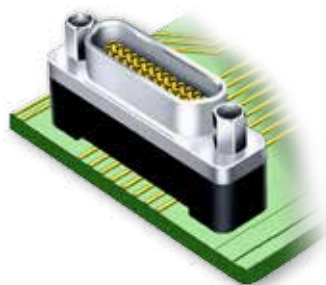




# MIL-DTL-83513/28 Thru /33 Micro-D CBS Condensed Straight PCB Terminated Connectors



**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

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

Table I: Hardware Options

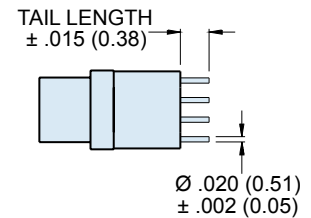
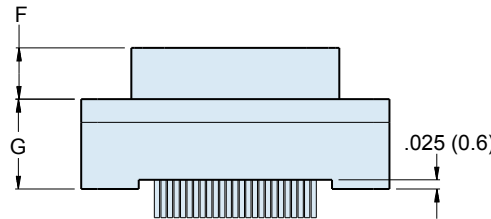
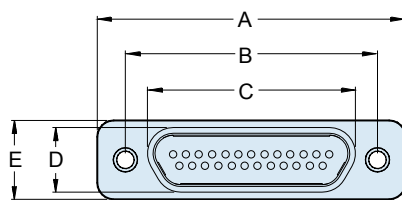
| HARDWARE OPTION N<br>NO JACKPOST, NO THREADED<br>INSERT                                                  | HARDWARE<br>OPTIONS T or U<br>THREADED INSERT,<br>NO POST                       | HARDWARE OPTION P<br>JACKPOST AND THRU-HOLE                                                                                          | HARDWARE<br>OPTIONS W or Y<br>JACKPOST AND<br>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<br/>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. ± .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 |

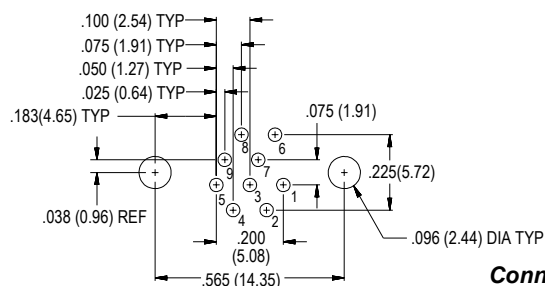
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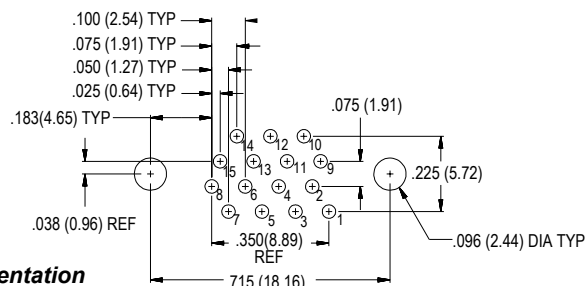
# MIL-DTL-83513/28 Thru /33 Micro-D CBS Condensed Straight PCB Terminated Connectors

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

Patterns shown are for connector mounting side of PC board.

