



## MIL-DTL-83513/16 Thru /21 Micro-D BR Right Angle PCB Terminated Connector



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

### How To Order MIL-DTL 83513 Right Angle PCB Micro-D Connectors

|                                 |  |  |  |           |          |          |
|---------------------------------|--|--|--|-----------|----------|----------|
| <b>Sample Part Number</b>       |  | <b>M83513/</b>   | <b>19-F</b>                            | <b>02</b> | <b>N</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>16-A</b> - 9 Contacts<br><b>16-B</b> - 15 Contacts<br><b>16-C</b> - 21 Contacts<br><b>16-D</b> - 25 Contacts<br><b>16-E</b> - 31 Contacts<br><b>16-F</b> - 37 Contacts<br><b>17-G</b> - 51 Contacts<br><b>18-H</b> - 100 Contacts   | <b>19-A</b> - 9 Contacts<br><b>19-B</b> - 15 Contacts<br><b>19-C</b> - 21 Contacts<br><b>19-D</b> - 25 Contacts<br><b>19-E</b> - 31 Contacts<br><b>19-F</b> - 37 Contacts<br><b>20-G</b> - 51 Contacts<br><b>21-H</b> - 100 Contacts |  |           |          |          |
| <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>Shell Finish</b>             | <b>C</b> - Cadmium   |  | <b>A</b> - Electrodeposited Aluminum   |           |          |          |
|                                 | <b>N</b> - Electroless Nickel  |  | <b>K</b> - Zinc Nickel                 |           |          |          |
| <b>Hardware Options</b>         | <b>P</b> - Passivated SST  |  | <b>T</b> - Nickel Fluorocarbon Polymer |           |          |          |
|                                 | <b>N</b> - No Jackpost   |  | <b>P</b> - Jackposts Installed         |           |          |          |
|                                 | <b>Sizes 9-51</b><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<br><b>Shell Size 100 (H)</b><br><b>U</b> - #4-40 Threaded Insert <b>Y</b> - #4-40 Threaded Insert & Jackpost<br>(See Table I) |  |  |           |          |          |

Table I: Hardware Options

| <b>N</b>    | <b>P</b>  | <b>T or U</b>   | <b>W or Y</b>             |
|-------------|-----------|-----------------|---------------------------|
|             |           |                 |                           |
| THRU HOLE   | THRU HOLE | THREADED INSERT | THREADED INSERT           |
| No Jackpost | Jackpost  | Threaded Insert | Jackpost, Threaded Insert |

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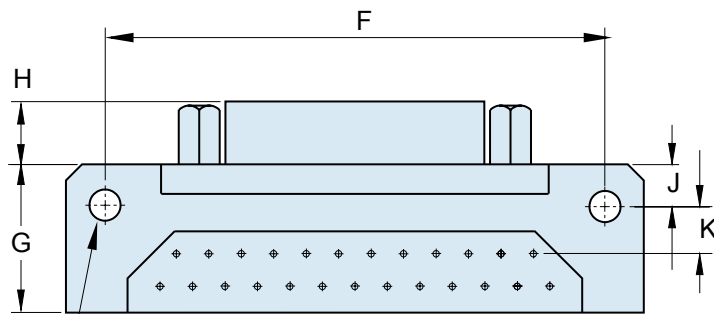


Micro-D  
MIL-DTL-83513

Table II: Dimensions



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



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

| Layout | A Max. |       | B            |              | C Max. |       | D Max. |      | E Max. |       | F            |              | G Max. |       | H            |              | J            |              | K            |              |
|--------|--------|-------|--------------|--------------|--------|-------|--------|------|--------|-------|--------------|--------------|--------|-------|--------------|--------------|--------------|--------------|--------------|--------------|
|        | In.    | mm.   | In.<br>±.005 | mm.<br>±0.10 | In.    | mm.   | In.    | mm.  | In.    | mm.   | In.<br>±.007 | mm.<br>±0.18 | In.    | mm.   | In.<br>±.003 | mm.<br>±0.08 | In.<br>±.015 | mm.<br>±0.38 | In.<br>±.010 | mm.<br>±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         |



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## 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**



