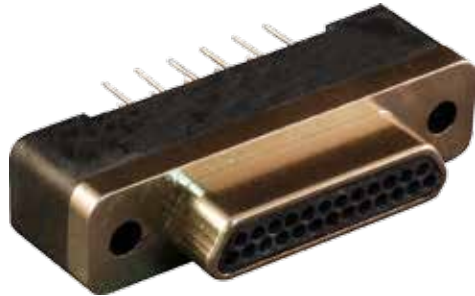




## Micro-D MWDM-CBS Vertical Board Mount Printed Circuit Board Connector



**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. Optional gold-plated terminals are available for RoHS compliance.

**Rear Mountable** – Can be installed through panels up to .125 inch thick. Specify rear panel mount jackposts.

### How To Order CBS Style PCB Micro-D Connectors

| Sample Part Number            | MWDM   | 1 | L- | 31   | P | CBS | NN   | -.110 | 513 |
|-------------------------------|--|---|----|--|---|-----|--|-------|-----|
| Series                        | MWDM - Micro-D Metal Shell   |   |    |  |   |     |  |       |     |
| Shell Material and Finish     | <b>Aluminum Shell</b><br>1 - Cadmium 2 - Nickel 4 - Black Anodize 5 - Gold 6 - Chem Film<br><b>Stainless Steel Shell</b><br>3 - Passivated   |   |    |  |   |     |  |       |     |
| Insulator Material            | L - LCP or PPS<br>LCP - 30% Glass-filled liquid crystal polymer<br>PPS - 40% Glass-filled polyphenylene sulfide  |   |    |  |   |     |  |       |     |
| Contact Layout                | 9, 15, 21, 25, 31, 37, 51, 69, 75, 100, 130 (See Table I)  |   |    |  |   |     |  |       |     |
| Contact Type                  | P - Pin S - Socket   |   |    |  |   |     |  |       |     |
| Termination Type              | CBS - Condensed Board Straight   |   |    |  |   |     |  |       |     |
| Hardware Option               | NN – No Jackpost, No Threaded Insert<br>PN – Extended Jackpost for .062" (1.6) PCB, No Threaded Insert<br>RN – Extended Jackpost for .196" (5.0) PCB, No Threaded Insert<br>NU – Threaded Insert Only, No Jackposts<br>PU – Short Jackpost and Threaded Insert |   |    | Rear Panel Jackposts With Threaded Inserts<br>R7U – .080" (2.0) Panel<br>R6U – .125" (3.2) Panel<br>R5U – .094" (2.4) Panel<br>R4U – .062" (1.6) Panel<br>R3U – .047" (1.2) Panel<br>R2U – .031" (0.8) Panel |   |     | Jackscrew Options<br>M – Hex Head Jackscrews<br>S – Slot Head Jackscrews |       |     |
| PC Tail Length                | .080, .110, .140, .172, .190, .250 Length in Inches ± .015 (0.38)  |   |    |  |   |     |  |       |     |
| Gold-Plated Terminal Mod Code | These connectors are solder-dipped in 60/40 tin-lead solder. To delete the solder dip and change to gold-plated terminals, add code 513  |   |    |  |   |     |  |       |     |

