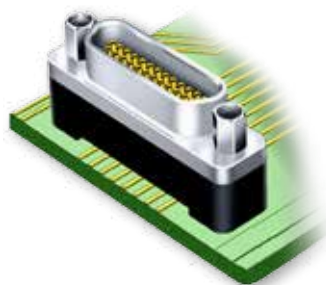




# MIL-DTL-83513/28 Thru /33 Micro-D CBS Condensed Straight PCB Terminated Connectors



**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<br><b>28-B</b> - 15 Contacts<br><b>28-C</b> - 21 Contacts<br><b>28-D</b> - 25 Contacts   | <b>28-E</b> - 31 Contacts<br><b>28-F</b> - 37 Contacts<br><b>29-G</b> - 51 Contacts<br><b>30-H</b> - 100 Contacts | <b>31-A</b> - 9 Contacts<br><b>31-B</b> - 15 Contacts<br><b>31-C</b> - 21 Contacts<br><b>31-D</b> - 25 Contacts | <b>31-E</b> - 31 Contacts<br><b>31-F</b> - 37 Contacts<br><b>32-G</b> - 51 Contacts<br><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)   |   |          |
|                                 | <b>PC Tail Length ± .015 (0.38)</b>   |   |   |   |          |
| <b>Shell Finish</b>             | <b>C</b> - Cadmium<br><b>N</b> - Electroless Nickel<br><b>P</b> - Passivated SST  | <b>A</b> - Electrodeposited Aluminum<br><b>K</b> - Zinc Nickel<br><b>T</b> - Nickel Fluorocarbon Polymer          |   |   |          |
| <b>Hardware Options</b>         | <b>N</b> - No Jackpost<br><b>T</b> - Threaded Insert in Board Mount Hole (No Jackposts)<br><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><br><b>U</b> - #4-40 Threaded Insert<br><b>Y</b> - #4-40 Threaded Insert & Jackpost    |   |          |

Table I: Hardware Options

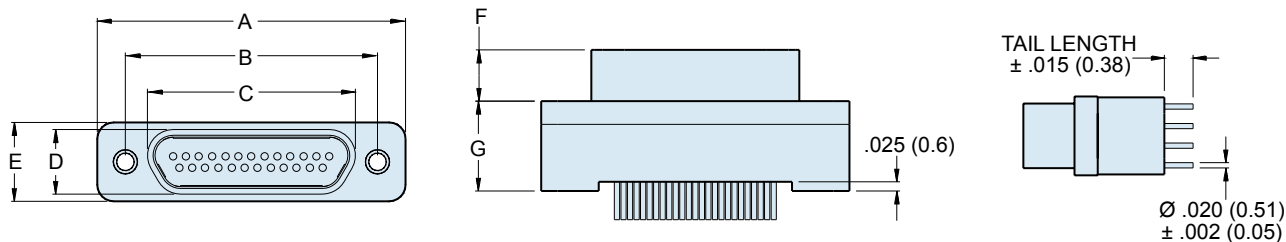
| <b>HARDWARE OPTION N</b><br>NO JACKPOST, NO THREADED INSERT  | <b>HARDWARE OPTIONS T or U</b><br>THREADED INSERT, NO POST                      | <b>HARDWARE OPTION P</b><br>JACKPOST AND THRU-HOLE   | <b>HARDWARE OPTIONS W or Y</b><br>JACKPOST AND THREADED INSERT          |
|--|---|--|---|
|  |   |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

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



Micro-D  
MIL-DTL-83513

Table III: Dimensions



| Layout | A Max. |       | B             |               | C Max. |       | D Max. |      | E Max. |       | F             |               | G Max. |       |
|--------|--------|-------|---------------|---------------|--------|-------|--------|------|--------|-------|---------------|---------------|--------|-------|
|        | In.    | mm.   | In.<br>± .005 | mm.<br>± 0.13 | In.    | mm.   | In.    | mm.  | In.    | mm.   | In.<br>± .003 | mm.<br>± 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 |

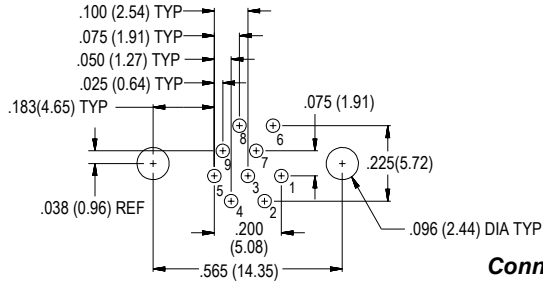
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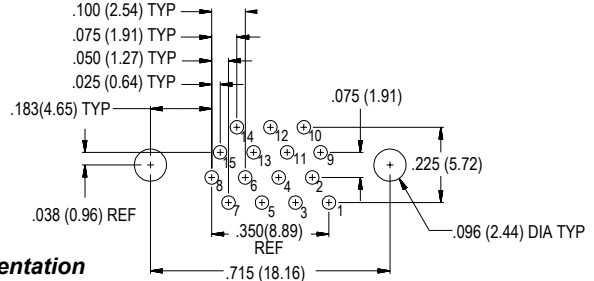
# MIL-DTL-83513/28 Thru /33 Micro-D CBS Condensed Straight PCB Terminated Connectors

## M83513/28 Thru 30 PCB Layouts – Pin Connectors

Patterns shown are for connector mounting side of PC board.

