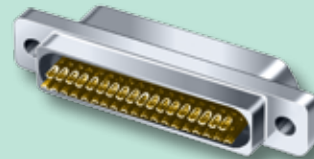


PRODUCT SELECTION GUIDE

Glenair's Complete Micro-D Product Line includes all M83513 Micro-D connectors. Choose **Solder Cup, Pre-Wired or PCB** versions. Glenair M83513 connectors always use **TwistPin Contacts** for high performance, made in U.S.A.

M83513/01, /02, /06, /07
Solder Cup Metal or Plastic Shell

These connectors feature gold-plated solder cup contacts for termination to #26 AWG or smaller wire.



Metal Shell
M83513/01 & 02
Page L-4

Plastic Shell
M83513/06 & 07
Page L-8

M83513/03, /04, /08, /09
Pre-Wired Pigtails, Metal or Plastic Shell

These crimped, epoxy-potted assemblies are available with insulated 19 strand #26 AWG wire or with #25 AWG uninsulated single strand wire. Insulated wire options include wire type, color code and length. Uninsulated wires are gold-plated or SnPb 63/37 solder dipped.

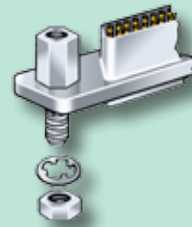


Metal Shell
M83513/03 & 04
Page L-5

Plastic Shell
M83513/08 & 09
Page L-9

M83513/05
Jackscrews and Jackposts

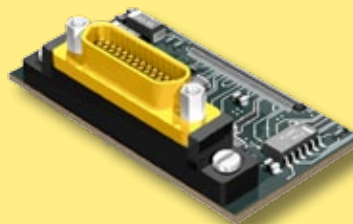
These hardware kits contain stainless steel jackscrews in two lengths. Choose slot head or hex head. Jackscrews attach with e-rings. Jackposts also are stainless steel.



M83513/05
Hardware Kits
Page L-7

M83513/10 Thru 21 Right Angle
.100" Pitch Printed Circuit Board Connectors

These metal shell connectors feature SnPb 63/37 solder-dipped PC tails. Select vertical or right angle mounting. PC tails are .020 inch (0.50 mm.) diameter on a .100 inch (2.54 mm.) offset grid. Jackposts and threaded inserts are available.

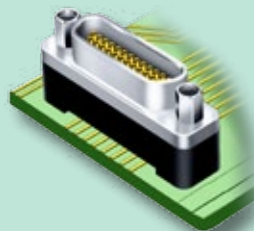


M83513/10 to 15
Right Angle
Narrow PCB
Page L-11

M83513/16 to 21
Right Angle
Wide Style PCB
Page L-15

M83513/22 Thru 33 Vertical
Compact Vertical Mount Printed Circuit Board

These recent additions to the mil spec feature .075 inch by .100 inch PC terminal spacing. The plastic tray does not extend beyond the envelope of the metal connector shell.

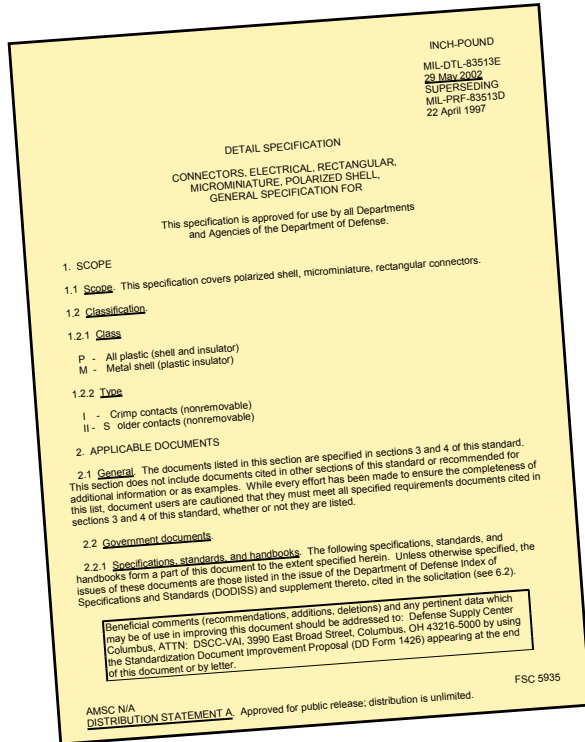


M83513/22 to 27
Vertical Mount PCB
Page L-19

M83513/28 Thru 33
Compact Vertical
PCB
Page L-23



MIL-DTL-83513 At-A-Glance



What is the difference between a Glenair COTS Micro-D and a Glenair Mil Spec Micro-D? Which is less expensive?

All Glenair Micro-D's, whether mil spec or COTS, are built with the same components and meet identical requirements. A COTS Micro-D is not a lower cost version of a mil spec part. COTS versions offer more options than the mil spec versions.

Which is more readily available: Mil Spec or COTS?

All M83513 aluminum shell connectors are in stock. All standard COTS versions are also stocked.

What is the difference between a Glenair Mil Spec connector and another brand?

MIL-DTL-83513 allows the use of low-cost stamped contacts; however, the Glenair Micro-D connector features the high performance TwistPin contact system. Glenair M83513 connectors are 100% Made in USA. Glenair's industry-leading Micro-D capacity and capabilities offer quick worldwide access to the full range of QPL items.

About The Mil Spec

The United States Department of Defense, Defense Logistics Agency, Defense Supply Center, Columbus, Ohio (DSCC, pronounced "Dessy"), maintains a vast library of military specifications covering all kinds of components used in defense equipment. These mil specs simplify system design and procurement, because mil spec parts do not require costly testing for suitability. Easy multiple sourcing is another key advantage of a mil spec part. MIL-DTL-83513 is a detail spec controlling dimensions, materials, performance and testing. This spec covers plastic and metal shell Micro-D connectors.

The QPL At-A-Glance

Manufacturers are required to perform a series of mechanical, electrical and environmental tests in order to be eligible for listing as an approved supplier. When DSCC approval is granted, the manufacturer is added to the Qualified Products List (QPL). Glenair is QPL approved for all M83513 variations.

The "Slash Sheets" At-A-Glance

In addition to the general specification, MIL-DTL-83513 contains a total of 33 Detail Specification Sheets, nicknamed "slash sheets" because a forward slash is used in the numbering system.

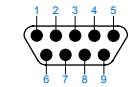
How to get a copy of the spec

DSCC specs are available for download. The documents include:
 MIL-DTL-83513 Detail Specification (the general spec)
 MIL-DTL-83513 Slash Sheets (33 individual specs)
 These specs can be found at:
<http://www.dsccl.dla.mil/Programs/MilSpec/DocSearch.asp>
 The QPL can be found at:
<http://www.dsccl.dla.mil/programs/qmlqpl/default.asp>

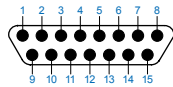
Glenair CAGE Codes

A **CAGE** (**C**ommercial **A**nd **G**overnment **E**ntity) Code is a five position code that identifies companies doing or wishing to do business with the Federal Government. Glenair uses two CAGE codes to identify M83513 products:
06324, Glenair, Glendale, California
0CA77, Glenair Microway Division, Lincolnwood Illinois.

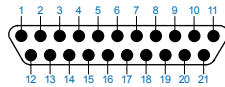
MIL-DTL-83513 CONTACT ARRANGEMENTS (FACE VIEW PIN CONNECTOR)



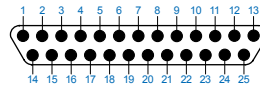
9 Contacts



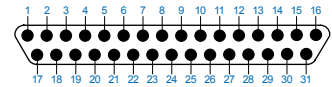
15 Contacts



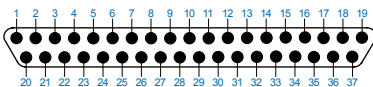
21 Contacts



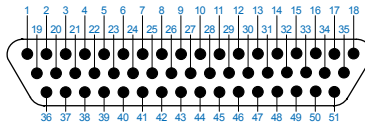
25 Contacts



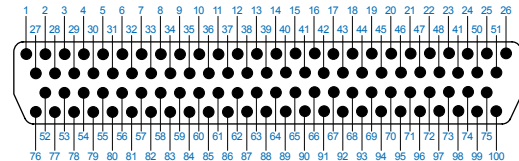
31 Contacts



37 Contacts



51 Contacts



100 Contacts

MIL-DTL-83513 MATERIALS AND FINISHES (SPECIFIC TO GLENAIR)

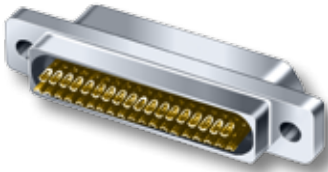
Connector Shell, Metal	Aluminum Alloy 6061 In Accordance With SAE-AMS-QQ-A-250/11 Plating Code C: Cadmium With Yellow Chromate Conversion Coating in Accordance With SAE-AMS-QQ-P-416, Type II, Class 3 Plating Code N: Electroless Nickel In Accordance With SAE-AMS-26074, Class 3 Stainless Steel, 300 Series, Passivated In Accordance With SAE-AMS-QQ-P-35
Connector Shell, Plastic	Liquid Crystal Polymer, 30% Glass-Filled, In Accordance With MIL-M-24519
Insulator	Liquid Crystal Polymer, 30% Glass-Filled, In Accordance With MIL-M-24519
Interfacial Seal	Fluorosilicone Rubber In Accordance With A-A-59588
Terminal Block, PCB	Liquid Crystal Polymer, 30% Glass-Filled, In Accordance With MIL-M-24519
Pin Contact (TwistPin)	Beryllium Copper, Gold Plated In Accordance With ASTM B 488 Type II Class 1.27 (50 Microinches Minimum) Code C, Over Nickel Underplate In Accordance With SAE-AMS-QQ-N-290, Class 2 (30 Microinches Minimum)
Socket Contact	Phos Bronze In accordance With ASTM 139 Gold Plated In Accordance With ASTM B 488 Type II Class 1.27 (50 Microinches Minimum) Code C, Over Nickel Underplate In Accordance With SAE-AMS-QQ-N-290, Class 2 (30 Microinches Minimum)
Encapsulant (Potting)	Epoxy Resin, Hysol EE4215/HD3561
Jackscrews, Jackposts	Stainless Steel, Passivated In Accordance With SAE-AMS-QQ-P-35
Pigtail Wire, Insulated Hookup	MIL-W-22759/11: 19 Strand Silver-Coated Copper Wire, Extruded PTFE Insulation, 600 Volts RMS, 200° C. MIL-W-22759/33: 19 Strand High-Strength Silver-Coated Copper Alloy Wire, Crosslinked Modified ETFE Insulation, 600 Volts RMS, 200° C.
Pigtail Wire, Uninsulated	Wire Type 07 and 08: Solid Copper Wire In Accordance With A-A-59551, 90% Tin/10% Lead Coated Wire Type 05 and 06: Solid Copper Wire In Accordance With A-A-59551, Gold-Plated

MIL-DTL-83513 PERFORMANCE SPECIFICATIONS

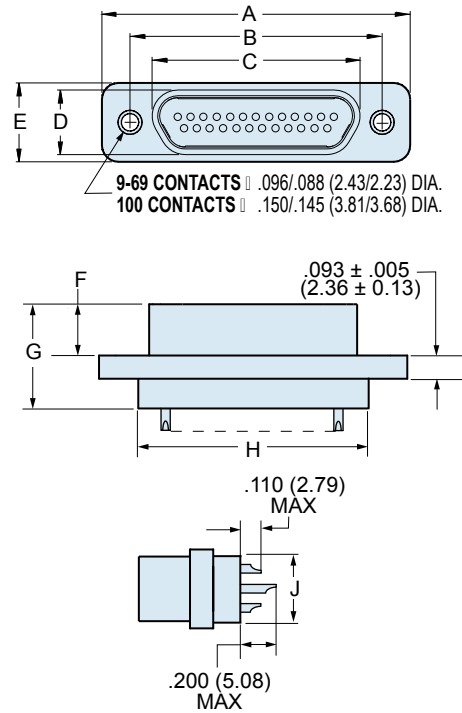
Current Rating	3 AMP
Dielectric Withstanding Voltage	600 VAC Sea Level, 150 VAC 70,000 Feet
Insulation Resistance	5000 Megohms Minimum
Contact Resistance	8 Milliohms Maximum
Low Level Contact Resistance	32 Milliohms Maximum
Magnetic Permeability	2 μ Maximum
Operating Temperature	-55° C. to +150° C.
Shock	50 g.
Vibration	20 g.
Outgassing	Meets NASA Outgassing Requirements
Mating Force	(10 Ounces Maximum) X (# Of Contacts)
Salt Spray	48 Hours Aluminum Shell With Cadmium Plating
Durability	500 Mating Cycles Minimum



MIL-DTL-83513/01 & /02 Micro-D Connectors Metal Shell Solder Cup



Metal Shell Solder Cup M83513 Connectors feature gold-plated TwistPin non-removable contacts for solder termination to AWG #26 or smaller wire.