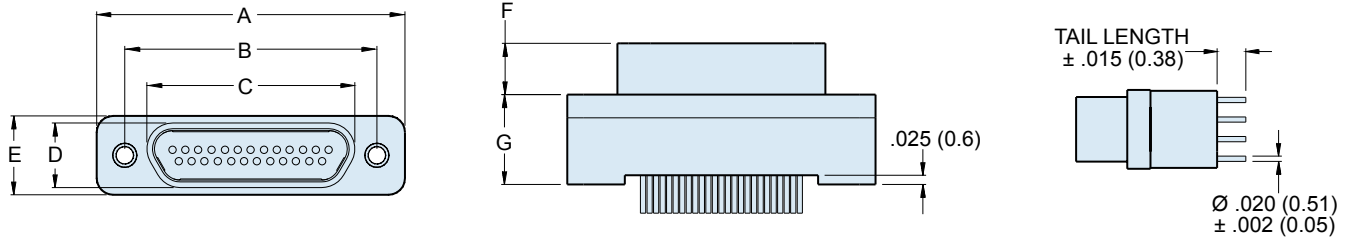
## HARDWARE OPTIONS

See Pages C-22 and C-23

Micro-D MWDM-CBS  
Vertical Board Mount  
Printed Circuit Board Connector



Table I: 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  | .184   | 4.67 | .310   | 7.87  | .183          | 4.65          | .355   | 9.02  |
| 9S     | .785   | 19.94 | .565          | 14.35         | .400   | 10.16 | .250   | 6.35 | .310   | 7.87  | .195          | 4.95          | .355   | 9.02  |
| 15P    | .935   | 23.75 | .715          | 18.16         | .483   | 12.27 | .184   | 4.67 | .310   | 7.87  | .183          | 4.65          | .355   | 9.02  |
| 15S    | .935   | 23.75 | .715          | 18.16         | .551   | 14.00 | .250   | 6.35 | .310   | 7.87  | .195          | 4.95          | .355   | 9.02  |
| 21P    | 1.085  | 27.56 | .865          | 21.97         | .633   | 16.08 | .184   | 4.67 | .310   | 7.87  | .183          | 4.65          | .355   | 9.02  |
| 21S    | 1.085  | 27.56 | .865          | 21.97         | .701   | 17.81 | .250   | 6.35 | .310   | 7.87  | .195          | 4.95          | .355   | 9.02  |
| 25P    | 1.185  | 30.01 | .965          | 24.51         | .733   | 18.62 | .184   | 4.67 | .310   | 7.87  | .183          | 4.65          | .355   | 9.02  |
| 25S    | 1.185  | 30.01 | .965          | 24.51         | .801   | 20.35 | .250   | 6.35 | .310   | 7.87  | .195          | 4.95          | .355   | 9.02  |
| 31P    | 1.335  | 33.91 | 1.115         | 28.32         | .883   | 22.43 | .184   | 4.67 | .310   | 7.87  | .183          | 4.65          | .355   | 9.02  |
| 31S    | 1.335  | 33.91 | 1.115         | 28.32         | .951   | 24.16 | .250   | 6.35 | .310   | 7.87  | .195          | 4.95          | .355   | 9.02  |
| 37P    | 1.485  | 37.72 | 1.265         | 32.13         | 1.033  | 26.24 | .184   | 4.67 | .310   | 7.87  | .183          | 4.65          | .355   | 9.02  |
| 37S    | 1.485  | 37.72 | 1.265         | 32.13         | 1.101  | 27.96 | .250   | 6.35 | .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  |
| 69P    | 1.735  | 44.07 | 1.515         | 38.48         | 1.284  | 32.61 | .224   | 5.69 | .400   | 10.16 | .183          | 4.65          | .355   | 9.02  |
| 69S    | 1.735  | 44.07 | 1.515         | 38.48         | 1.50   | 34.29 | .293   | 7.44 | .400   | 10.16 | .195          | 4.95          | .355   | 9.02  |
| 75P    | 2.080  | 52.83 | 1.705         | 43.31         | 1.384  | 35.15 | .228   | 5.79 | .400   | 10.16 | .183          | 4.65          | .355   | 9.02  |
| 75S    | 2.080  | 52.83 | 1.705         | 43.31         | 1.450  | 36.83 | .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 | .270   | 6.86 | .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 |
| 130P   | 2.520  | 64.00 | 2.150         | 54.61         | 1.735  | 44.07 | .270   | 6.86 | .510   | 12.95 | .183          | 4.65          | .430   | 10.92 |
| 130S   | 2.520  | 64.00 | 2.150         | 54.61         | 1.795  | 45.59 | .333   | 8.46 | .510   | 12.95 | .195          | 4.95          | .430   | 10.92 |