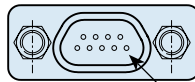


**9 PIN M83513/28-A**

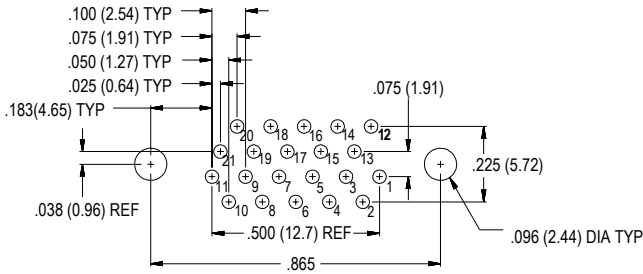


**15 PIN M83513/28-B**

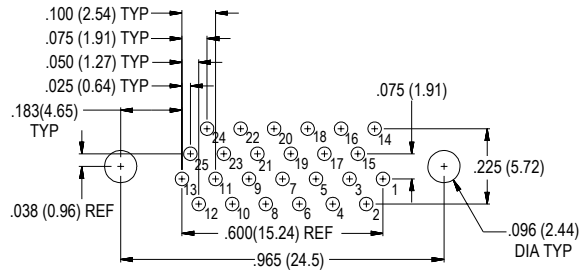
**Connector Orientation**



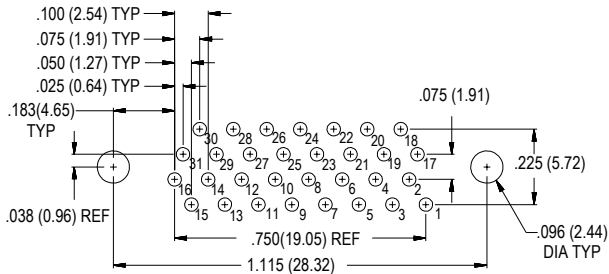
Pin #1



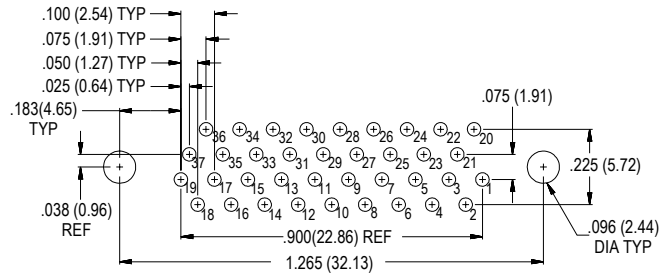
**21 PIN M83513/28-C**



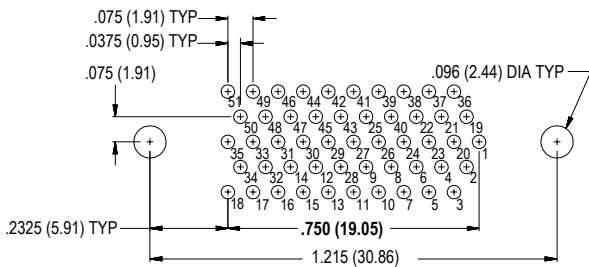
**25 PIN M83513/28-D**



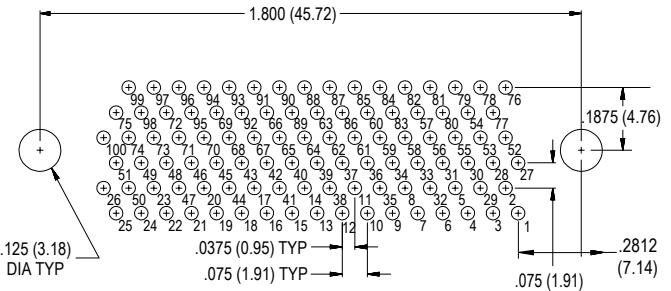
**31 PIN M83513/28-E**



**37 PIN M83513/28-F**



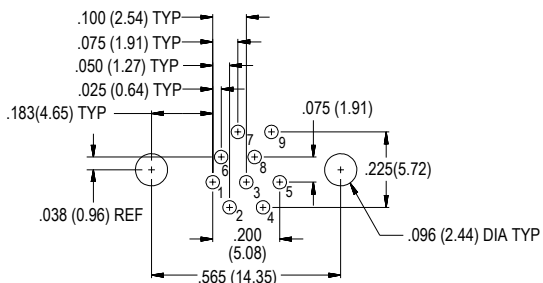
**51 PIN M83513/29-G**



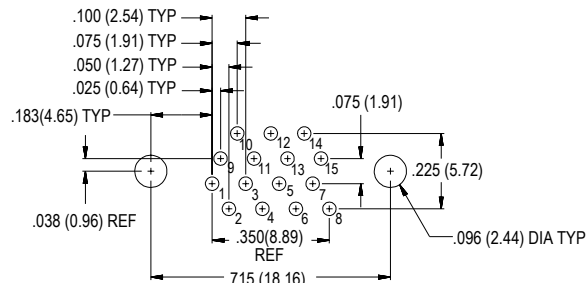
**100 PIN M83513/30-H**

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