**25 PIN M83513/16-D**



**15 PIN M83513/16-B**



**31 PIN M83513/16-E**



**21 PIN M83513/16-C**



**37 PIN M83513/16-F**



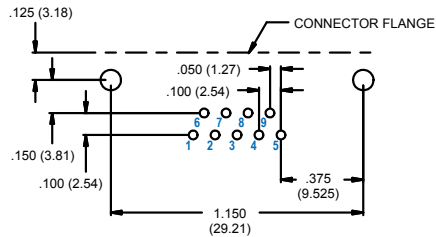
**51 PIN M83513/17-G**



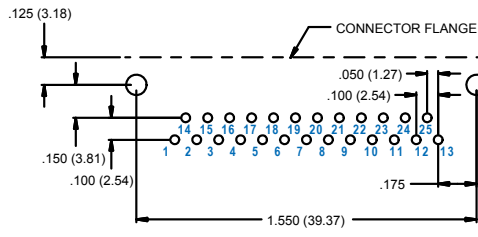
**100 PIN M83513/18-H**

### M83513/19 Thru /21 PCB Layouts – Socket Connectors

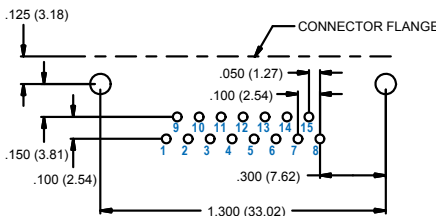
Patterns shown are for connector mounting side of PC board. 9 Thru 51 Contacts .096 (2.44) Diameter Mounting Holes, 100 Pin .125 (3.18) Diameter



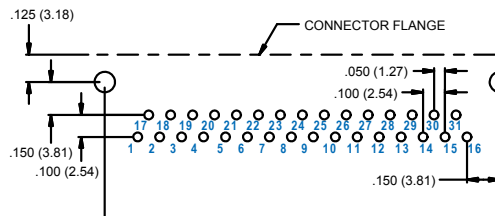
**9 SOCKET M83513/19-A**



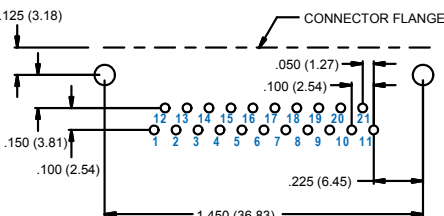
**25 SOCKET M83513/19-D**



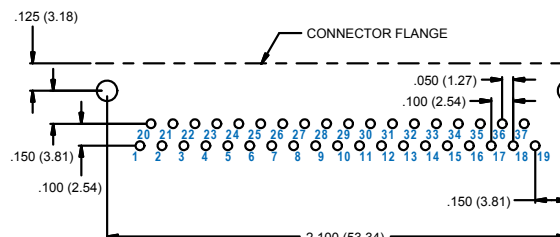
**15 SOCKET M83513/19-B**



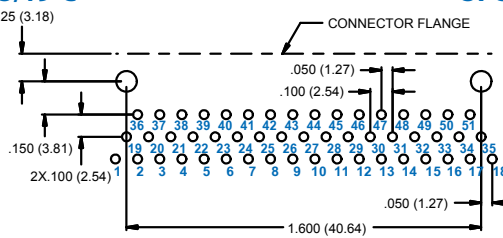
**31 SOCKET M83513/19-E**



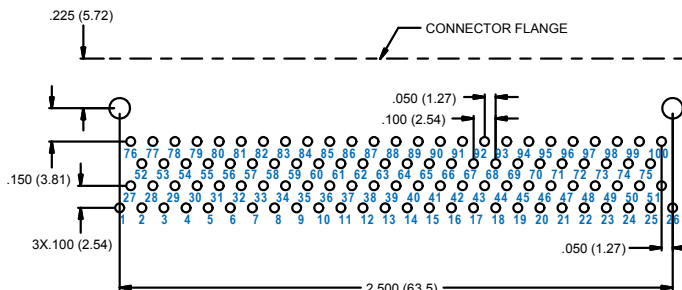
**21 SOCKET M83513/19-C**



**37 SOCKET M83513/19-F**



**51 SOCKET M83513/20-G**



**100 SOCKET M83513/21-H**