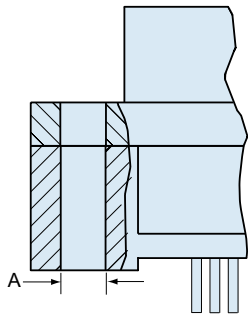
| Performance Specifications |                               |
|----------------------------|-------------------------------|
| Current Rating             | 3 AMP                         |
| DWV                        | 600 VAC Sea level             |
| Insulation Resistance      | 5000 Megohms Minimum          |
| Contact Resistance         | 8 Milliohms Maximum           |
| Low Level Contact Resist.  | 32 Milliohms Maximum          |
| Magnetic Permeability      | 2 μ Maximum                   |
| Operating Temperature      | -55° C. to +150° C.           |
| Shock, Vibration           | 50 g., 20g.                   |
| Mating Force               | (10 Ounces) X (# of Contacts) |

| Materials and Finishes |   |
|------------------------|---|
| Connector Shell        | Aluminum Alloy 6061 or Stainless Steel, 300 Series, passivated. See Ordering Info for Plating Options |
| Insulator, Tray        | Liquid Crystal Polymer (LCP)<br>Polyphenylene Sulfide (PPS)   |
| Interfacial Seal       | Fluorosilicone Rubber, Blue   |
| Pin Contact            | Copper Alloy, Gold over Nickel Plating  |
| Socket Contact         | Copper Alloy, Gold Over Nickel Plating  |
| PCB Terminals          | Gold Plated Copper Alloy, Solder Dipped   |
| Hardware               | 300 Series Stainless Steel  |
| Encapsulant            | Epoxy Resin Hysol EE4215  |



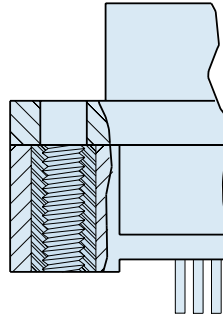
# Micro-D MWDM-CBS Vertical Board Mount Hardware

## MICRO-D CBS Board Mount Connector Hardware Options



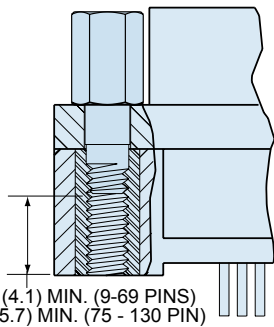
**NN Style**  
Thru-Hole, No Hardware

A DIAMETER  
9-69 CONTACTS  
.096/.088 (2.44/2.24)  
75, 100, 130 CONTACTS  
.150/.145 (3.81/3.68)



**NU Style**  
Threaded Insert

9-69 CONTACTS  
NO. 2-56 UNC-2B  
75-130 CONTACTS  
NO. 4-40 UNC-2B

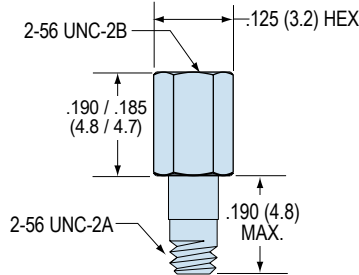


.160 (4.1) MIN. (9-69 PINS)  
.225 (5.7) MIN. (75 - 130 PIN)

