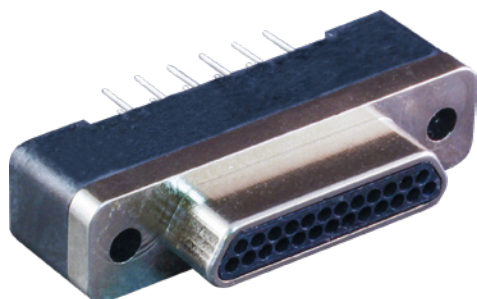




## Micro-D MWDM-CBS Vertical Board Mount Printed Circuit Board Connector



**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     | Aluminum Shell<br>1 - Cadmium   2 - Nickel   4 - Black Anodize   5 - Gold   6 - Chem Film<br>33 - Nickel-PTFE<br>Stainless Steel Shell<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, .125, .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.<br>To delete the solder dip and change to gold-plated terminals, add code -513                                                                                                                    |      |                                                                                                                                                                                                              |    |    |                                                                          |     |    |       |      |

## HARDWARE OPTIONS

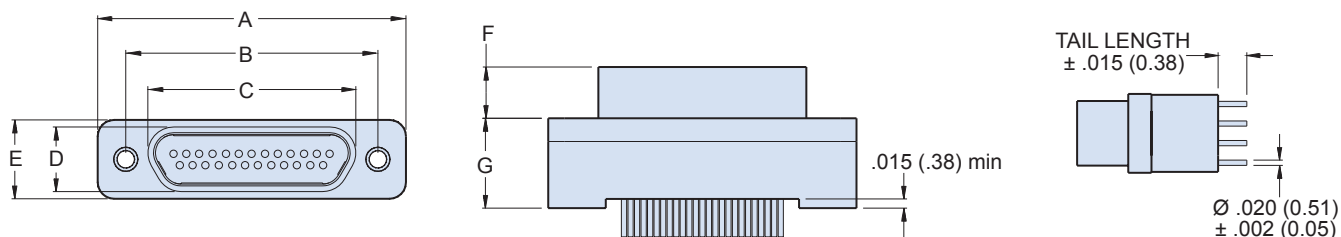
See Pages C-16 and C-17

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



Micro-D PCB

Table I: Dimensions



| Layout | A Max. |       | B                 |                   | C Max. |       | D Max. |      | E Max. |       | F                 |                   | G Max. |       |
|--------|--------|-------|-------------------|-------------------|--------|-------|--------|------|--------|-------|-------------------|-------------------|--------|-------|
|        | In.    | mm.   | In.<br>$\pm .005$ | mm.<br>$\pm 0.13$ | In.    | mm.   | In.    | mm.  | In.    | mm.   | In.<br>$\pm .003$ | mm.<br>$\pm 0.08$ | 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  | 30.10 | .965              | 24.51             | .733   | 18.62 | .184   | 4.67 | .310   | 7.87  | .183              | 4.65              | .355   | 9.02  |
| 25S    | 1.185  | 30.10 | .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 $\mu$ Maximum               |
| Operating Temperature     | -55° C. to +150° C.           |
| Shock, Vibration          | 50 g., 20g.                   |
| Mating Force              | (10 Ounces) X (# of Contacts) |

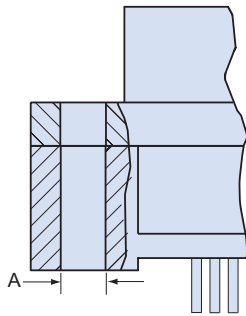
## Materials and Finishes

|                  |                                                                                                       |
|------------------|-------------------------------------------------------------------------------------------------------|
| 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                                                                              |



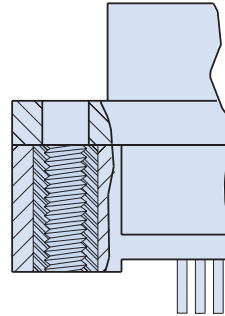
# Micro-D MWDM-CBS Vertical Board Mount Hardware