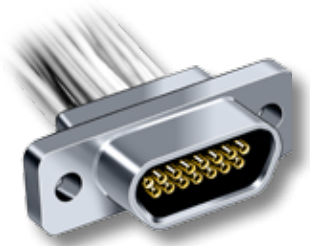
M83513/01 & /02 SOLDER CUP PART NUMBERS				
Layout	Config.	Electroless Nickel Plated Aluminum Shell	Cadmium Plated Aluminum Shell	Passivated Stainless Steel Shell
9P	Plug	M83513/01-AN	M83513/01-AC	M83513/01-AP
9S	Receptacle	M83513/02-AN	M83513/02-AC	M83513/02-AP
15P	Plug	M83513/01-BN	M83513/01-BC	M83513/01-BP
15S	Receptacle	M83513/02-BN	M83513/02-BC	M83513/02-BP
21P	Plug	M83513/01-CN	M83513/01-CC	M83513/01-CP
21S	Receptacle	M83513/02-CN	M83513/02-CC	M83513/02-CP
25P	Plug	M83513/01-DN	M83513/01-DC	M83513/01-DP
25S	Receptacle	M83513/02-DN	M83513/02-DC	M83513/02-DP
31P	Plug	M83513/01-EN	M83513/01-EC	M83513/01-EP
31S	Receptacle	M83513/02-EN	M83513/02-EC	M83513/02-EP
37P	Plug	M83513/01-FN	M83513/01-FC	M83513/01-FP
37S	Receptacle	M83513/02-FN	M83513/02-FC	M83513/02-FP
51P	Plug	M83513/01-GN	M83513/01-GC	M83513/01-GP
51S	Receptacle	M83513/02-GN	M83513/02-GC	M83513/02-GP
100P	Plug	M83513/01-HN	M83513/01-HC	M83513/01-HP
100S	Receptacle	M83513/02-HN	M83513/02-HC	M83513/02-HP

DIMENSIONS																		
Layout	A Max.		B		C Max.		D Max.		E Max.		F		G Max.		H Max.		J Max.	
	In.	mm.	In. ±.003	mm. ±0.08	In.	mm.	In.	mm.	In.	mm.	In. ±.003	mm. ±0.08	In.	mm.	In.	mm.	In.	mm.
9P	.785	19.94	.565	14.35	.333	8.46	.184	4.67	.310	7.87	.183	4.65	.416	10.57	.400	10.16	.270	6.86
9S	.785	19.94	.565	14.35	.400	10.16	.250	6.35	.310	7.87	.195	4.95	.429	10.90	.400	10.16	.270	6.86
15P	.935	23.75	.715	18.16	.483	12.27	.184	4.67	.310	7.87	.183	4.65	.416	10.57	.550	13.97	.270	6.86
15S	.935	23.75	.715	18.16	.551	14.00	.250	6.35	.310	7.87	.195	4.95	.429	10.90	.550	13.97	.270	6.86
21P	1.085	27.56	.865	21.97	.633	16.08	.184	4.67	.310	7.87	.183	4.65	.416	10.57	.700	17.78	.270	6.86
21S	1.085	27.56	.865	21.97	.701	17.81	.250	6.35	.310	7.87	.195	4.95	.429	10.90	.700	17.78	.270	6.86
25P	1.185	30.01	.965	24.51	.733	18.62	.184	4.67	.310	7.87	.183	4.65	.416	10.57	.800	20.32	.270	6.86
25S	1.185	30.01	.965	24.51	.801	20.35	.250	6.35	.310	7.87	.195	4.95	.429	10.90	.800	20.32	.270	6.86
31P	1.335	33.91	1.115	28.32	.883	22.43	.184	4.67	.310	7.87	.183	4.65	.416	10.57	.950	24.13	.270	6.86
31S	1.335	33.91	1.115	28.32	.951	24.16	.250	6.35	.310	7.87	.195	4.95	.429	10.90	.950	24.13	.270	6.86
37P	1.485	37.72	1.265	32.13	1.033	26.24	.184	4.67	.310	7.87	.183	4.65	.416	10.57	1.100	27.94	.270	6.86
37S	1.485	37.72	1.265	32.13	1.101	27.96	.250	6.35	.310	7.87	.195	4.95	.429	10.90	1.100	27.94	.270	6.86
51P	1.435	36.45	1.215	30.86	.983	24.97	.228	5.79	.351	8.92	.183	4.65	.416	10.57	1.050	26.67	.310	7.87
51S	1.435	36.45	1.215	30.86	1.051	26.70	.296	7.52	.351	8.92	.195	4.95	.429	10.90	1.050	26.67	.310	7.87
100P	2.170	55.12	1.800	45.72	1.383	35.13	.270	6.86	.394	10.01	.183	4.65	.416	10.57	1.442	36.63	.360	9.14
100S	2.170	55.12	1.800	45.72	1.451	36.86	.333	8.46	.394	10.01	.195	4.95	.429	10.90	1.442	36.63	.360	9.14

MIL-DTL-83513/03 & /04 Micro-D Connectors Metal Shell Crimp, Pre-Wired



Micro-D
MIL-DTL-83513



Micro-D Pre-Wired Pigtails — These connectors feature gold-plated TwistPin contacts and mil spec crimp termination. Specify aluminum shells for best availability. 100% tested and backpotted, ready for use.

Choose the Wire Type To Fit Your Application — For lightest weight and smallest diameter, select M22759/33 space grade insulated wire.

HOW TO ORDER METAL SHELL PRE-WIRED CRIMP MIL-DTL-83513 MICRO-D CONNECTORS

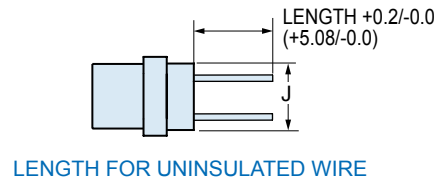
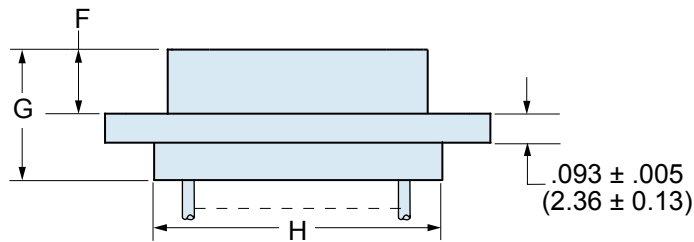
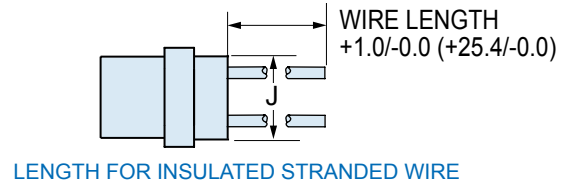
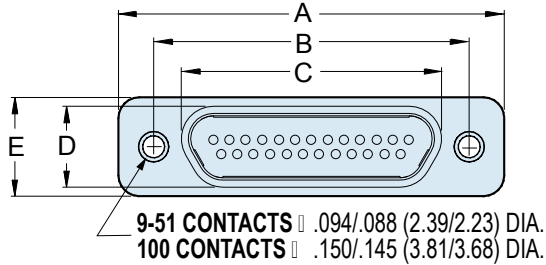
Base Part Number	Slash Number	Shell Size	Wire Type	Shell Finish
M83513	/03 Pin Connector (Plug)	A B C D	M22759/11-26 Teflon®-Insulated Hookup Wire 01 – 18 Inches (457mm), White 02 – 36 Inches (914mm), White 03 – 18 Inches (457mm), 10 Color Repeating 04 – 36 Inches (914mm), 10 Color Repeating 13 – 72 Inches (1829mm), White 14 – 72 Inches (1829mm), 10 Color Repeating M22759/33-26 Irradiated Tefzel® Insulated Hookup Wire 09 – 18 Inches (457mm), White 10 – 36 Inches (914mm), White 11 – 18 Inches (457mm), 10 Color Repeating 12 – 36 Inches (914mm), 10 Color Repeating 15 – 72 Inches (1829mm), White 16 – 72 Inches (1829mm), 10 Color Repeating 25 AWG Single Strand Uninsulated Wire 05 – .500 Inch (12.7mm), Gold Plated 06 – 1.000 Inch (25.4mm), Gold Plated 07 – .500 Inch (12.7mm), Tin-Lead Plated ⁽²⁾ 08 – 1.000 Inch (25.4mm), Tin-Lead Plated ⁽²⁾	C – Cadmium N – Electroless Nickel P – Passivated SST
	/04 Socket Connector (Receptacle)	E F G H Codes A - H specify the shell size. The number of contacts is shown below for reference. A – 9 B – 15 C – 21 D – 25 E – 31 F – 37 G – 51 H – 100		
Sample Part Number				
M83513	/04	— B	09	N

APPLICATION NOTES

- Shell Material & Finish:** Cadmium plating offers better corrosion resistance compared to nickel, but cad is not acceptable for space or RoHS applications. Electroless nickel plated aluminum is recommended for new design activity. Or, choose stainless steel shells for corrosive environments.
- Tin-Plated Wire:** The next revision of the mil spec is expected to prohibit the use of pure tin. Glenair M83513 connectors do not contain any components exceeding 97% tin.
- M22759/33 Corrosion:** The M83513 spec contains a cautionary note regarding M22759/33 wire. The wire insulation is known to cause corrosion to metal parts when stored in a sealed environment. This corrosion has been observed on M83513 connectors. Glenair has implemented a packaging procedure to minimize or eliminate this problem. Connectors are individually wrapped with teflon tape, and the unit pack is a perforated paper envelope. M22759/33 continues to be the preferred wire for space applications.



MIL-DTL-83513/03 & /04 Micro-D Connectors Metal Shell Crimp, Pre-Wired



DIMENSIONS

Layout	A Max.		B		C Max.		D Max.		E Max.		F		G Max.		H Max.		J Max.	
	In.	mm.	In. ± .003	mm. ± 0.08	In.	mm.	In.	mm.	In.	mm.	In. ± .003	mm. ± 0.08	In.	mm.	In.	mm.	In.	mm.
9P	.785	19.94	.565	14.35	.333	8.46	.184	4.67	.310	7.87	.183	4.65	.416	10.57	.400	10.16	.270	6.86
9S	.785	19.94	.565	14.35	.400	10.16	.250	6.35	.310	7.87	.195	4.95	.429	10.90	.400	10.16	.270	6.86
15P	.935	23.75	.715	18.16	.483	12.27	.184	4.67	.310	7.87	.183	4.65	.416	10.57	.550	13.97	.270	6.86
15S	.935	23.75	.715	18.16	.551	14.00	.250	6.35	.310	7.87	.195	4.95	.429	10.90	.550	13.97	.270	6.86
21P	1.085	27.56	.865	21.97	.633	16.08	.184	4.67	.310	7.87	.183	4.65	.416	10.57	.700	17.78	.270	6.86
21S	1.085	27.56	.865	21.97	.701	17.81	.250	6.35	.310	7.87	.195	4.95	.429	10.90	.700	17.78	.270	6.86
25P	1.185	30.01	.965	24.51	.733	18.62	.184	4.67	.310	7.87	.183	4.65	.416	10.57	.800	20.32	.270	6.86
25S	1.185	30.01	.965	24.51	.801	20.35	.250	6.35	.310	7.87	.195	4.95	.429	10.90	.800	20.32	.270	6.86
31P	1.335	33.91	1.115	28.32	.883	22.43	.184	4.67	.310	7.87	.183	4.65	.416	10.57	.950	24.13	.270	6.86
31S	1.335	33.91	1.115	28.32	.951	24.16	.250	6.35	.310	7.87	.195	4.95	.429	10.90	.950	24.13	.270	6.86
37P	1.485	37.72	1.265	32.13	1.033	26.24	.184	4.67	.310	7.87	.183	4.65	.416	10.57	1.100	27.94	.270	6.86
37S	1.485	37.72	1.265	32.13	1.101	27.96	.250	6.35	.310	7.87	.195	4.95	.429	10.90	1.100	27.94	.270	6.86
51P	1.435	36.45	1.215	30.86	.983	24.97	.228	5.79	.351	8.92	.183	4.65	.416	10.57	1.050	26.67	.310	7.87
51S	1.435	36.45	1.215	30.86	1.051	26.70	.296	7.52	.351	8.92	.195	4.95	.429	10.90	1.050	26.67	.310	7.87
100P	2.170	55.12	1.800	45.72	1.383	35.13	.270	6.86	.394	10.01	.183	4.65	.416	10.57	1.442	36.63	.360	9.14
100S	2.170	55.12	1.800	45.72	1.451	36.86	.333	8.46	.394	10.01	.195	4.95	.429	10.90	1.442	36.63	.360	9.14

MIL-DTL-83513/05 Micro-D Hardware Jackscrews and Jackposts




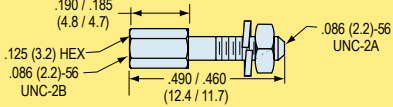
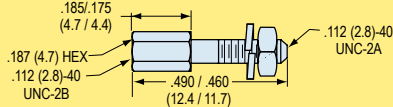
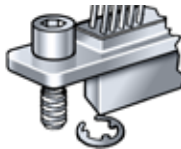
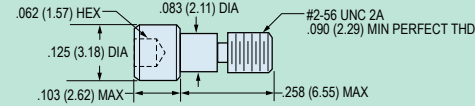
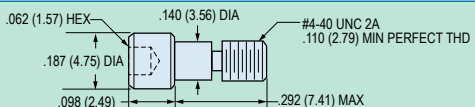
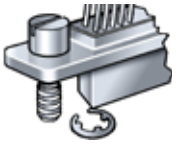
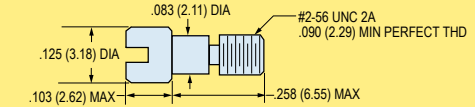
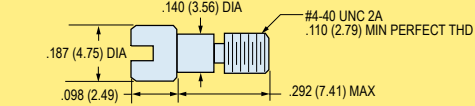

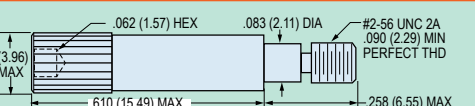
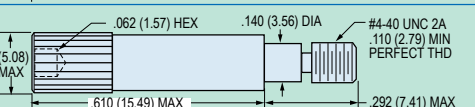
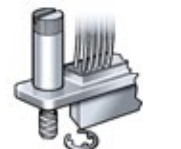
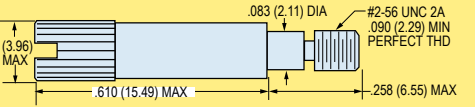
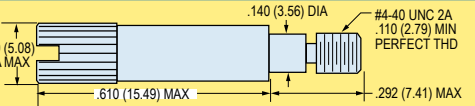
Micro-D
MIL-DTL-83513



Order One Kit Per Connector. Jackpost kits contain two posts, two hex nuts and 2 lockwashers. Jackscrew kits contain 2 screws and 2 e-rings. Packaged one kit (two screws or posts) per bag.

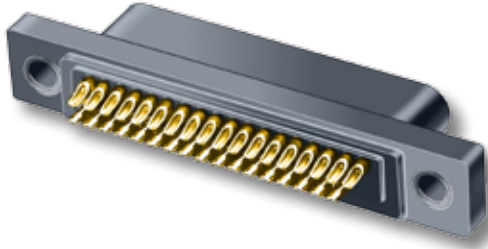
Mil Spec Hardware Kits feature 300 series stainless steel.