**PU Style**

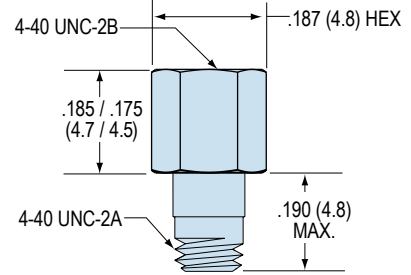
Jackpost with Threaded Insert

### 9 – 69 Contacts

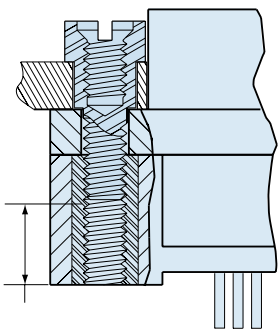


Kit Part Number **500-063-1**  
Kit Consists of Two Jackposts

### 75 – 130 Contacts



Kit Part Number **500-063-2**  
Kit Consists of Two Jackposts

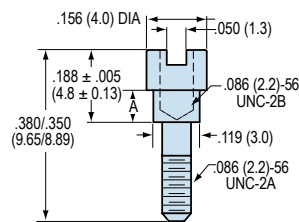


.160 (4.1) MIN. (9-69 PINS)  
.225 (5.7) MIN. (75 - 130 PINS)

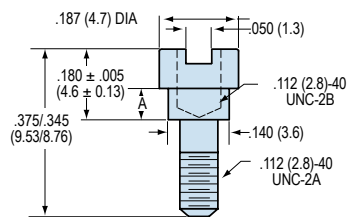
**RU Style**

Jackpost For Rear Panel Mounting,  
with Threaded Insert

### 9 – 69 Contacts

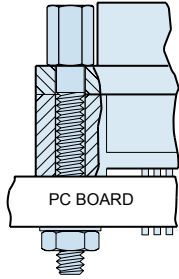


### 75 – 130 Contacts



| Hardware Option | Panel Thickness | Part Number   | A<br>± .003 (0.08) | Hardware Option | Panel Thickness | Part Number   | A<br>± .003 (0.08) |
|-----------------|-----------------|---------------|--------------------|-----------------|-----------------|---------------|--------------------|
| R2U             | 1/32 (0.8)      | 177-505-A-2-2 | .024 (0.6)         | R2U             | 1/32 (0.8)      | 177-505-D-4-2 | .024 (0.6)         |
| R3U             | 3/64 (1.2)      | 177-505-A-2-3 | .041 (1.0)         | R3U             | 3/64 (1.2)      | 177-505-D-4-3 | .041 (1.0)         |
| R4U             | 1/16 (1.6)      | 177-505-A-2-4 | .055 (1.4)         | R4U             | 1/16 (1.6)      | 177-505-D-4-4 | .055 (1.4)         |
| R5U             | 3/32 (2.4)      | 177-505-A-2-5 | .086 (2.2)         | R5U             | 3/32 (2.4)      | 177-505-D-4-5 | .086 (2.2)         |
| R6U             | 1/8 (3.2)       | 177-505-A-2-6 | .118 (3.0)         | R6U             | 1/8 (3.2)       | 177-505-D-4-6 | .118 (3.0)         |
| R7U             | 5/64 (2.0)      | 177-505-A-2-7 | .073 (1.9)         | R7U             | 5/64 (2.0)      | 177-505-D-4-7 | .073 (1.9)         |