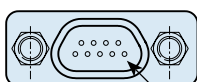


**9 PIN M83513/28-A**

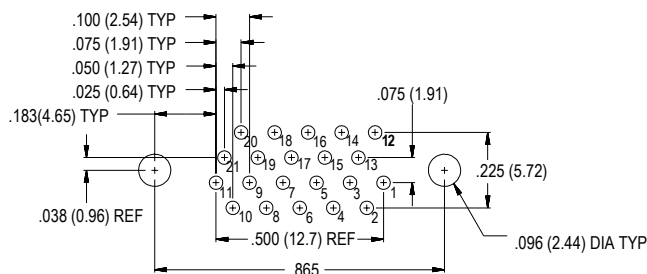


**15 PIN M83513/28-B**

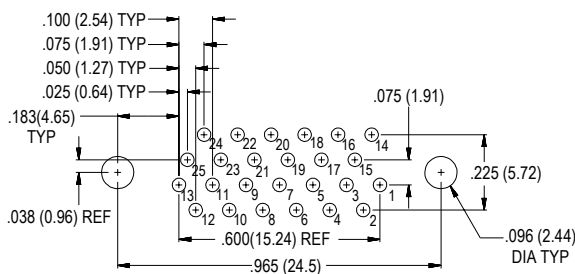
**Connector Orientation**



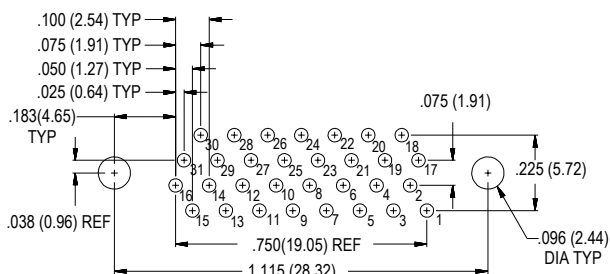
Pin #1



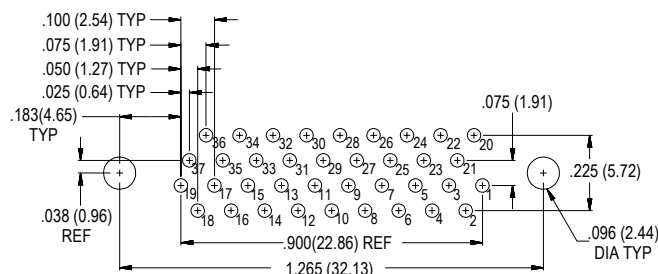
**21 PIN M83513/28-C**



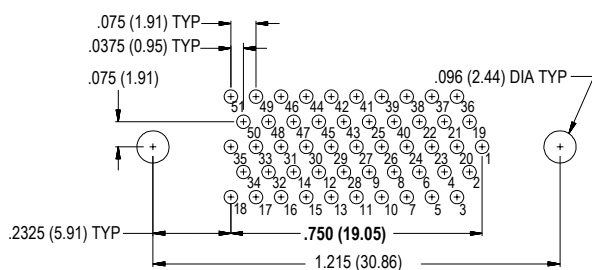
**25 PIN M83513/28-D**



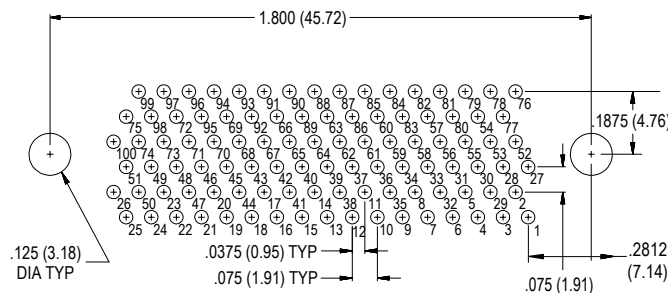
**31 PIN M83513/28-E**



**37 PIN M83513/28-F**



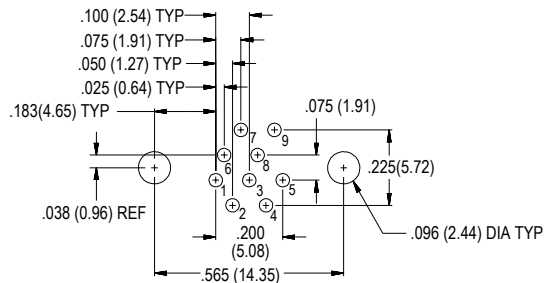
**51 PIN M83513/29-G**



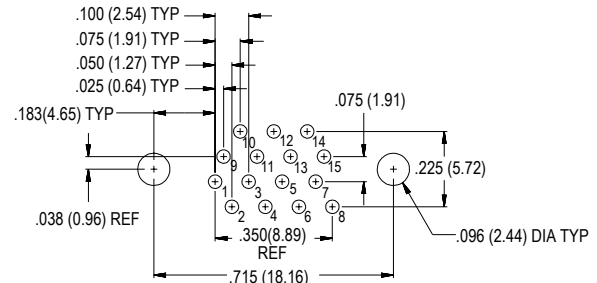
**100 PIN M83513/30-H**

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

Patterns shown are for connector mounting side of PC board.