MIL SPEC JACKSCREW KITS

Configuration	Connector Size, Thread Size	Mil Spec Part Number	Glenair Part Number	Dimensions
 Jackpost	Sizes 9 to 69 Contacts. Mil Spec Size A to G #2-56 UNC	M83513/05-07	080-00-00-100	
	Size 100 Only Mil Spec Size H #4-40 UNC	M83513/05-17	080-00-00-101	
 Hex Head Jackscrew Low Profile	Sizes 9 to 69 Contacts. Mil Spec Size A to G #2-56 UNC-2A	M83513/05-02	080-00-00-502	
	Size 100 Only Mil Spec Size H #4-40 UNC-2A	M83513/05-12	080-00-00-512	
 Slot Head Jackscrew Low Profile	Sizes 9 to 69 Contacts. Mil Spec Size A to G #2-56 UNC-2A	M83513/05-05	080-00-00-505	
	Size 100 Only Mil Spec Size H #4-40 UNC-2A	M83513/05-15	080-00-00-515	
 Hex Head Jackscrew Extended	Sizes 9 to 69 Contacts. Mil Spec Size A to G #2-56 UNC-2A	M83513/05-03	080-00-00-503	
	Size 100 Only Mil Spec Size H #4-40 UNC-2A	M83513/05-13	080-00-00-513	
 Slot Head Jackscrew Extended	Sizes 9 to 69 Contacts. Mil Spec Size A to G #2-56 UNC-2A	M83513/05-06	080-00-00-506	
	Size 100 Only Mil Spec Size H #4-40 UNC-2A	M83513/05-16	080-00-00-516	

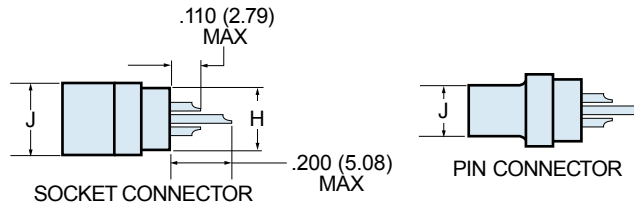
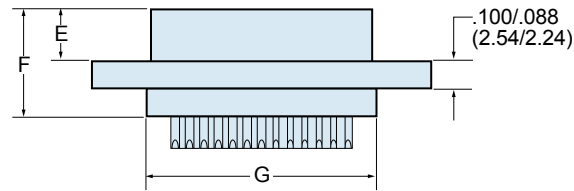
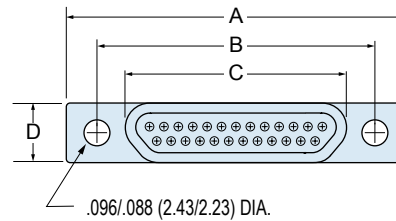


MIL-DTL-83513/06 & /07 Micro-D Connectors Plastic Shell Solder Cup



Plastic Shell Solder Cup M83513 Connectors feature goldplated TwistPin non-removable contacts for solder termination to AWG #26 or smaller wire. These all-plastic connectors are more economical, lighter and smaller than metal shell versions.

PART NUMBERS		
Layout	Config.	Part Number
9P	Plug	M83513/06-A
9S	Receptacle	M83513/07-A
15P	Plug	M83513/06-B
15S	Receptacle	M83513/07-B
21P	Plug	M83513/06-C
21S	Receptacle	M83513/07-C
25P	Plug	M83513/06-D
25S	Receptacle	M83513/07-D
31P	Plug	M83513/06-E
31S	Receptacle	M83513/07-E
37P	Plug	M83513/06-F
37S	Receptacle	M83513/07-F
51P	Plug	M83513/06-G
51S	Receptacle	M83513/07-G



DIMENSIONS																		
Layout	A Max.		B		C Max.		D Max.		E Max.		F Max.		G Max.		H Max.		J Max.	
	In.	mm.	In. ±.003	mm. ±0.08	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.
9P	.788	20.02	.565	14.35	.292	7.42	.218	5.54	.202	5.13	.395	10.03	.408	10.36	.173	4.39	.134	3.40
9S	.788	20.02	.565	14.35	.380	9.65	.218	5.54	.185	4.70	.375	9.53	.408	10.36	.173	4.39	.218	5.54
15P	.938	23.83	.715	18.16	.442	11.23	.218	5.54	.202	5.13	.395	10.03	.558	14.17	.173	4.39	.134	3.40
15S	.938	23.83	.715	18.16	.530	13.46	.218	5.54	.185	4.70	.375	9.53	.558	14.17	.173	4.39	.218	5.54
21P	1.088	27.64	.865	21.97	.592	15.04	.218	5.54	.202	5.13	.395	10.03	.708	17.98	.173	4.39	.134	3.40
21S	1.080	27.64	.865	21.97	.680	17.27	.218	5.54	.185	4.70	.375	9.53	.708	17.98	.173	4.39	.218	5.54
25P	1.188	30.18	.965	24.51	.692	17.58	.218	5.54	.202	5.13	.395	10.03	.808	20.52	.173	4.39	.134	3.40
25S	1.185	30.18	.965	24.51	.780	19.81	.218	5.54	.185	4.70	.375	9.53	.808	20.52	.173	4.39	.218	5.54
31P	1.338	33.99	1.115	28.32	.842	21.39	.218	5.54	.202	5.13	.395	10.03	.958	24.33	.173	4.39	.134	3.40
31S	1.338	33.99	1.115	28.32	.930	23.62	.218	5.54	.185	4.70	.375	9.53	.958	24.33	.173	4.39	.218	5.54
37P	1.488	37.80	1.265	32.13	.992	25.20	.218	5.54	.202	5.13	.395	10.03	1.108	28.14	.173	4.39	.134	3.40
37S	1.488	37.80	1.265	32.13	1.080	27.43	.218	5.54	.185	4.70	.375	9.53	1.108	28.14	.173	4.39	.218	5.54
51P	1.438	36.53	1.215	30.86	.942	23.93	.260	6.60	.202	5.13	.395	10.03	1.058	26.87	.220	5.59	.177	4.50
51S	1.438	36.53	1.215	30.86	1.030	26.16	.260	6.60	.185	4.70	.375	9.53	1.058	26.87	.220	5.59	.260	6.60

MIL-DTL-83513/08 & /09 Micro-D Connectors Plastic Shell Crimp, Pre-Wired



Micro-D
MIL-DTL-83513



Micro-D Pre-Wired Pigtails — These connectors feature gold-plated TwistPin contacts and mil spec crimp termination. 100% tested and backpotted, ready for use.

Choose the Wire Type To Fit Your Application — For lightest weight and smallest diameter, select M22759/33 space grade insulated wire.

HOW TO ORDER PLASTIC SHELL PRE-WIRED CRIMP MIL-DTL-83513/08 AND /09 CONNECTORS

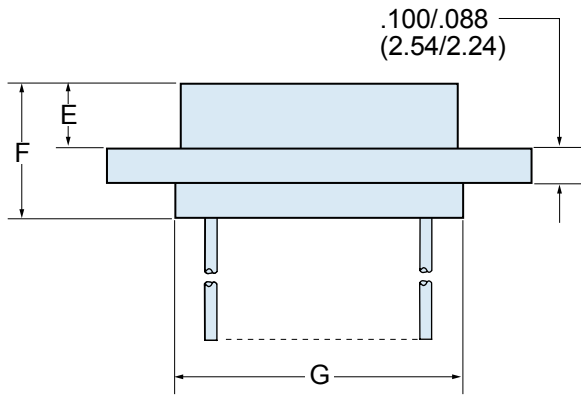
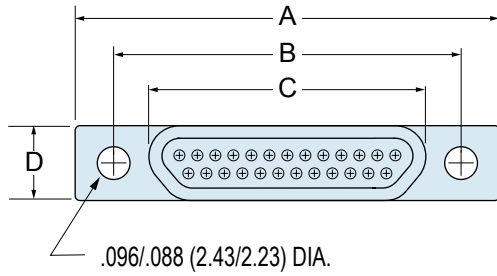
Base Part Number	Slash Number	Insert Arrangement	Wire Type
M83513	/08 Pin Connector (Plug)	A B C D	M22759/11-26 Teflon®-Insulated Hookup Wire 01 – 18 Inches (457mm), White 02 – 36 Inches (914mm), White 03 – 18 Inches (457mm), 10 Color Repeating 04 – 36 Inches (914mm), 10 Color Repeating 13 – 72 Inches (1829mm), White 14 – 72 Inches (1829mm), 10 Color Repeating M22759/33-26 Irradiated Tefzel® Insulated Hookup Wire 09 – 18 Inches (457mm), White 10 – 36 Inches (914mm), White 11 – 18 Inches (457mm), 10 Color Repeating 12 – 36 Inches (914mm), 10 Color Repeating 15 – 72 Inches (1829mm), White 16 – 72 Inches (1829mm), 10 Color Repeating Single Strand Uninsulated Wire 05 – .500 Inch (12.7mm), Gold Plated 06 – 1.000 Inch (25.4mm), Gold Plated 07 – .500 Inch (12.7mm), Tin-Lead Plated ⁽²⁾ 08 – 1.000 Inch (25.4mm), Tin-Lead Plated ⁽²⁾
	/09 Socket Connector (Receptacle)	E F G	
		Codes A - G specify the shell size. The number of contacts is shown below for reference.	
		A – 9 B – 15 C – 21 D – 25 E – 31 F – 37 G – 51	
Sample Part Number			
M83513	/09	— G	12

APPLICATION NOTES

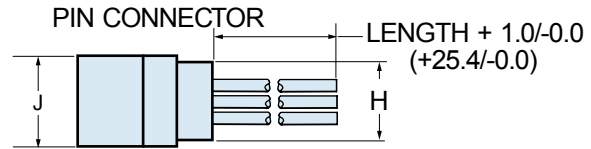
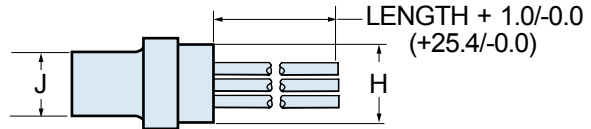
- Intermatibility:** M83513 plastic shell connectors are not intermateable with metal shell M83513 connectors.
- Tin-Plated Wire:** The next revision of the mil spec is expected to prohibit the use of pure tin. Glenair M83513 connectors do not contain any components exceeding 97% tin.
- M22759/33 Corrosion:** The M83513 spec contains a cautionary note regarding M22759/33 wire. The wire insulation is known to cause corrosion to metal parts when stored in a sealed environment. This corrosion has been observed on M83513 connectors. Glenair has implemented a packaging procedure to minimize or eliminate this problem. Connectors are individually wrapped with teflon tape, and the unit pack is a perforated paper envelope. M22759/33 continues to be the preferred wire for space applications.



MIL-DTL-83513 Micro-D Connectors
Plastic Shell Crimp
Pre-Wired M83513/08 & /09

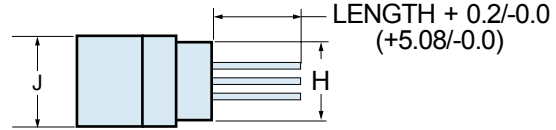


LENGTH FOR INSULATED STRANDED WIRE

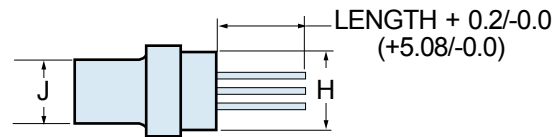


SOCKET CONNECTOR

LENGTH FOR UNINSULATED WIRE



SOCKET CONNECTOR



PIN CONNECTOR

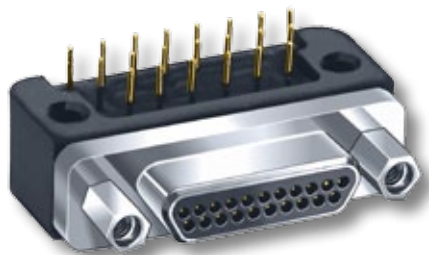
DIMENSIONS

Layout	A Max.		B		C Max.		D Max.		E Max.		F Max.		G Max.		H Max.		J Max.	
	In.	mm.	In. ±.003	mm. ±0.08	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.
9P	.788	20.02	.565	14.35	.292	7.42	.218	5.54	.202	5.13	.395	10.03	.408	10.36	.173	4.39	.134	3.40
9S	.788	20.02	.565	14.35	.380	9.65	.218	5.54	.185	4.70	.375	9.53	.408	10.36	.173	4.39	.218	5.54
15P	.938	23.83	.715	18.16	.442	11.23	.218	5.54	.202	5.13	.395	10.03	.558	14.17	.173	4.39	.134	3.40
15S	.938	23.83	.715	18.16	.530	13.46	.218	5.54	.185	4.70	.375	9.53	.558	14.17	.173	4.39	.218	5.54
21P	1.088	27.64	.865	21.97	.592	15.04	.218	5.54	.202	5.13	.395	10.03	.708	17.98	.173	4.39	.134	3.40
21S	1.080	27.64	.865	21.97	.680	17.27	.218	5.54	.185	4.70	.375	9.53	.708	17.98	.173	4.39	.218	5.54
25P	1.188	30.18	.965	24.51	.692	17.58	.218	5.54	.202	5.13	.395	10.03	.808	20.52	.173	4.39	.134	3.40
25S	1.185	30.18	.965	24.51	.780	19.81	.218	5.54	.185	4.70	.375	9.53	.808	20.52	.173	4.39	.218	5.54
31P	1.338	33.99	1.115	28.32	.842	21.39	.218	5.54	.202	5.13	.395	10.03	.958	24.33	.173	4.39	.134	3.40
31S	1.338	33.99	1.115	28.32	.930	23.62	.218	5.54	.185	4.70	.375	9.53	.958	24.33	.173	4.39	.218	5.54
37P	1.488	37.80	1.265	32.13	.992	25.20	.218	5.54	.202	5.13	.395	10.03	1.108	28.14	.173	4.39	.134	3.40
37S	1.488	37.80	1.265	32.13	1.080	27.43	.218	5.54	.185	4.70	.375	9.53	1.108	28.14	.173	4.39	.218	5.54
51P	1.438	36.53	1.215	30.86	.942	23.93	.260	6.60	.202	5.13	.395	10.03	1.058	26.87	.220	5.59	.177	4.50
51S	1.438	36.53	1.215	30.86	1.030	26.16	.260	6.60	.185	4.70	.375	9.53	1.058	26.87	.220	5.59	.260	6.60

MIL-DTL-83513/10 Thru /15 Micro-D Connectors Right Angle PCB Connectors (CBR)



Micro-D
MIL-DTL-83513



High Performance — These connectors feature gold-plated TwistPin contacts for best performance. PC tails are .020 inch diameter. Specify nickel-plated shells or cadmium plated shells for best availability.

Solder-Dipped — Terminals are coated with SN63/Pb37 tin-lead solder for best solderability.