## MICRO-D CBS Board Mount Connector Hardware Options



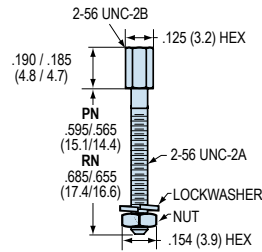
**PN Style**

for .062" PCB

**RN Style** for .196" PCB

Jackpost Kit

### 9 - 69 Contacts

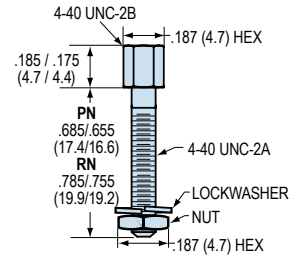


PN Kit Part Number **500-069-2-6**

RN Kit Part Number **500-069-2-7**

Kit Consists of 2 Jackposts, 2 Nuts, 2 Washers

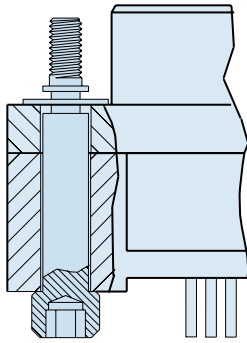
### 75 - 130 Contacts



PN Kit Part Number **500-069-4-7**

RN Kit Part Number **500-069-4-8**

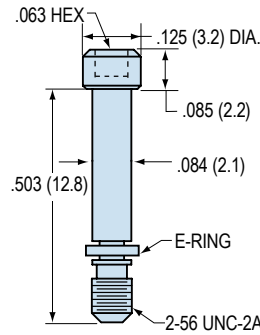
Kit Consists of 2 Jackposts, 2 Nuts, 2 Washers



**M Style**

Hex Head Jackscrew with  
E-Ring

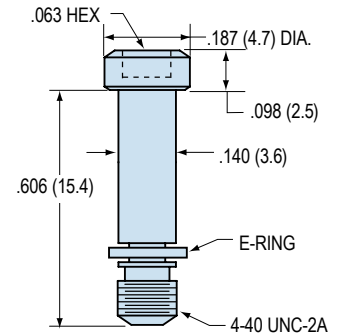
### 9 - 69 Contacts



Kit Part Number **500-080-2**

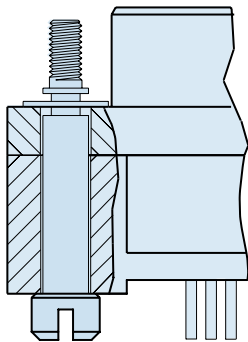
Kit Consists of 2 Jackscrews and 2 E-Rings

### 75 - 130 Contacts



Kit Part Number **500-080-4**

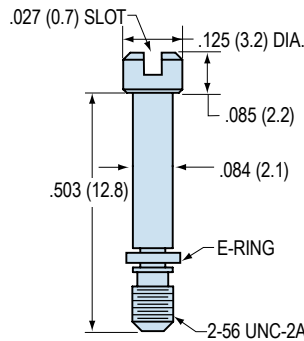
Kit Consists of 2 Jackscrews and 2 E-Rings



**S Style**

Slot Head Jackscrew with  
E-Ring

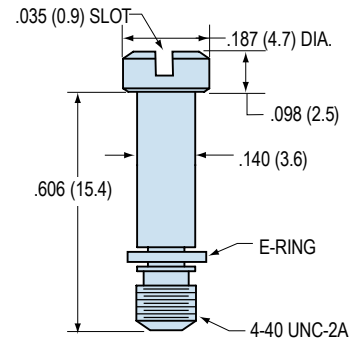
### 9 - 69 Contacts



Kit Part Number **500-081-2**

Kit Consists of 2 Jackscrews and 2 E-Rings

### 75 - 130 Contacts



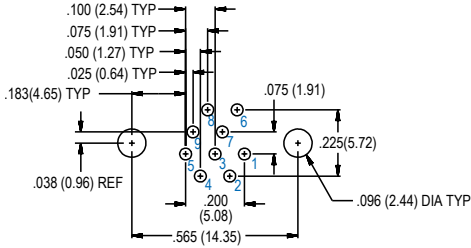
Kit Part Number **500-081-4**

Kit Consists of 2 Jackscrews and 2 E-Rings

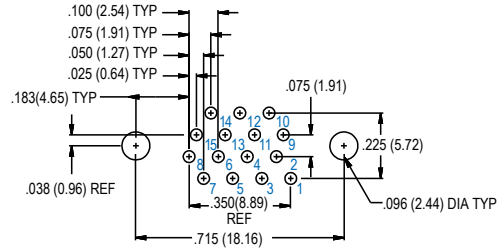


**MICRO-D CBS Board Mount Connector PCB Layouts – Pin Connectors**

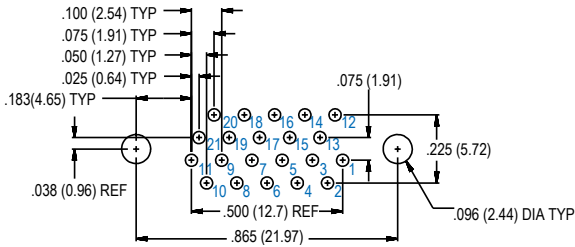
Patterns shown are for connector mounting side of PC board.



