



# MIL-DTL-83513/28 Thru /33 Micro-D CBS Condensed Straight PCB Terminated Connectors



**Space-Saving** — These connectors take up less room on the PC board. PC tail spacing is .075 inch (1.9mm) between rows.

**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 Sn60/Pb40 tin-lead solder for best solderability.

## How To Order Straight PCB Micro-D Connectors

<b>Sample Part Number</b>		<b>M83513/</b>	<b>33-H</b>	<b>01</b>	<b>C</b>	<b>P</b>
<b>Base Part Number</b>	<b>M83513/</b>					
<b>Slash Number-Shell Sizes</b>	<b>Plug (Pin Contacts)</b>		<b>Receptacle (Socket Contacts)</b>			
	<b>28-A</b> - 9 Contacts <b>28-B</b> - 15 Contacts <b>28-C</b> - 21 Contacts <b>28-D</b> - 25 Contacts	<b>28-E</b> - 31 Contacts <b>28-F</b> - 37 Contacts <b>29-G</b> - 51 Contacts <b>30-H</b> - 100 Contacts	<b>31-A</b> - 9 Contacts <b>31-B</b> - 15 Contacts <b>31-C</b> - 21 Contacts <b>31-D</b> - 25 Contacts	<b>31-E</b> - 31 Contacts <b>31-F</b> - 37 Contacts <b>32-G</b> - 51 Contacts <b>33-H</b> - 100 Contacts	(See Table II)	
<b>PC Tail Length</b>	<b>01</b> - .109 Inch (2.77 mm)	<b>02</b> - .140 Inch (3.56 mm)	<b>03</b> - .172 Inch (4.37 mm)	PC Tail Length ± .015 (0.38)		
<b>Shell Finish</b>	<b>C</b> - Cadmium <b>N</b> - Electroless Nickel <b>P</b> - Passivated SST	<b>A</b> - Electrodeposited Aluminum <b>K</b> - Zinc Nickel <b>T</b> - Nickel Fluorocarbon Polymer				
<b>Hardware Options</b>	<b>N</b> - No Jackpost <b>T</b> - Threaded Insert in Board Mount Hole (No Jackposts) <b>W</b> - Threaded Insert in Board Mount Hole and Jackposts Installed (See Table I)	<b>P</b> - Jackposts Installed	<b>Shell Size 100 (H)</b> <b>U</b> - #4-40 Threaded Insert <b>Y</b> - #4-40 Threaded Insert & Jackpost			

Table I: Hardware Options

<b>HARDWARE OPTION N</b> NO JACKPOST, NO THREADED INSERT	<b>HARDWARE OPTIONS T or U</b> THREADED INSERT, NO POST	<b>HARDWARE OPTION P</b> JACKPOST AND THRU-HOLE	<b>HARDWARE OPTIONS W or Y</b> JACKPOST AND THREADED INSERT
<b>MTNG HOLE DIA.</b> 9-51 CONTACTS .096/.088 (2.44/2.24) 100 CONTACTS .150/.145 (3.81/3.68)	<b>THREAD SIZE</b> 9-51 CONTACTS # 2-56 UNC-2B 100 CONTACTS # 4-40 UNC-2B	<b>THREAD SIZE</b> 9-51 CONTACTS # 2-56 UNC 100 CONTACTS # 4-40 UNC <b>USE WITH .156 (3.96) MAX. PC BOARD THICKNESS</b>	<b>THREAD SIZE</b> 9-51 CONTACTS #2-56 UNC 100 CONTACTS #4-40 UNC .160 (4.1) MIN. (9-51 PINS) .225 (5.7) MIN. (100 PIN)

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Micro-D  
MIL-DTL-83513

Table III: 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	.333	8.46	.510	12.95	.195	4.95	.430	10.92





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## 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**



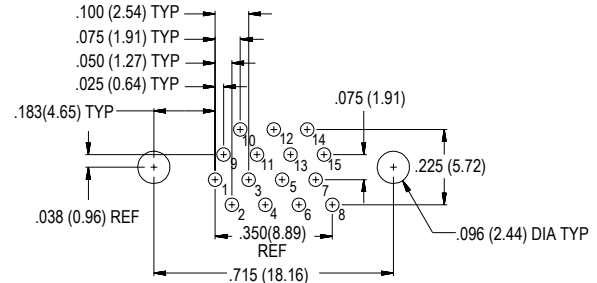
**100 PIN M83513/30-H**

### MM83513/31 Thru /33 PCB Layouts – Socket Connectors

Patterns shown are for connector mounting side of PC board.



9 SOCKET M83513/31-A

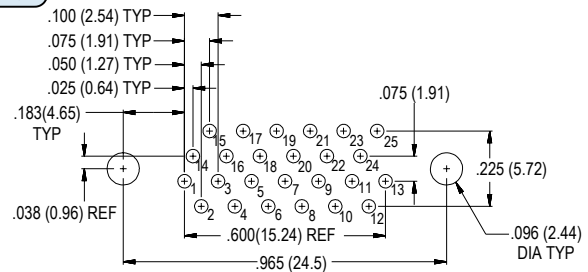


15 SOCKET M83513/31-B

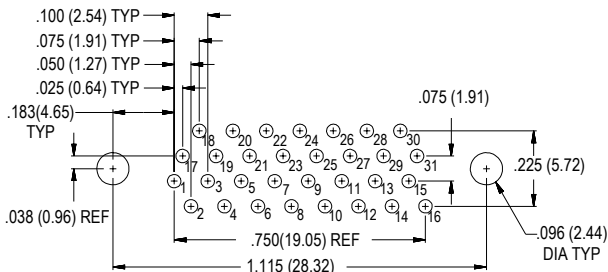
#### Connector Orientation



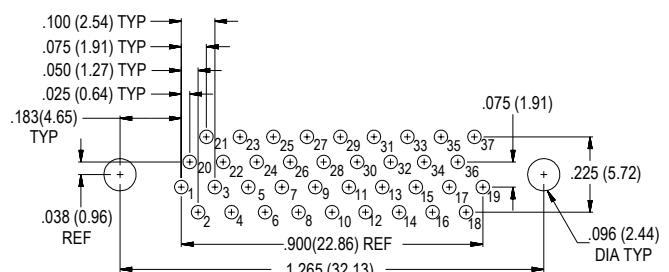
21 SOCKET M83513/31-C



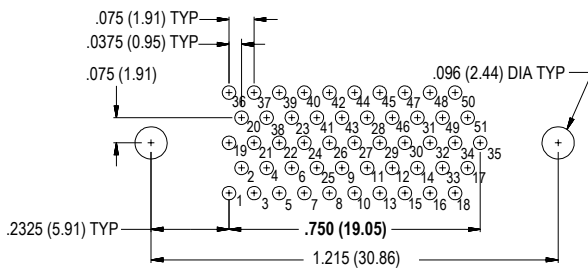
25 SOCKET M83513/31-D



31 SOCKET M83513/31-E



37 SOCKET M83513/31-F



51 SOCKET M83513/32-G



100 Socket M83513/33-H