HOW TO ORDER M83513/10 THRU /15 NARROW PROFILE RIGHT ANGLE PCB CONNECGTORS

Spec Number	Slash Number- Shell Size	PC Tail Length	Shell Finish	Hardware Option		
M83513/	Plug (Pin Contacts)		C – Cadmium N – Electroless Nickel P – Passivated SST	N – No Jackpost P – Jackposts Installed T – Threaded Insert in Board Mount Hole (No Jackposts) W – Threaded Insert in Board Mount Hole and jackposts Installed See "Hardware Options" below for Illustrations Shell sizes A (9) through G (51) are #2-56 UNC-2 threads. Shell size H (100) is #4-40 UNC-2 threads.		
	10-A	- 9 Contacts			01	- .109 Inch (2.77 mm)
	10-B	- 15 Contacts			02	- .140 Inch (3.56 mm)
	10-C	- 21 Contacts			03	- .172 Inch (4.37 mm)
	10-D	- 25 Contacts			PC Tail Length ± .015 (0.38)	
	10-E	- 31 Contacts				
	10-F	- 37 Contacts				
	11-G	- 51 Contacts				
	12-H	- 100 Contacts				
	Receptacle (Socket Contacts)					
	13-A	- 9 Contacts				
	13-B	- 15 Contacts				
	13-C	- 21 Contacts				
	13-D	- 25 Contacts				
	13-E	- 31 Contacts				
	13-F	- 37 Contacts				
	14-G	- 51 Contacts				
15-H	- 100 Contacts					
Sample Part Number						
M83513/	13-B	02	N	P		

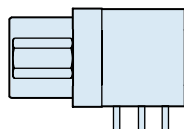
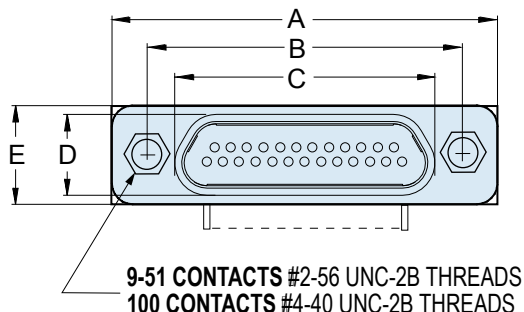


HARDWARE OPTIONS

N	P	T	W
THRU HOLE	THRU HOLE	2X THREADED INSERTS	2X THREADED INSERTS
No Jackpost	Jackpost	Threaded Insert	Jackpost, Threaded Insert

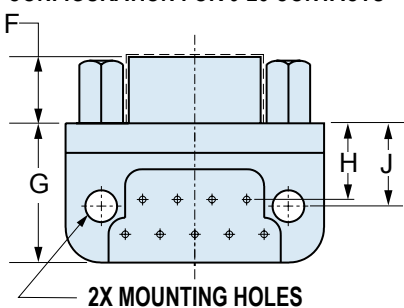


MIL-DTL-83513/10 Thru /15 Micro-D Connectors Right Angle PCB Connectors (CBR)



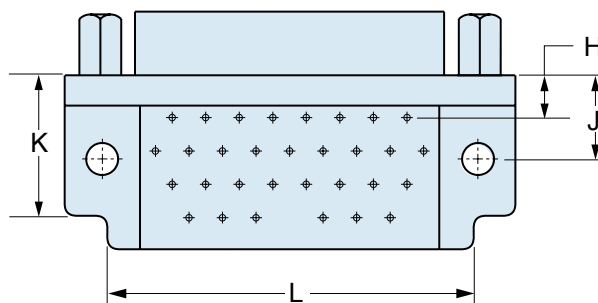
THREAD SIZES
9-51 CONTACTS #2-56 UNC
100 CONTACTS #4-40 UNC

CONFIGURATION FOR 9-25 CONTACTS



PCB MOUNTING HOLES
9-51 CONTACTS .096 DIA. ± .003 (2.44 ± 0.08)
100 CONTACTS .125 DIA. ± .003 (3.18 ± 0.08)

CONFIGURATION FOR 31-100 CONTACTS

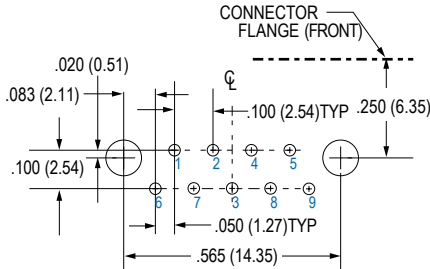


DIMENSIONS

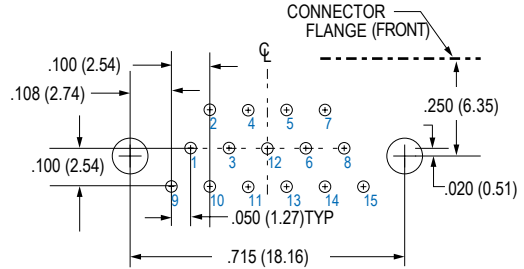
Layout	A Max.		B		C Max.		D Max.		E Max.		F		G Max.		H		J		K Max.		L Max.	
	In.	mm.	In. ±.003	mm. ±0.08	In.	mm.	In.	mm.	In.	mm.	In. ±.003	mm. ±0.08	In.	mm.	In. ±.010	mm. ±0.25	In. ±.010	mm. ±0.25	In.	mm.	In.	mm.
9P	.787	19.94	.565	14.35	.333	8.46	.184	4.67	.310	7.87	.183	4.65	.425	10.80	.230	5.84	.250	6.35	—	—	—	—
9S	.787	19.94	.565	14.35	.400	10.16	.250	6.35	.310	7.87	.195	4.95	.425	10.80	.230	5.84	.250	6.35	—	—	—	—
15P	.937	23.75	.715	18.16	.483	12.27	.184	4.67	.310	7.87	.183	4.65	.425	10.80	.130	3.30	.250	6.35	—	—	—	—
15S	.937	23.75	.715	18.16	.551	14.00	.250	6.35	.310	7.87	.195	4.95	.425	10.80	.130	3.30	.250	6.35	—	—	—	—
21P	1.087	27.56	.865	21.97	.633	16.08	.184	4.67	.310	7.87	.183	4.65	.425	10.80	.130	3.30	.250	6.35	—	—	—	—
21S	1.087	27.56	.865	21.97	.701	17.81	.250	6.35	.310	7.87	.195	4.95	.425	10.80	.130	3.30	.250	6.35	—	—	—	—
25P	1.187	30.01	.965	24.51	.733	18.62	.184	4.67	.310	7.87	.183	4.65	.425	10.80	.130	3.30	.250	6.35	—	—	—	—
25S	1.187	30.01	.965	24.51	.801	20.35	.250	6.35	.310	7.87	.195	4.95	.425	10.80	.130	3.30	.250	6.35	—	—	—	—
31P	1.337	33.91	1.115	28.32	.883	22.43	.184	4.67	.310	7.87	.183	4.65	.525	13.34	.130	3.30	.250	6.35	.450	11.43	1.085	27.56
31S	1.337	33.91	1.115	28.32	.951	24.16	.250	6.35	.310	7.87	.195	4.95	.525	13.34	.130	3.30	.250	6.35	.450	11.43	1.085	27.56
37P	1.487	37.72	1.265	32.13	1.033	26.24	.184	4.67	.310	7.87	.183	4.65	.525	13.34	.130	3.30	.250	6.35	.450	11.43	1.185	30.10
37S	1.487	37.72	1.265	32.13	1.101	27.96	.250	6.35	.310	7.87	.195	4.95	.525	13.34	.130	3.30	.250	6.35	.450	11.43	1.185	30.10
51P	1.435	36.45	1.215	30.86	.983	24.97	.228	5.79	.351	8.92	.183	4.65	.660	16.76	.150	3.81	.300	7.62	.450	11.43	1.225	31.12
51S	1.435	36.45	1.215	30.86	1.051	26.70	.296	7.52	.351	8.92	.195	4.95	.660	16.76	.150	3.81	.300	7.62	.450	11.43	1.225	31.12
100P	2.175	55.12	1.800	45.72	1.383	35.13	.270	6.86	.394	10.01	.183	4.65	1.010	25.65	.200	5.08	.400	10.16	.590	14.99	1.820	46.23
100S	2.175	55.12	1.800	45.72	1.451	36.86	.333	8.46	.394	10.01	.195	4.95	1.010	25.65	.200	5.08	.400	10.16	.590	14.99	1.820	46.23

M83513/10 THRU /12 CONNECTOR PCB LAYOUTS – PIN CONNECTORS

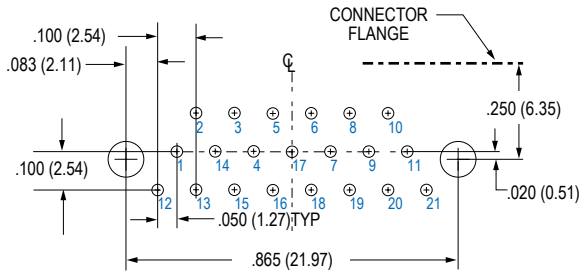
Patterns shown are for connector mounting side of PC board. 9 Thru 51 Contacts .096 (2.44) Diameter Mounting Holes, 100 Pin .125 (3.18) Diameter



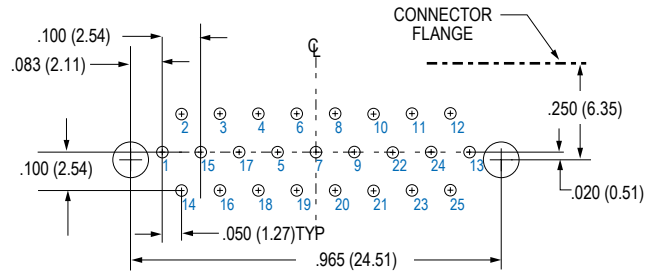
9 PIN M83513/10-A



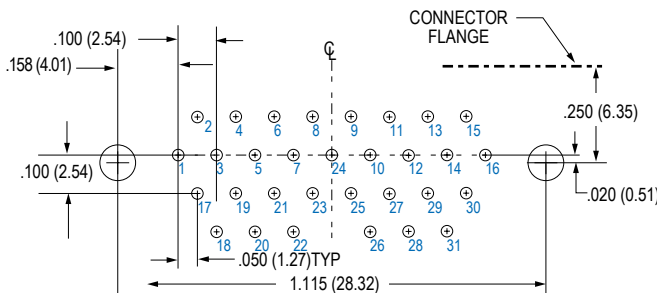
15 PIN M83513/10-B



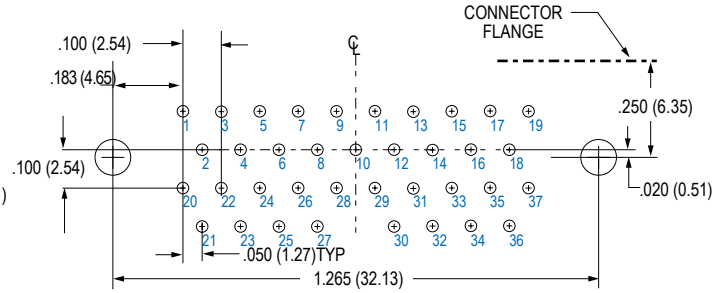
21 PIN M83513/10-C



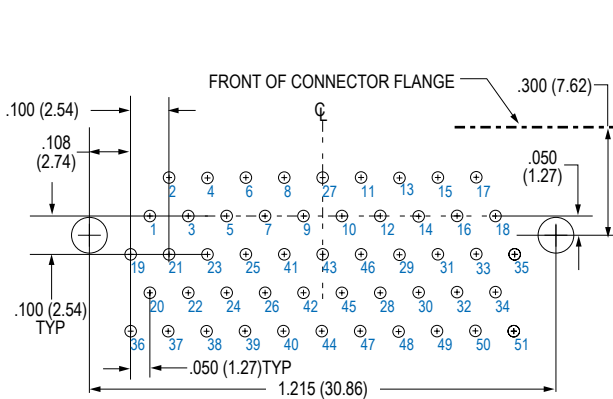
25 PIN M83513/10-D



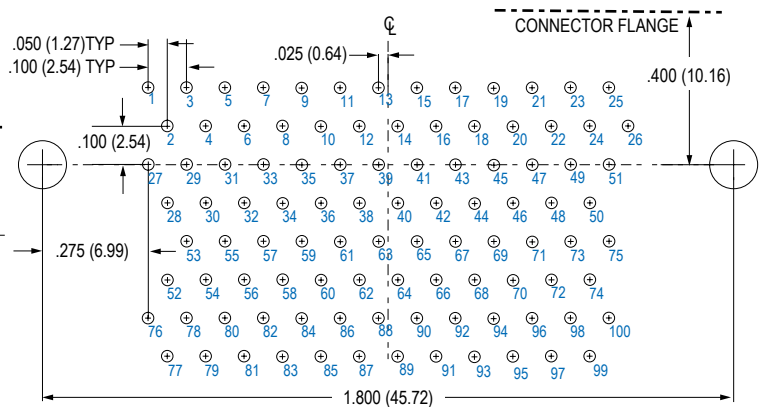
31 PIN M83513/10-E



37 PIN M83513/10-F



51 PIN M83513/11-G



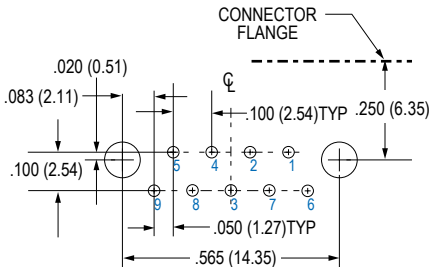
100 PIN M83513/12-H



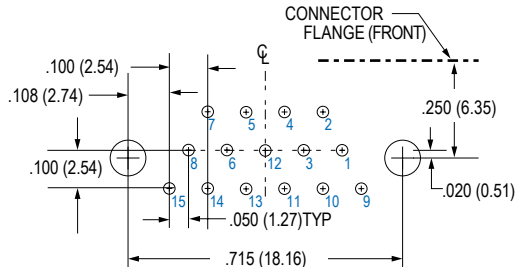
MIL-DTL-83513/10 Thru /15 Micro-D Connectors Right Angle PCB Connectors (CBR)

M83513/13 THRU /15 CONNECTOR PCB LAYOUTS – SOCKET CONNECTORS

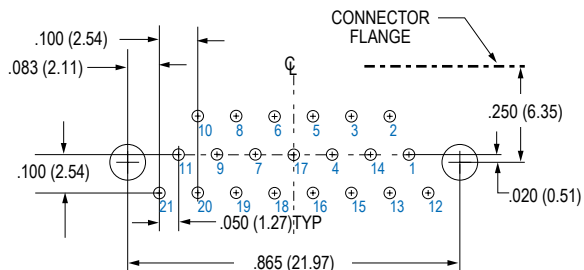
Patterns shown are for connector mounting side of PC board. 9 Thru 51 Contacts .096 (2.44) Diameter Mounting Holes, 100 Pin .125 (3.18) Diameter