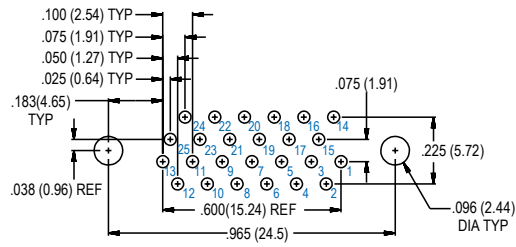
**9 PIN**



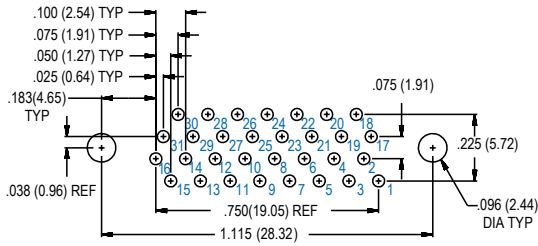
**15 PIN**



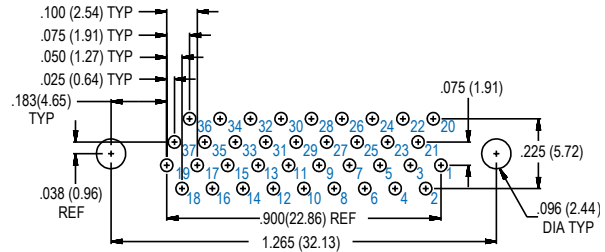
**21 PIN**



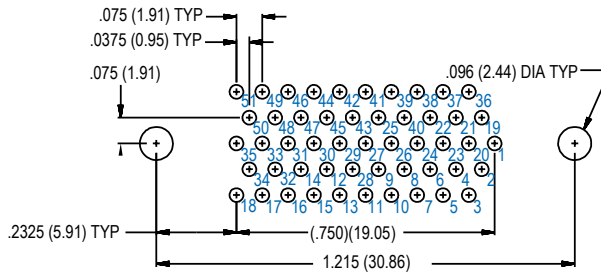
**25 PIN**



**31 PIN**



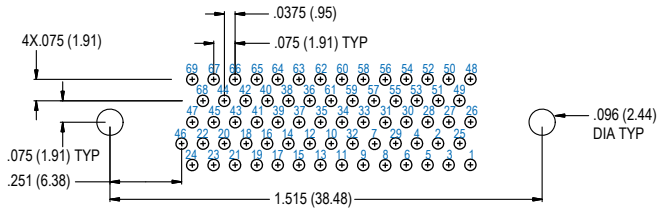
**37 PIN**



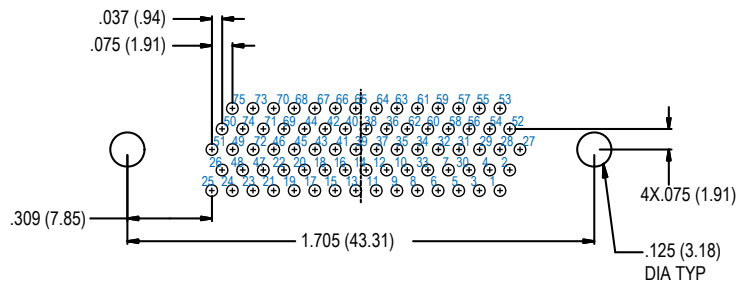
**51 PIN**

## MICRO-D CBS Board Mount Connector PCB Layouts – Pin Connectors

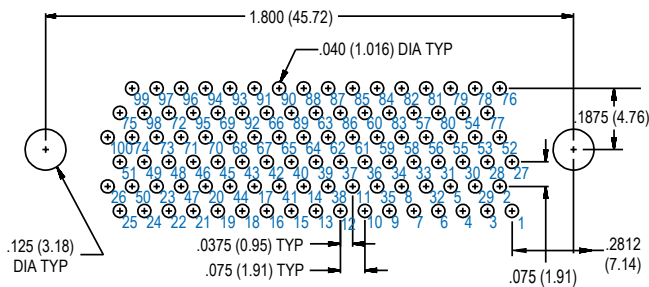