Patterns shown are for connector mounting side of PC board.

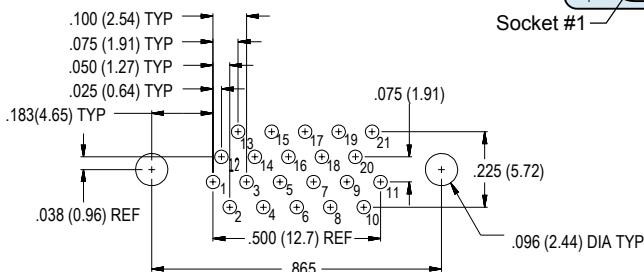
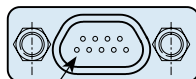


**9 SOCKET M83513/31-A**

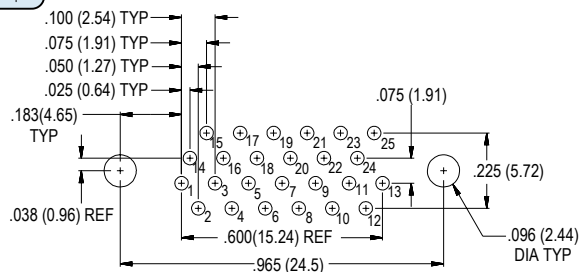


**15 SOCKET M83513/31-B**

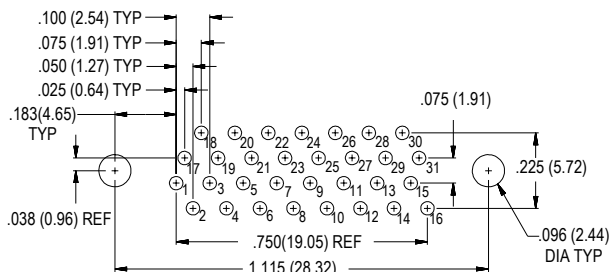
**Connector Orientation**



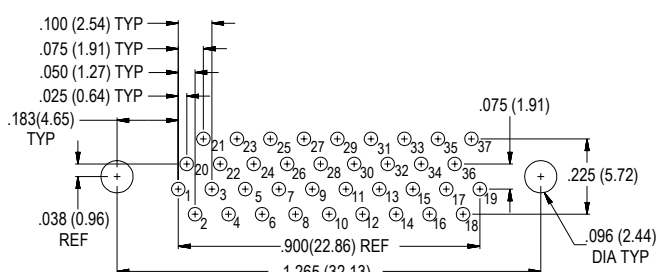
**21 SOCKET M83513/31-C**



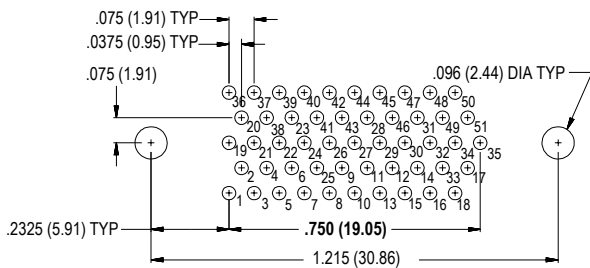
**25 SOCKET M83513/31-D**



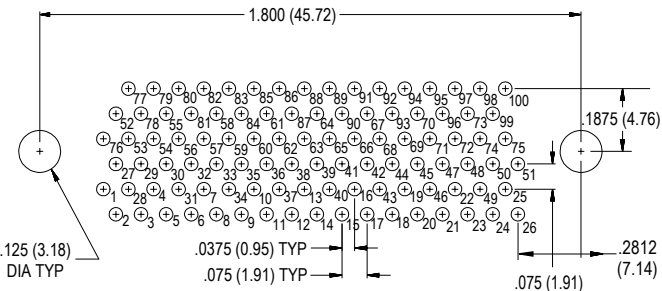
**31 SOCKET M83513/31-E**



**37 SOCKET M83513/31-F**



**51 SOCKET M83513/32-G**



**100 Socket M83513/33-H**