## MICRO-D CBS Board Mount Connector Hardware Options



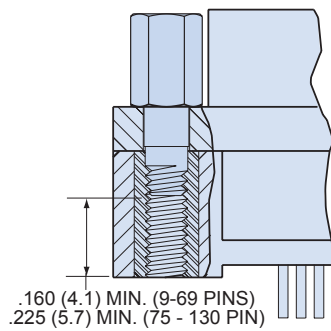
**NN Style**  
Thru-Hole, No Hardware

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

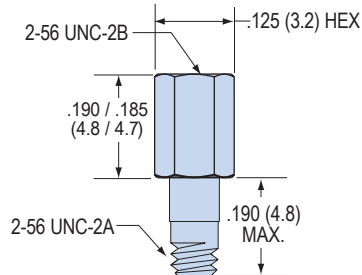
9-69 CONTACTS  
NO. 2-56 UNC-2B  
75-130 CONTACTS  
NO. 4-40 UNC-2B



**PU Style**

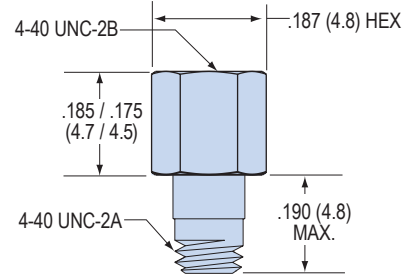
Jackpost with Threaded Insert

### 9 - 69 Contacts

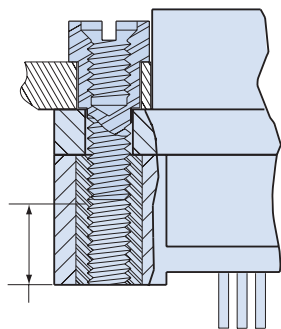


Kit Part Number **500-063-1**  
Kit Consists of Two Jackposts

### 75 - 130 Contacts



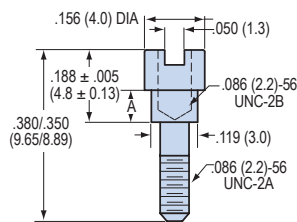
Kit Part Number **500-063-2**  
Kit Consists of Two Jackposts



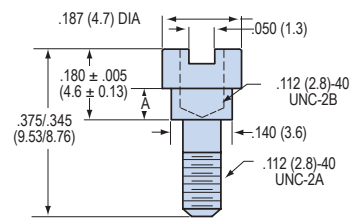
**RU Style**

Jackpost For Rear Panel Mounting,  
with Threaded Insert

### 9 - 69 Contacts

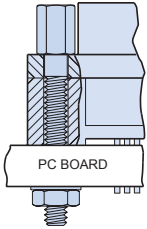


### 75 - 130 Contacts



| 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



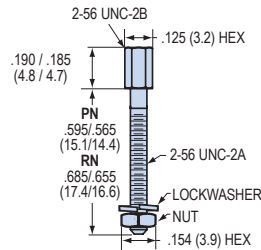
**PN Style**

for .062" PCB

**RN Style** for .196" PCB

Jackpost Kit

### 9 – 69 Contacts

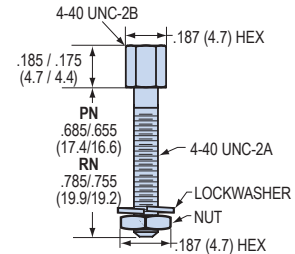


PN Kit Part Number **500-069-2-6**

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

Kit Consists of 2 Jackposts, 2 Nuts, 2 Washers

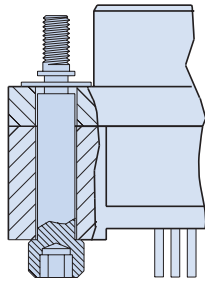
### 75 - 130 Contacts



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

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

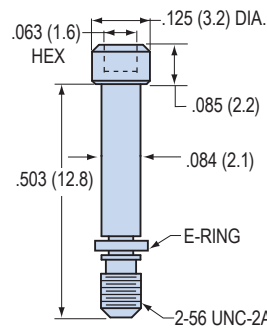
Kit Consists of 2 Jackposts, 2 Nuts, 2 Washers