Patterns shown are for connector mounting side of PC board.



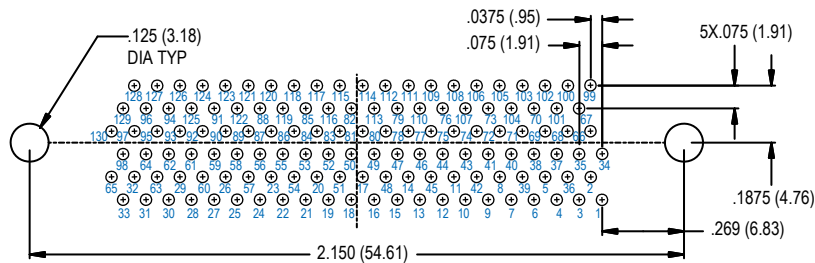
69 PIN



75 PIN



100 PIN



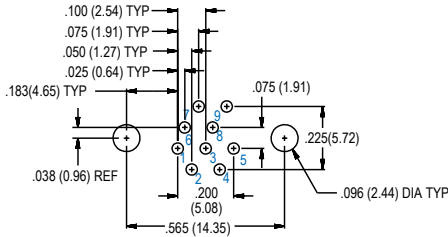
130 PIN



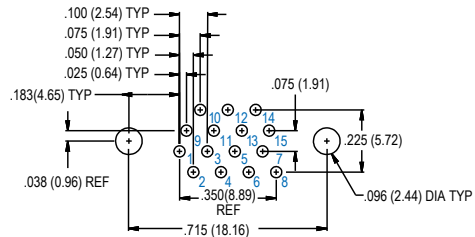
Micro-D MWDM-CBS  
Vertical Board Mount  
PCB Layouts

MICRO-D CBS Board Mount Connector PCB Layouts – Socket Connectors

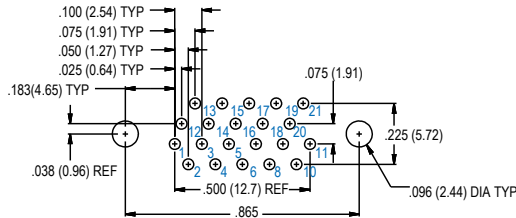
Patterns shown are for connector mounting side of PC board.