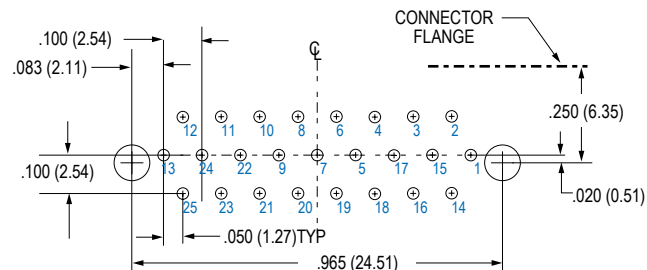
9 SOCKET M83513/13-A



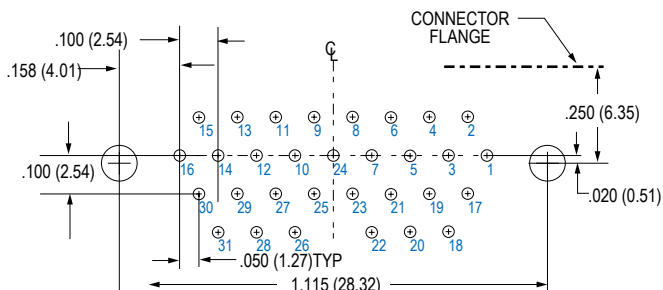
15 SOCKET M83513/13-B



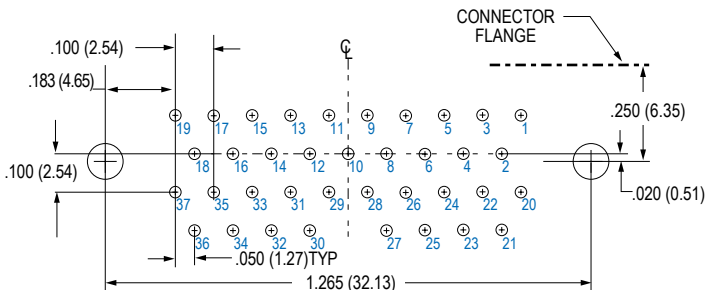
21 SOCKET M83513/13-C



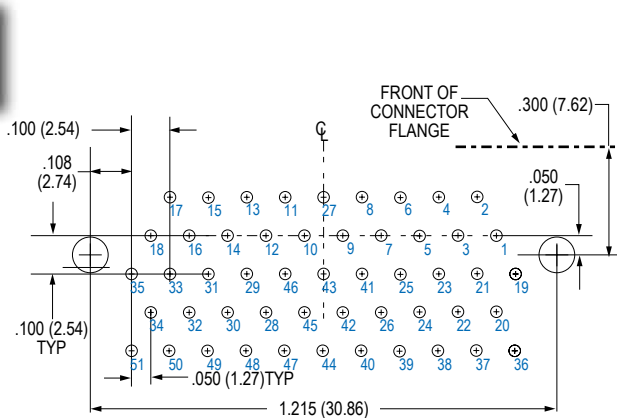
25 SOCKET M83513/13-D



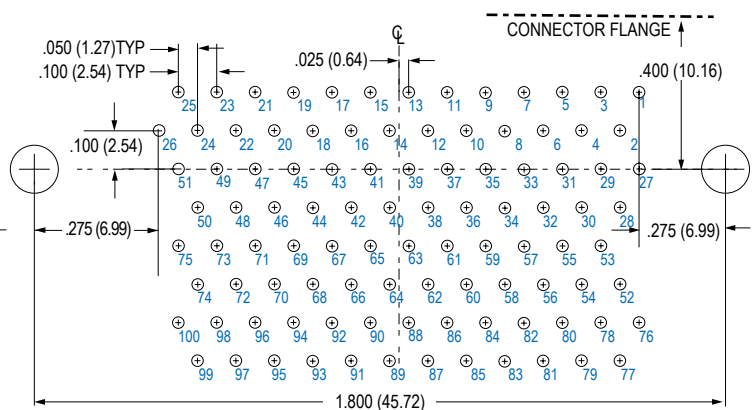
31 SOCKET M83513/13-E



37 SOCKET M83513/13-F



51 SOCKET M83513/14-G

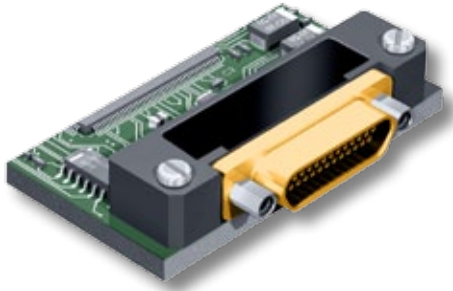


100 SOCKET M83513/15-H

MIL-DTL-83513/16 Thru /21 Micro-D Connectors Right Angle PCB Connectors (BR)



Micro-D
MIL-DTL-83513



High Performance — These connectors feature gold-plated TwistPin contacts for best performance. PC tails are .020 inch diameter. Specify nickel-plated shells or cadmium plated shells for best availability.

Solder-Dipped — Terminals are coated with SN63/Pb37 tin-lead solder for best solderability.

HOW TO ORDER M83513/16 THRU /21 RIGHT ANGLE PCB CONNECGTORS

Spec Number	Slash Number- Shell Size	PC Tail Length	Shell Finish	Hardware Option	
M83513	Plug (Pin Contacts)		01 - .109 Inch (2.77 mm) 02 - .140 Inch (3.56 mm) 03 - .172 Inch (4.37 mm)	C - Cadmium N - Electroless Nickel P - Passivated SST	N - No Jackpost P - Jackposts Installed T - Threaded Insert in Board Mount Hole (No Jackposts) W - Threaded Insert in Board Mount Hole and jackposts Installed (See "Hardware Options" below for Illustrations) Shell sizes A (9) through G (51) are #2-56 UNC-2 threads. Shell size H (100) is #4-40 UNC-2 threads.
	16-A - 9 Contacts	PC Tail Length ± .015 (0.38)			
	16-B - 15 Contacts				
	16-C - 21 Contacts				
	16-D - 25 Contacts				
	16-E - 31 Contacts				
	16-F - 37 Contacts				
	17-G - 51 Contacts				
	18-H - 100 Contacts				
	Receptacle (Socket Contacts)				
	19-A - 9 Contacts				
	19-B - 15 Contacts				
	19-C - 21 Contacts				
	19-D - 25 Contacts				
	19-E - 31 Contacts				
	19-F - 37 Contacts				
	20-G - 51 Contacts				
	21-H - 100 Contacts				

Sample Part Number

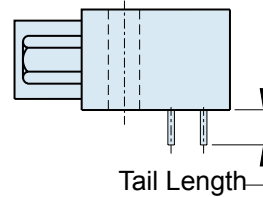
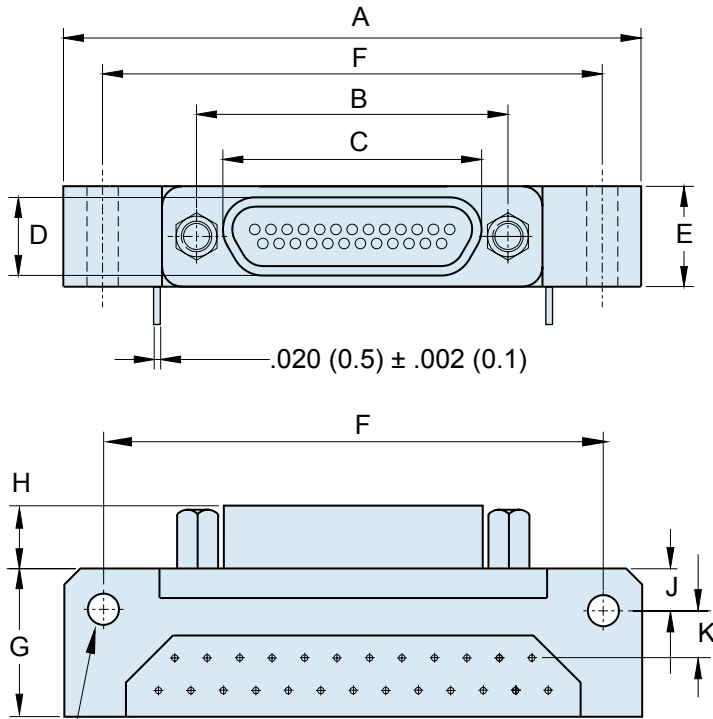
M83513/	19-F	02	N	P
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HARDWARE OPTIONS

N	P	T	W
<p>THRU HOLE</p>	<p>THRU HOLE</p>	<p>THREADED INSERT</p>	<p>THREADED INSERT</p>
No Jackpost	Jackpost	Threaded Insert	Jackpost, Threaded Insert



MIL-DTL-83513/16 Thru /21 Micro-D Connectors Right Angle PCB Connectors (BR)



THREAD SIZES
9-51 CONTACTS #2-56 UNC
100 CONTACTS #4-40 UNC

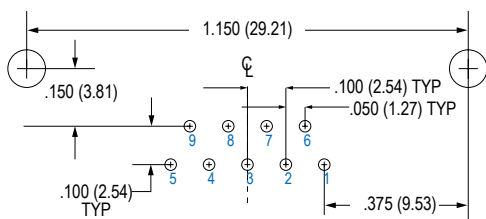
2 X PCB MTNG HOLES
9-51 CONTACTS .096 ± .005 (2.43 ± 0.13)
100 CONTACTS .125 ± .005 (23.18 ± 0.13)

DIMENSIONS

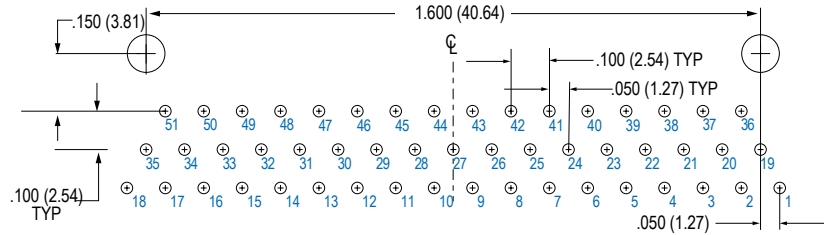
Layout	A Max.		B		C Max.		D Max.		E Max.		F		G Max.		H		J		K	
	In.	mm.	In. ±.005	mm. ±0.10	In.	mm.	In.	mm.	In.	mm.	In. ±.007	mm. ±0.18	In.	mm.	In. ±.003	mm. ±0.08	In. ±.015	mm. ±0.38	In. ±.010	mm. ±0.25
9P	1.390	35.31	.565	14.35	.333	8.46	.185	4.70	.325	8.26	1.150	29.21	.465	11.81	.183	4.65	.125	3.18	.150	3.81
9S	1.390	35.31	.565	14.35	.400	10.16	.253	6.26	.325	8.26	1.150	29.21	.465	11.81	.195	4.95	.125	3.18	.150	3.81
15P	1.540	39.12	.715	18.16	.483	12.27	.185	4.70	.325	8.26	1.300	33.02	.465	11.81	.183	4.65	.125	3.18	.150	3.81
15S	1.540	39.12	.715	18.16	.551	14.00	.253	6.26	.325	8.26	1.300	33.02	.465	11.81	.195	4.95	.125	3.18	.150	3.81
21P	1.690	42.93	.865	21.97	.633	16.08	.185	4.70	.325	8.26	1.450	36.83	.465	11.81	.183	4.65	.125	3.18	.150	3.81
21S	1.690	42.93	.865	21.97	.701	17.81	.253	6.26	.325	8.26	1.450	36.83	.465	11.81	.195	4.95	.125	3.18	.150	3.81
25P	1.790	45.47	.965	24.51	.733	18.62	.185	4.70	.325	8.26	1.550	39.37	.465	11.81	.183	4.65	.125	3.18	.150	3.81
25S	1.790	45.47	.965	24.51	.801	20.35	.253	6.26	.325	8.26	1.550	39.37	.465	11.81	.195	4.95	.125	3.18	.150	3.81
31P	2.040	51.82	1.115	28.32	.883	22.43	.185	4.70	.325	8.26	1.800	45.72	.465	11.81	.183	4.65	.125	3.18	.150	3.81
31S	2.040	51.82	1.115	28.32	.951	24.16	.253	6.26	.325	8.26	1.800	45.72	.465	11.81	.195	4.95	.125	3.18	.150	3.81
37P	2.340	59.44	1.265	32.13	1.033	26.24	.185	4.70	.325	8.26	2.100	53.34	.465	11.81	.183	4.65	.125	3.18	.150	3.81
37S	2.340	59.44	1.265	32.13	1.101	27.96	.253	6.26	.325	8.26	2.100	53.34	.465	11.81	.195	4.95	.125	3.18	.150	3.81
51P	1.875	47.63	1.215	30.86	.983	24.97	.228	5.79	.360	9.14	1.600	40.64	.565	14.35	.183	4.65	.125	3.18	.150	3.81
51S	1.875	47.63	1.215	30.86	1.051	26.70	.296	7.52	.360	9.14	1.600	40.64	.565	14.35	.195	4.95	.125	3.18	.150	3.81
100P	2.780	70.60	1.800	45.72	1.383	35.13	.271	6.88	.420	10.67	2.500	63.50	.765	19.43	.183	4.65	.225	5.72	.150	3.81
100S	2.780	70.60	1.800	45.72	1.451	36.86	.333	8.64	.420	10.67	2.500	63.50	.765	19.43	.195	4.95	.225	5.72	.150	3.81

M83513/16 THRU /18 PCB LAYOUTS – PIN CONNECTORS

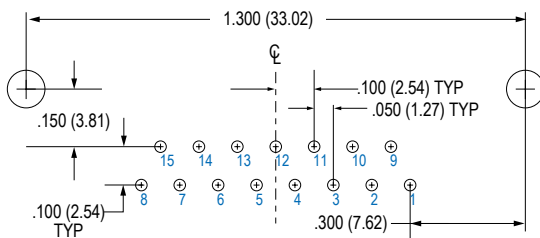
Patterns shown are for connector mounting side of PC board. 9 Thru 51 Contacts .096 (2.44) Diameter Mounting Holes, 100 Pin .125 (3.18) Diameter