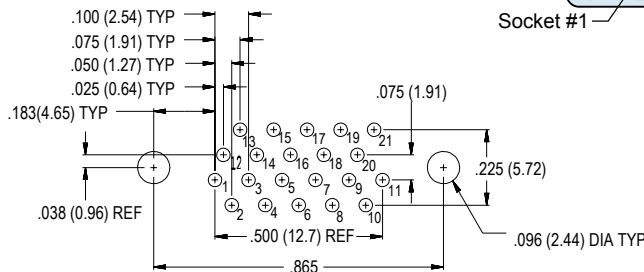
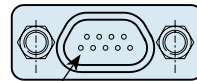


**9 SOCKET M83513/31-A**

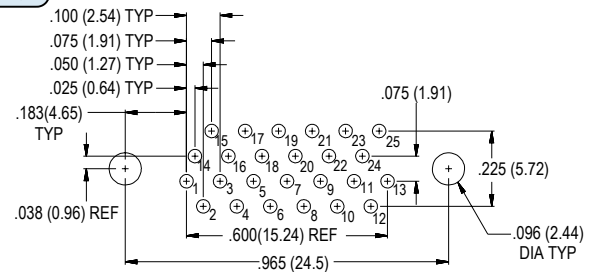


**15 SOCKET M83513/31-B**

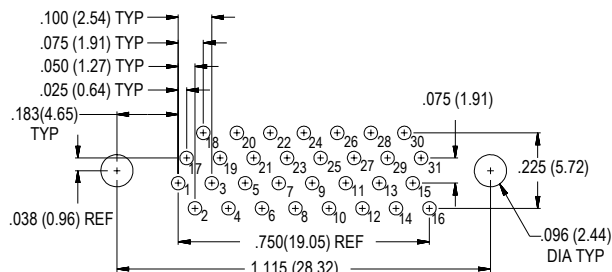
### Connector Orientation



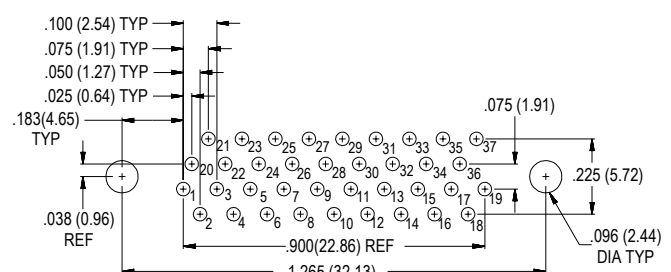
**21 SOCKET M83513/31-C**



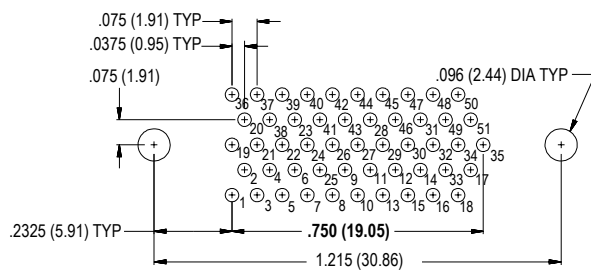
**25 SOCKET M83513/31-D**



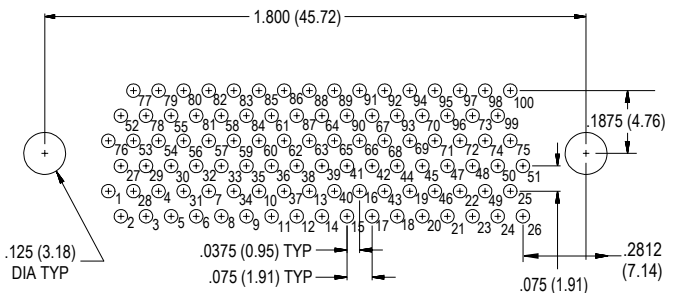
**31 SOCKET M83513/31-E**



**37 SOCKET M83513/31-F**



**51 SOCKET M83513/32-G**



**100 SOCKET M83513/33-H**

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