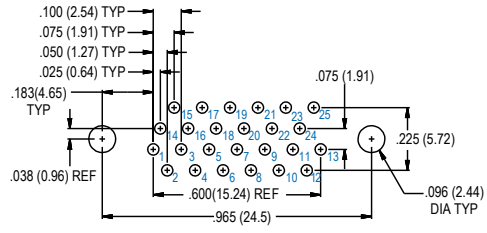
9 SOCKET



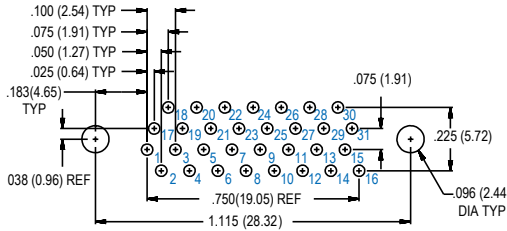
15 SOCKET



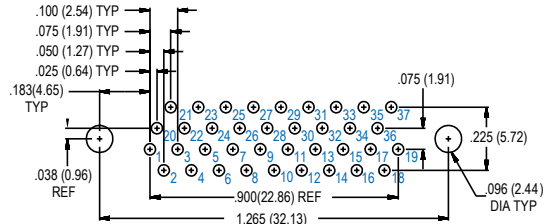
21 SOCKET



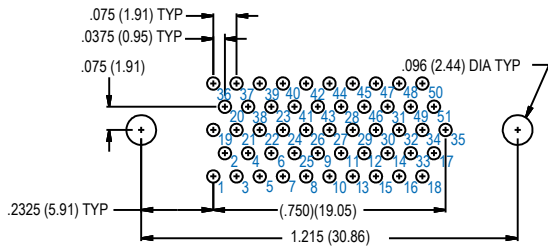
25 SOCKET



31 SOCKET



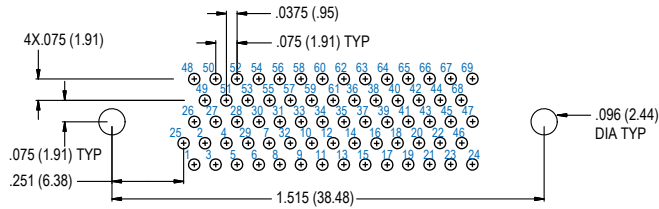
37 SOCKET



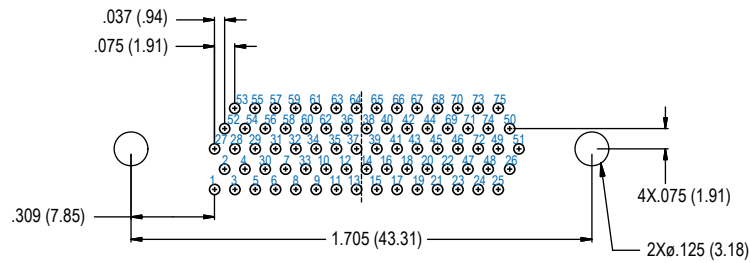
51 SOCKET

## MICRO-D CBS Board Mount Connector PCB Layouts – Socket Connectors

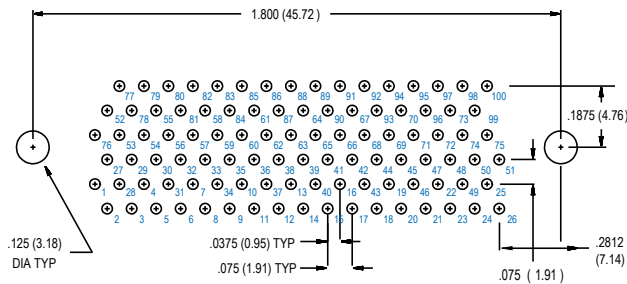
Patterns shown are for connector mounting side of PC board.



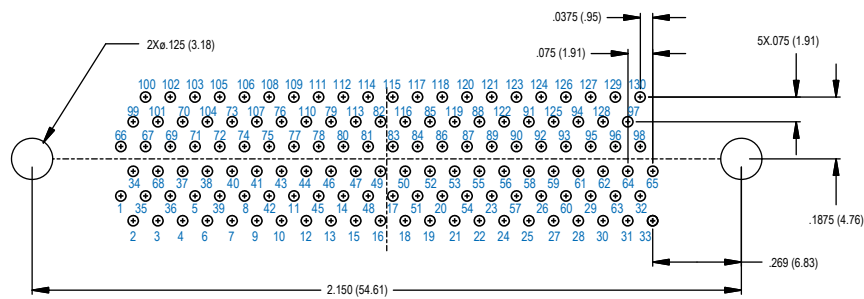
69 SOCKET



75 SOCKET



100 SOCKET



130 SOCKET