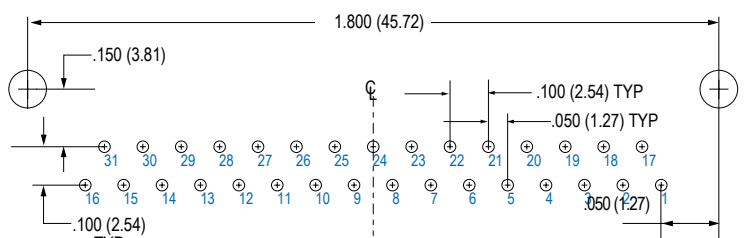
9 PIN M83513/16-A



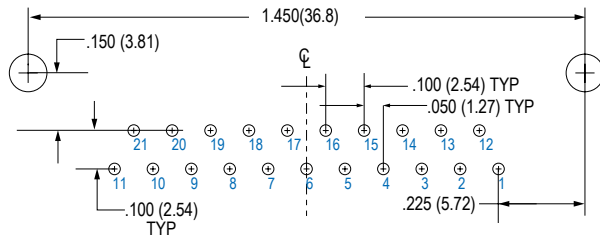
51 PIN M83513/17-G



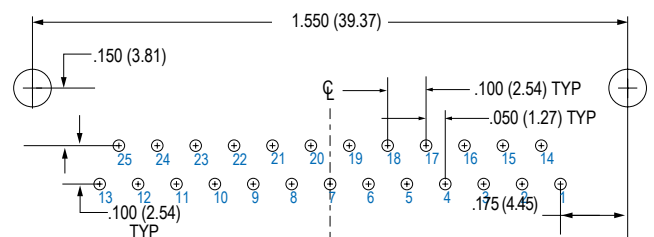
15 PIN M83513/16-B



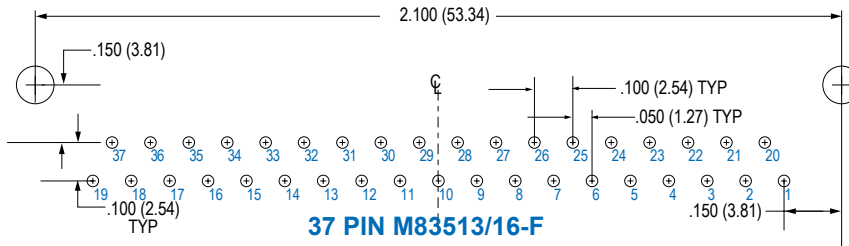
31 PIN M83513/16-E



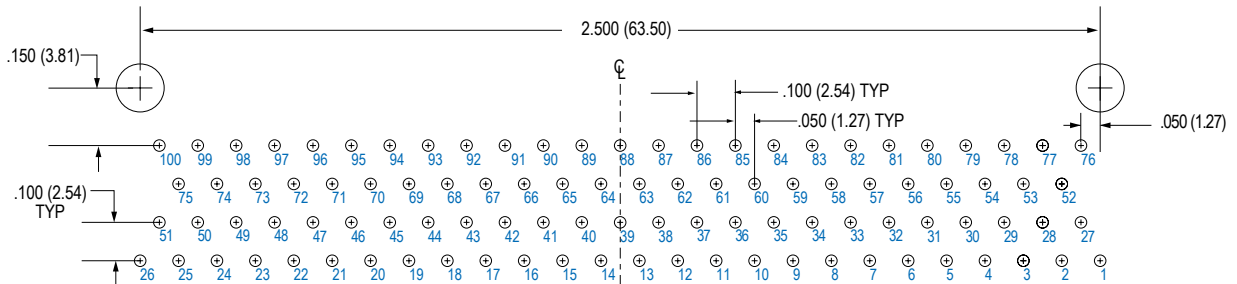
21 PIN M83513/16-C



25 PIN M83513/16-D



37 PIN M83513/16-F



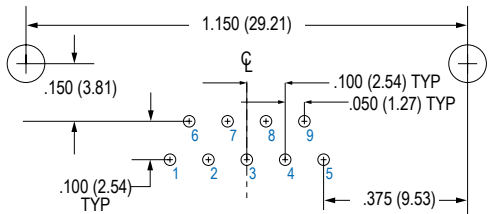
100 PIN M83513/18-H



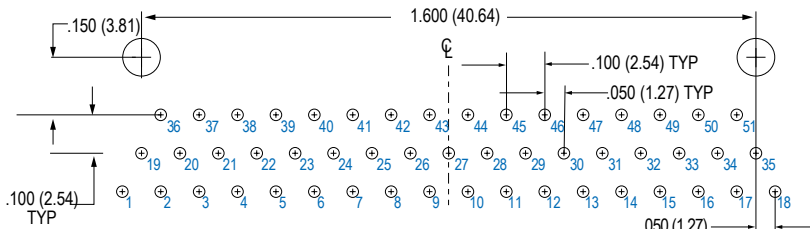
MIL-DTL-83513/16 Thru /21 Micro-D Connectors Right Angle PCB Connectors (BR)

M83513/19 THRU /21 PCB LAYOUTS – SOCKET CONNECTORS

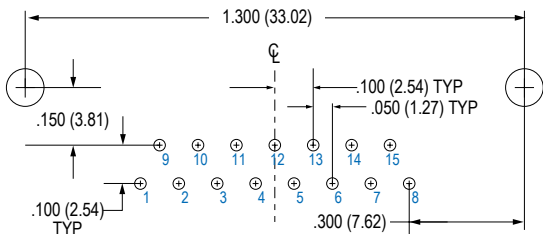
Patterns shown are for connector mounting side of PC board. 9 Thru 51 Contacts .096 (2.44) Diameter Mounting Holes, 100 Pin .125 (3.18) Diameter



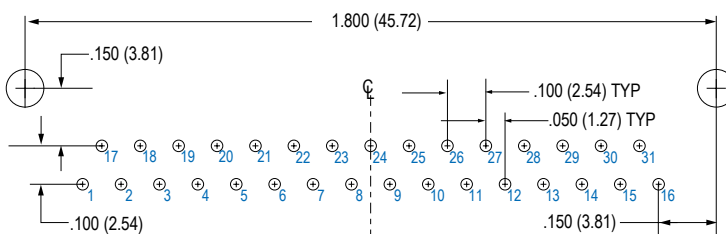
9 SOCKET M83513/19-A



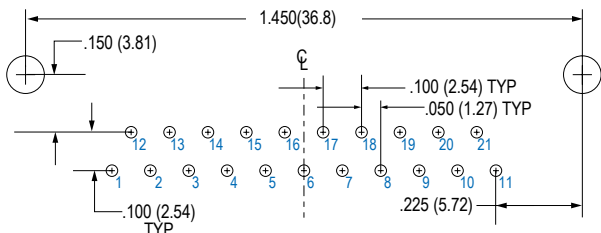
51 SOCKET M83513/20-G



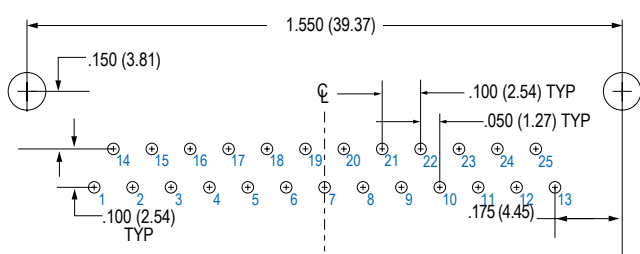
15 SOCKET M83513/19-B



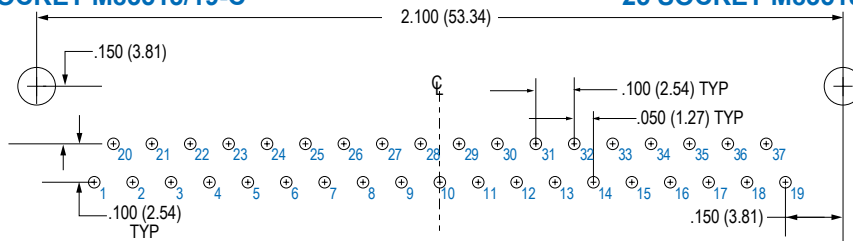
31 SOCKET M83513/19-E



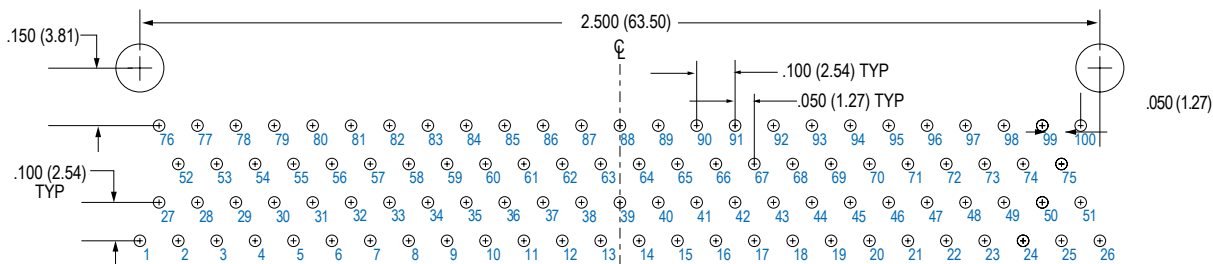
21 SOCKET M83513/19-C



25 SOCKET M83513/19-D



37 SOCKET M83513/19-F



100 SOCKET M83513/21-H

MIL-DTL-83513/22 Thru /27 Micro-D Connectors Straight PCB Connectors (BS)



Micro-D
MIL-DTL-83513



High Performance — These connectors feature goldplated TwistPin contacts for best performance. PC tails are .020 inch diameter. Specify nickel-plated shells or cadmium plated shells for best availability.

Solder-Dipped — Terminals are coated with SN63/Pb37 tin-lead solder for best solderability.

HOW TO ORDER M83513/22 THRU /27 STRAIGHT PCB CONNECGTORS

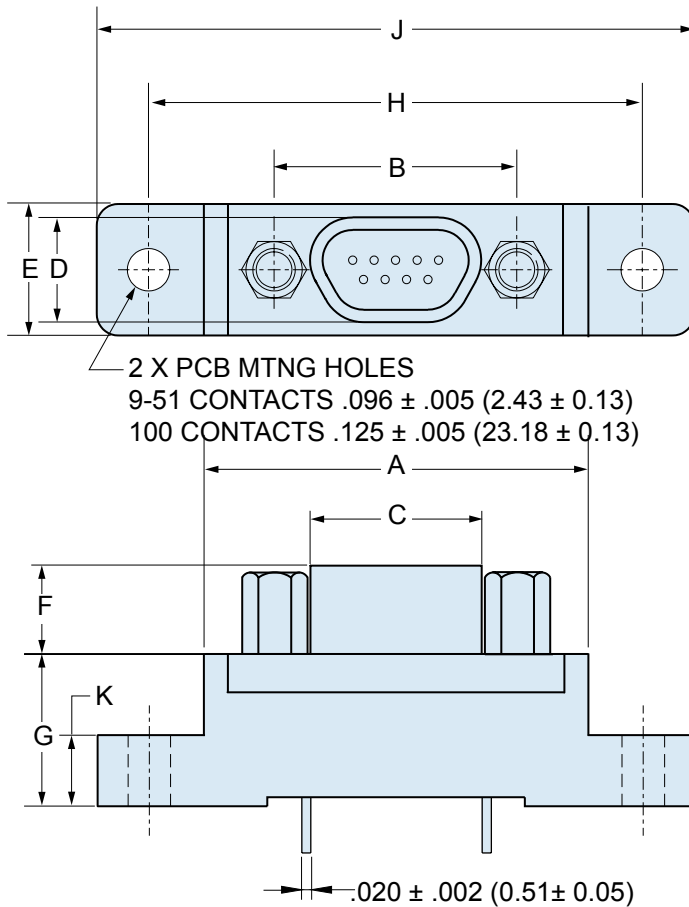
Spec Number	Slash Number- Insert Arrangement	PC Tail Length	Shell Finish	Hardware Option	
M83513/	Plug (Pin Contacts)	01 - .109 Inch (2.77 mm)	C - Cadmium N - Electroless Nickel P - Passivated SST	N - No Jackpost P - Jackposts Installed T - Threaded Insert in Board Mount Hole (No Jackposts) W - Threaded Insert in Board Mount Hole and jackposts Installed (See "Hardware Options" below for Illustrations) Shell sizes A (9) through G (51) are #2-56 UNC-2 threads. Shell size H (100) is #4-40 UNC-2 threads.	
	22-A - 9 Contacts	02 - .140 Inch (3.56 mm)			
	22-B - 15 Contacts	03 - .172 Inch (4.37 mm)			
	22-C - 21 Contacts	PC Tail Length ± .015 (0.38)			
	22-D - 25 Contacts				
	22-E - 31 Contacts				
	22-F - 37 Contacts				
	23-G - 51 Contacts				
	24-H - 100 Contacts				
	Receptacle (Socket Contacts)				
	25-A - 9 Contacts				
	25-B - 15 Contacts				
	25-C - 21 Contacts				
	25-D - 25 Contacts				
	25-E - 31 Contacts				
	25-F - 37 Contacts				
26-G - 51 Contacts					
27-H - 100 Contacts					
Sample Part Number					
M83513/	26-G	03	C	W	

HARDWARE OPTIONS

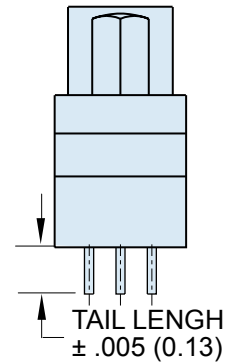
N	P	T	W
No Jackpost	Jackpost	Threaded Insert	Jackpost, Threaded Insert



MIL-DTL-83513/22 Thru /27 Micro-D Connectors
Straight PCB Connectors (BS)



THREAD SIZES
9-51 CONTACTS #2-56 UNC
100 CONTACTS #4-40 UNC



DIMENSIONS

Layout	A Max.		B		C Max.		D Max.		E Max.		F		G		H		J Max.		K	
	In.	mm.	In. ±.003	mm. ±.008	In.	mm.	In.	mm.	In.	mm.	In. ±.004	mm. ±.010	In. ±.010	mm. ±.025	In. ±.007	mm. ±.018	In.	mm.	In. ±.010	mm. ±.025
9P	.790	20.07	.565	14.35	.333	8.46	.184	4.67	.310	7.87	.183	4.65	.333	8.46	1.150	29.21	1.390	35.31	.155	3.94
9S	.790	20.07	.565	14.35	.400	10.16	.250	6.35	.310	7.87	.195	4.95	.333	8.46	1.150	29.21	1.390	35.31	.155	3.94
15P	.940	23.88	.715	18.16	.483	12.27	.184	4.67	.310	7.87	.183	4.65	.333	8.46	1.150	29.21	1.390	35.31	.155	3.94
15S	.940	23.88	.715	18.16	.551	14.00	.250	6.35	.310	7.87	.195	4.95	.333	8.46	1.150	29.21	1.390	35.31	.155	3.94
21P	1.180	29.97	.865	21.97	.633	16.08	.184	4.67	.310	7.87	.183	4.65	.333	8.46	1.450	36.83	1.690	42.93	.155	3.94
21S	1.180	29.97	.865	21.97	.701	17.81	.250	6.35	.310	7.87	.195	4.95	.333	8.46	1.450	36.83	1.690	42.93	.155	3.94
25P	1.275	32.39	.965	24.51	.733	18.62	.184	4.67	.310	7.87	.183	4.65	.333	8.46	1.500	38.10	1.740	44.20	.155	3.94
25S	1.275	32.39	.965	24.51	.801	20.35	.250	6.35	.310	7.87	.195	4.95	.333	8.46	1.500	38.10	1.740	44.20	.155	3.94
31P	1.575	40.01	1.115	28.32	.883	22.43	.184	4.67	.310	7.87	.183	4.65	.333	8.46	1.800	45.72	2.040	51.82	.155	3.94
31S	1.575	40.01	1.115	28.32	.951	24.16	.250	6.35	.310	7.87	.195	4.95	.333	8.46	1.800	45.72	2.040	51.82	.155	3.94
37P	1.875	47.63	1.265	32.13	1.033	26.24	.184	4.67	.310	7.87	.183	4.65	.333	8.46	2.100	53.34	2.340	59.44	.155	3.94
37S	1.875	47.63	1.265	32.13	1.101	27.96	.250	6.35	.310	7.87	.195	4.95	.333	8.46	2.100	53.34	2.340	59.44	.155	3.94
51P	1.775	45.09	1.215	30.86	.983	24.97	.228	5.79	.351	8.92	.183	4.65	.333	8.46	2.000	50.80	2.270	57.64	.155	3.94
51S	1.775	45.09	1.215	30.86	1.051	26.70	.296	7.52	.351	8.92	.195	4.95	.333	8.46	2.000	50.80	2.270	57.64	.155	3.94
100P	2.585	65.66	1.800	45.72	1.383	35.13	.270	6.86	.394	10.01	.183	4.65	.525	13.34	2.800	71.12	3.250	82.55	.293	7.44
100S	2.585	65.66	1.800	45.72	1.451	36.86	.333	8.46	.394	10.01	.195	4.95	.525	13.34	2.800	71.12	3.250	82.55	.293	7.44

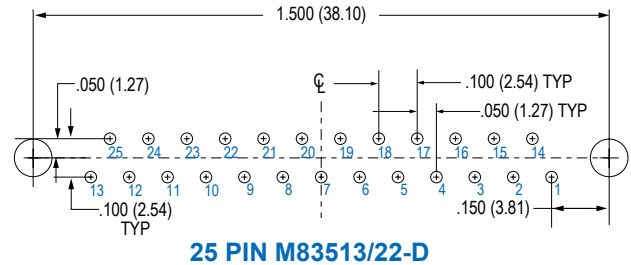
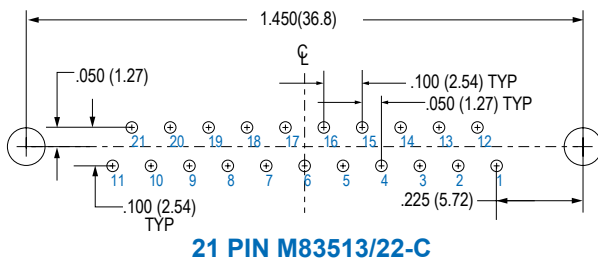
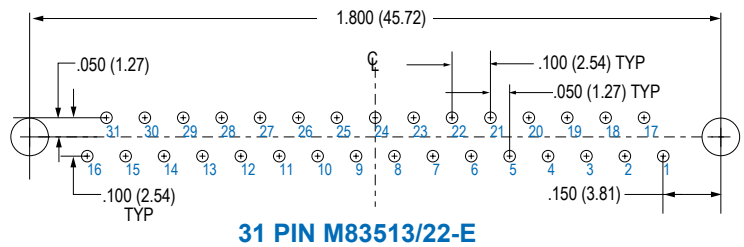
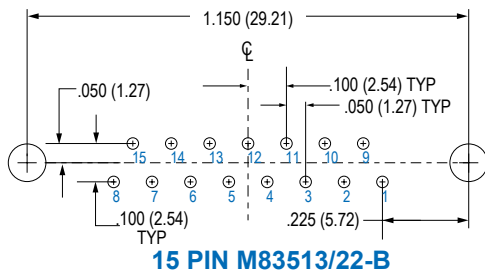
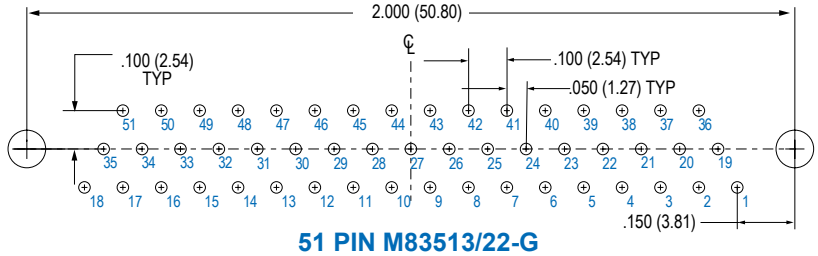
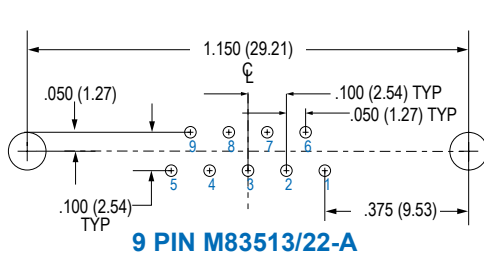
MIL-DTL-83513/22 Thru /27 Micro-D Connectors Straight PCB Connectors (BS)



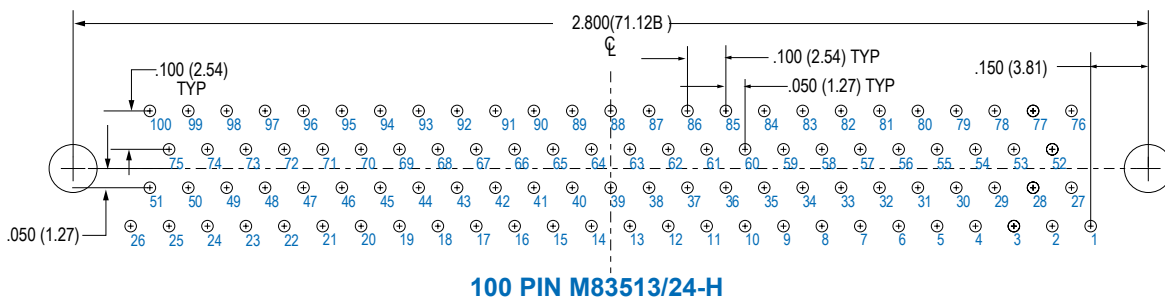
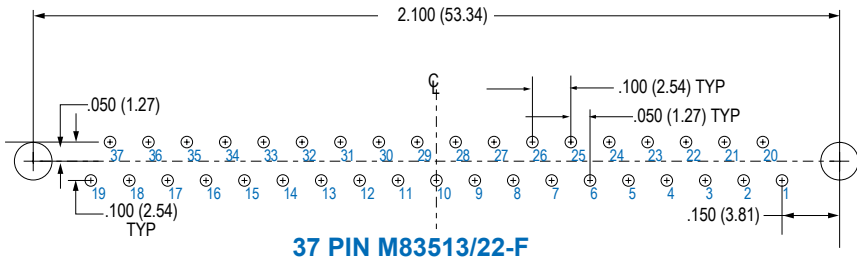
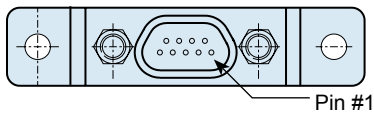
Micro-D
MIL-DTL-83513

M83513/22 THRU /24 PCB LAYOUTS – PIN CONNECTORS

Patterns shown are for connector mounting side of PC board. 9 Thru 51 Contacts .096 (2.44) Diameter Mounting Holes, 100 Pin .125 (3.18) Diameter

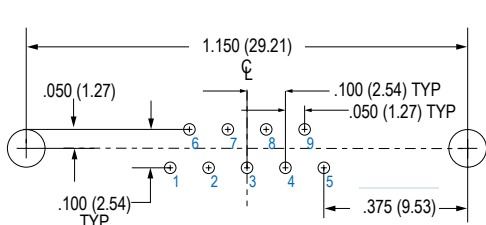


Connector Orientation

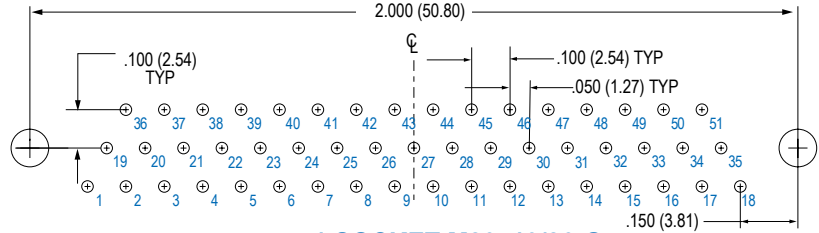


M83513/25 THRU /27 PCB LAYOUTS – SOCKET CONNECTORS

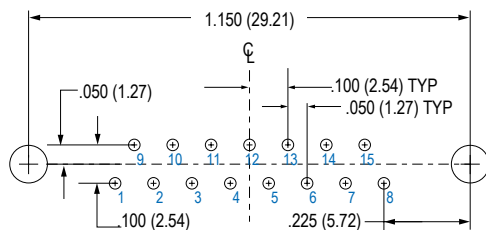
Patterns shown are for connector mounting side of PC board. 9 Thru 51 Contacts .096 (2.44) Diameter Mounting Holes, 100 Pin .125 (3.18) Diameter



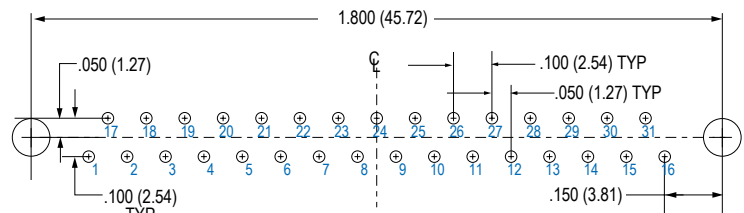
9 SOCKET M83513/25-A



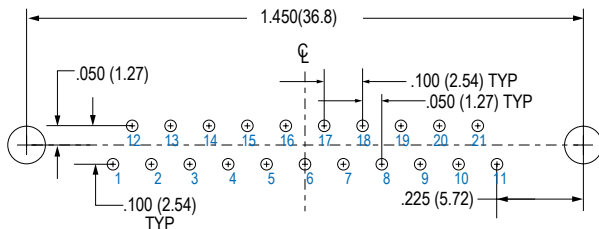
51 SOCKET M83513/26-G



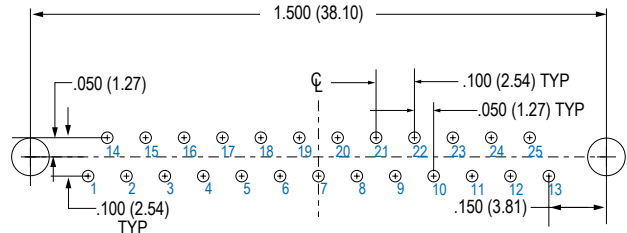
15 SOCKET M83513/25-B



31 SOCKET M83513/25-E

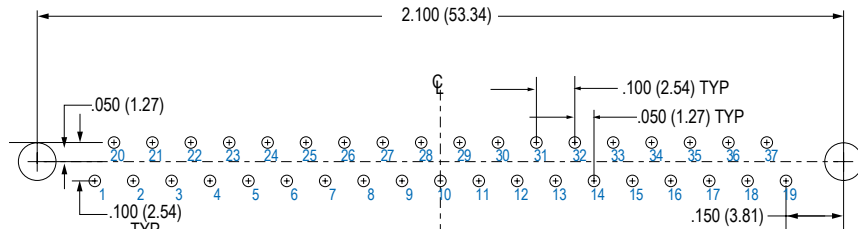
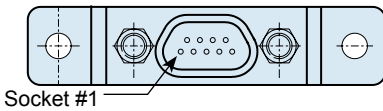


21 SOCKET M83513/25-C

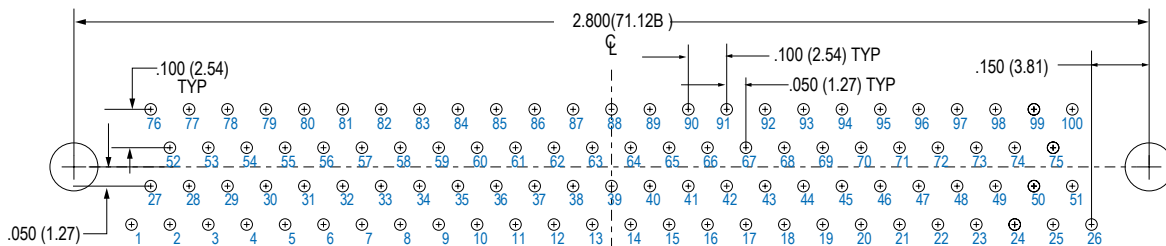


25 SOCKET M83513/25-D

Connector Orientation



37 SOCKET M83513/25-F

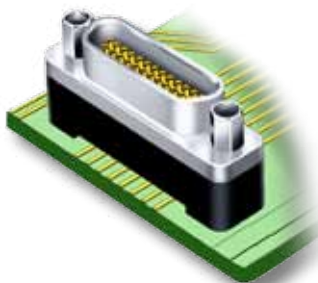


100 SOCKET M83513/27-H

MIL-DTL-83513/28 Thru /33 Micro-D Connectors Straight PCB Connectors (CBS)



Micro-D
MIL-DTL-83513



Space-Saving — These connectors take up less room on the PC board. PC tail spacing is .075 inch (1.9mm), compared to .100 inch (2.54mm.).

Threaded Inserts — Stainless steel inserts are insert molded into plastic trays. These inserts provide a ground path from the PC board to the mating cable.

Solder-Dipped — Terminals are coated with SN63/Pb37 tin-lead solder for best solderability.

HOW TO ORDER M83513/22 THRU /27 STRAIGHT PCB CONNECGTORS

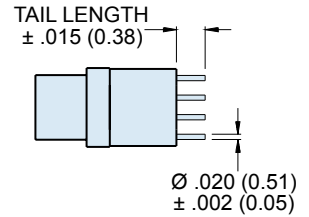
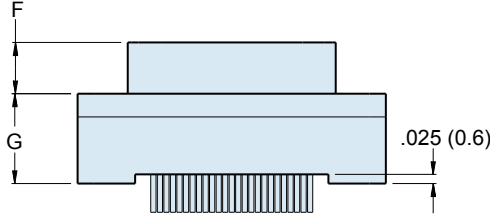
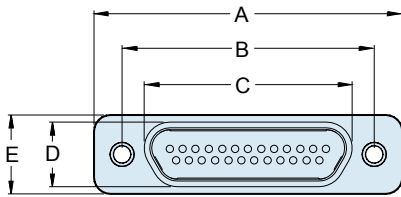
Spec Number	Slash Number- Shell Size	PC Tail Length	Shell Finish	Hardware Option
M83513	Plug (Pin Contacts)		01 - .109 Inch (2.77 mm)	C - Cadmium N - Electroless Nickel P - Passivated SST N - No Jackpost P - Jackposts Installed T - 2-56 Threaded Insert in Board Mount Hole (No Jackposts) W - 2-56 Threaded Insert in Board Mount Hole and Jackposts Installed U - 4-40 Threaded Insert in Board Mount Hole (No Jackposts) Y - 4-40 Threaded Insert in Board Mount Hole and Jackposts Installed (See "Hardware Options" below for Illustrations) Shell sizes A (9) through G (51) are #2-56 UNC-2 threads. Shell size H (100) is #4-40 UNC-2 threads.
	28-A - 9 Contacts	02 - .140 Inch (3.56 mm)		
	28-B - 15 Contacts	03 - .172 Inch (4.37 mm)		
	28-C - 21 Contacts	PC Tail Length ± .015 (0.38)		
	28-D - 25 Contacts			
	28-E - 31 Contacts			
	28-F - 37 Contacts			
	29-G - 51 Contacts			
	30-H - 100 Contacts			
	Receptacle (Socket Contacts)			
	31-A - 9 Contacts			
	31-B - 15 Contacts			
	31-C - 21 Contacts			
	31-D - 25 Contacts			
	31-E - 31 Contacts			
	31-F - 37 Contacts			
32-G - 51 Contacts				
33-H - 100 Contacts				
Sample Part Number				
M83513/	33-H	01	C	P

HARDWARE OPTIONS

N	P	T	W
No Jackpost	Jackpost	Threaded Insert	Jackpost, Threaded Insert

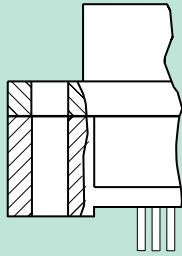


MIL-DTL-83513/28 Thru /33 Micro-D Connectors Straight PCB Connectors (CBS)



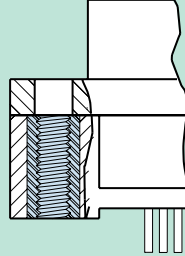
M83513/28 THRU 33 HARDWARE OPTIONS

HARDWARE OPTION N
NO JACKPOST, NO
THREADED INSERT



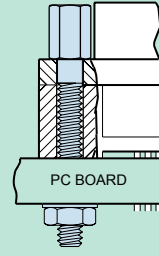
MTNG HOLE DIA.
9-51 CONTACTS
.096/.088 (2.44/2.24)
100 CONTACTS
.128/.122 (3.25/3.10)

**HARDWARE
OPTIONS T & U**
THREADED INSERT,
NO POST



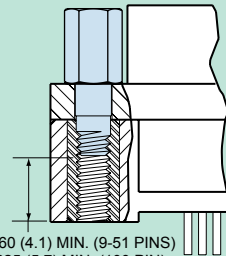
THREAD SIZE
9-51 CONTACTS # 2-56 UNC-2B
100 CONTACTS # 4-40 UNC-2B

HARDWARE OPTION P
JACKPOST AND THRU-HOLE



THREAD SIZE
9-51 CONTACTS # 2-56 UNC
100 CONTACTS # 4-40 UNC
**USE WITH .156 (3.96) MAX. PC
BOARD THICKNESS**

**HARDWARE
OPTIONS W & Y**
JACKPOST AND
THREADED INSERT



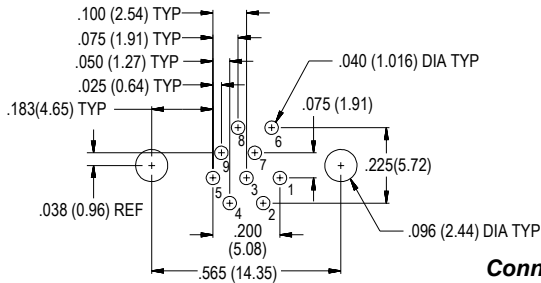
THREAD SIZE
9-51 CONTACTS #2-56 UNC
100 CONTACTS #4-40 UNC

DIMENSIONS

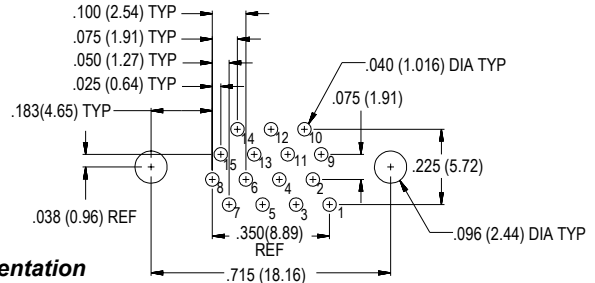
Layout	A Max.		B		C Max.		D Max.		E Max.		F		G Max.	
	In.	mm.	In. ±.005	mm. ±0.13	In.	mm.	In.	mm.	In.	mm.	In. ±.003	mm. ±0.08	In.	mm.
9P	.785	19.94	.565	14.35	.333	8.46	.185	4.70	.310	7.87	.183	4.65	.355	9.02
9S	.785	19.94	.565	14.35	.400	10.16	.253	6.43	.310	7.87	.195	4.95	.355	9.02
15P	.935	23.75	.715	18.16	.483	12.27	.185	4.70	.310	7.87	.183	4.65	.355	9.02
15S	.935	23.75	.715	18.16	.551	14.00	.253	6.43	.310	7.87	.195	4.95	.355	9.02
21P	1.085	27.56	.865	21.97	.633	16.08	.185	4.70	.310	7.87	.183	4.65	.355	9.02
21S	1.085	27.56	.865	21.97	.701	17.81	.253	6.43	.310	7.87	.195	4.95	.355	9.02
25P	1.185	30.01	.965	24.51	.733	18.62	.185	4.70	.310	7.87	.183	4.65	.355	9.02
25S	1.185	30.01	.965	24.51	.801	20.35	.253	6.43	.310	7.87	.195	4.95	.355	9.02
31P	1.335	33.91	1.115	28.32	.883	22.43	.185	4.70	.310	7.87	.183	4.65	.355	9.02
31S	1.335	33.91	1.115	28.32	.951	24.16	.253	6.43	.310	7.87	.195	4.95	.355	9.02
37P	1.485	37.72	1.265	32.13	1.033	26.24	.185	4.70	.310	7.87	.183	4.65	.355	9.02
37S	1.485	37.72	1.265	32.13	1.101	27.96	.253	6.43	.310	7.87	.195	4.95	.355	9.02
51P	1.435	36.45	1.215	30.86	.983	24.97	.228	5.79	.400	10.16	.183	4.65	.355	9.02
51S	1.435	36.45	1.215	30.86	1.051	26.70	.296	7.52	.400	10.16	.195	4.95	.355	9.02
100P	2.170	55.12	1.800	45.72	1.383	35.13	.271	6.88	.510	12.95	.183	4.65	.430	10.92
100S	2.170	55.12	1.800	45.72	1.451	36.86	.340	8.64	.510	12.95	.195	4.95	.430	10.92

M83513/28 THRU 30 PCB LAYOUTS – PIN CONNECTORS

Patterns shown are for connector mounting side of PC board.

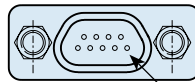


9 PIN M83513/28-A

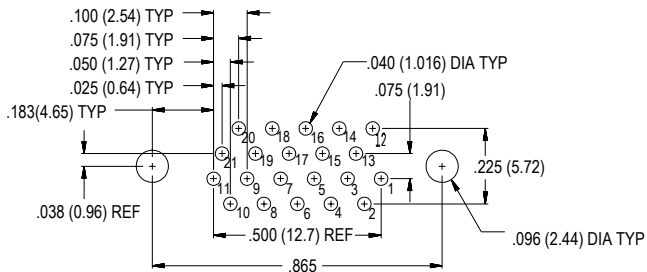


15 PIN M83513/28-B

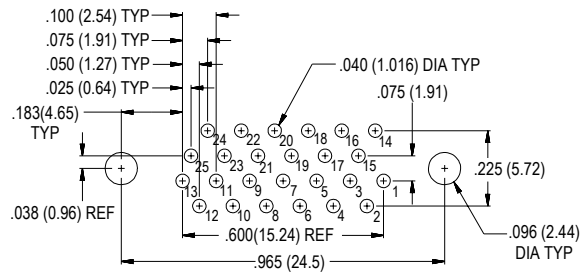
Connector Orientation



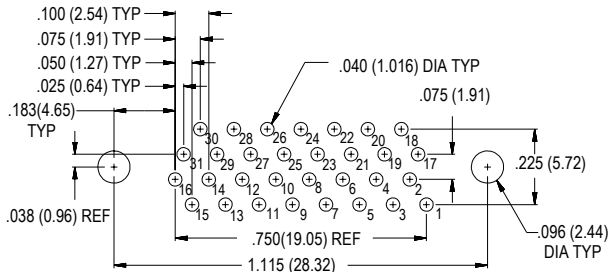
Pin #1



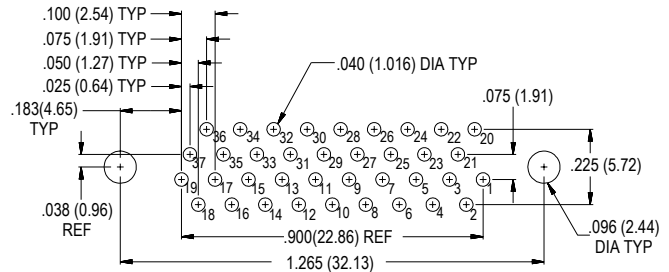
21 PIN M83513/28-C



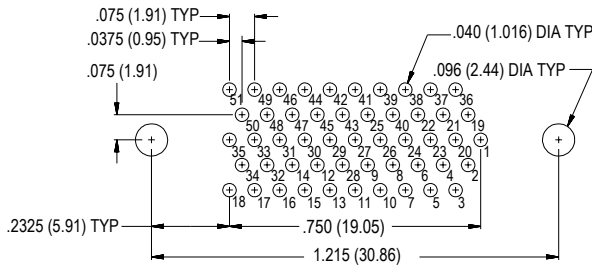
25 PIN M83513/28-D



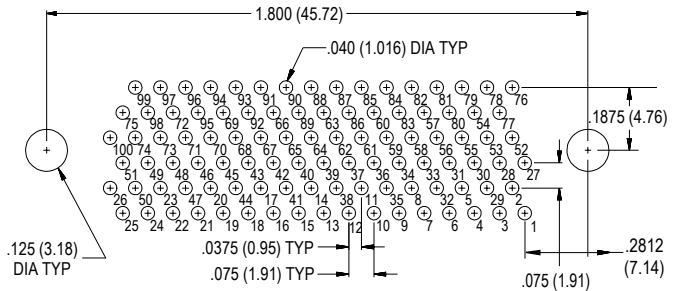
31 PIN M83513/28-E



37 PIN M83513/28-F



51 PIN M83513/29-G



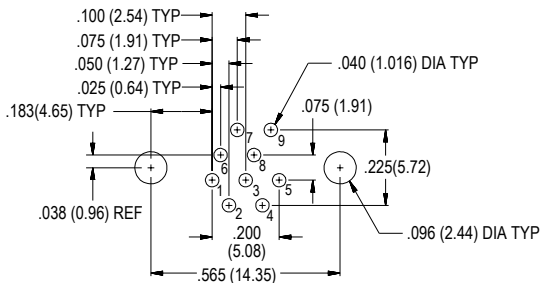
100 PIN M83513/30-H



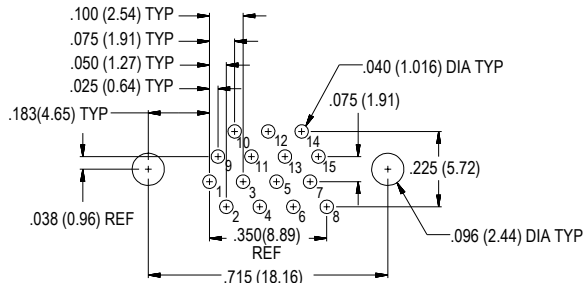
MIL-DTL-83513/28 Thru /33 Micro-D Connectors Straight PCB Connectors (CBS)

MM83513/31 THRU /33 PCB LAYOUTS – SOCKET CONNECTORS

Patterns shown are for connector mounting side of PC board.

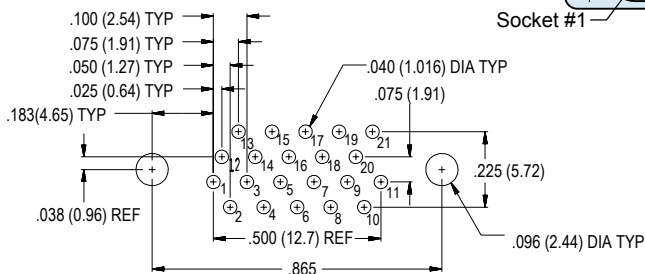
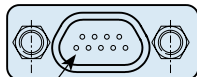


9 Socket M83513/31-A

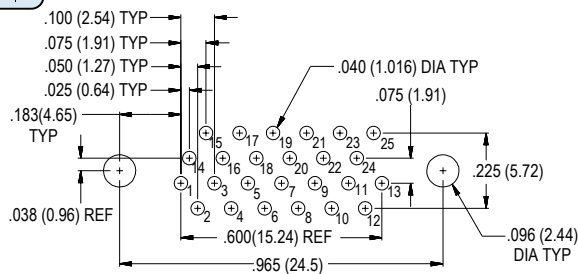


15 Socket M83513/31-B

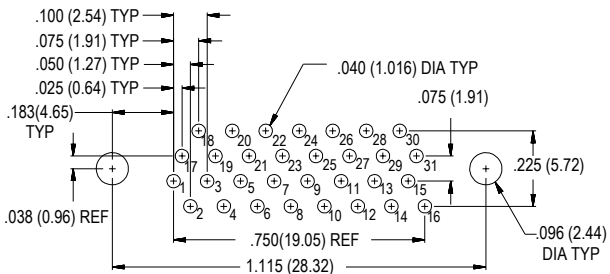
Connector Orientation



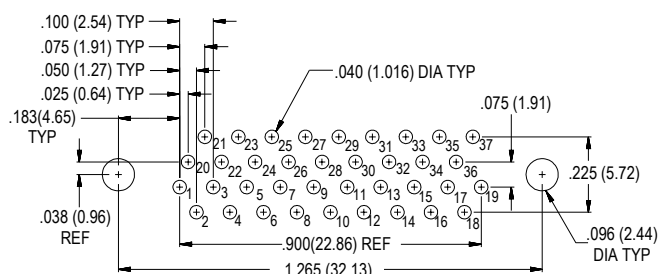
21 Socket M83513/31-C



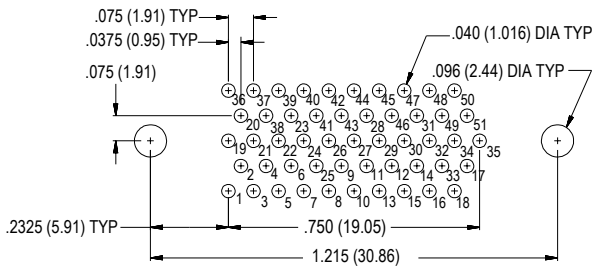
25 Socket M83513/31-D



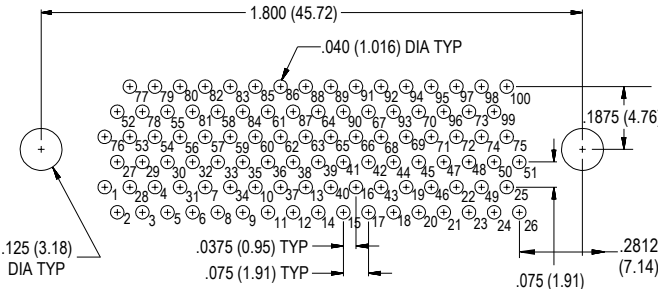
31 Socket M83513/31-E



37 Socket M83513/31-F



51 Socket M83513/32-G



100 Socket M83513/33-H