**M Style**

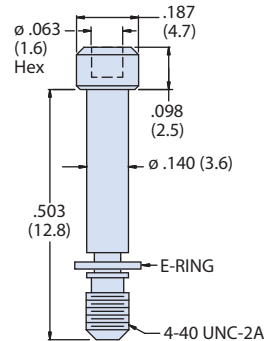
Hex Head Jackscrew  
with  
E-Ring

### 9 – 69 Contacts



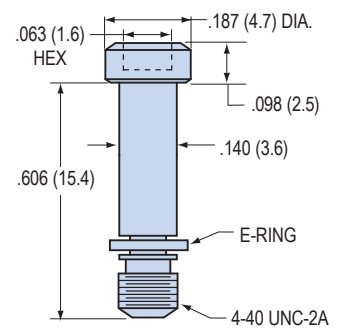
Kit Part Number **500-080-2**  
Kit Consists of 2 Jackscrews and 2 E-Rings

### 75 Contacts

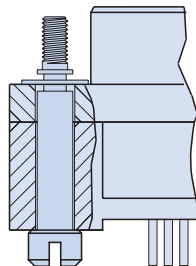


Kit Part Number **500-080-3**  
Kit Consists of 2 Jackscrews and 2 E-Rings

### 100 - 130 Contacts



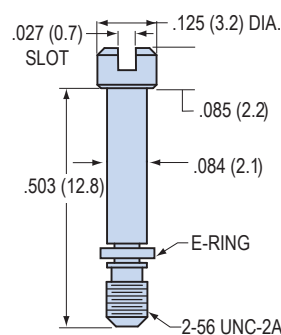
Kit Part Number **500-080-4**  
Kit Consists of 2 Jackscrews and 2 E-Rings



**S Style**

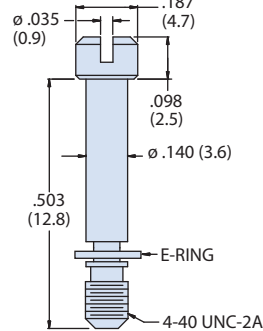
Slot Head Jackscrew  
with  
E-Ring

### 9 – 69 Contacts



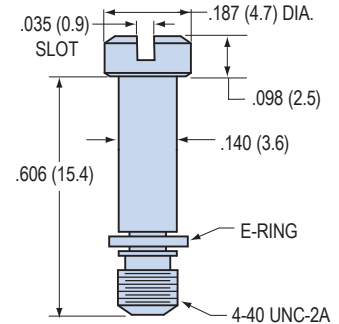
Kit Part Number **500-081-2**  
Kit Consists of 2 Jackscrews and 2 E-Rings

### 75 Contacts



Kit Part Number **500-081-3**  
Kit Consists of 2 Jackscrews and 2 E-Rings

### 100 - 130 Contacts



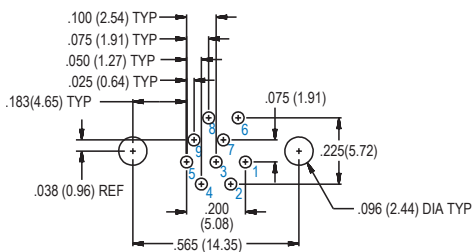
Kit Part Number **500-081-4**  
Kit Consists of 2 Jackscrews and 2 E-Rings



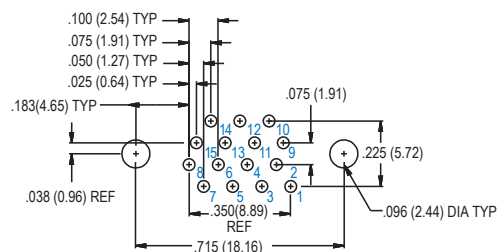
# Micro-D MWDM-CBS Vertical Board Mount PCB Layouts

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

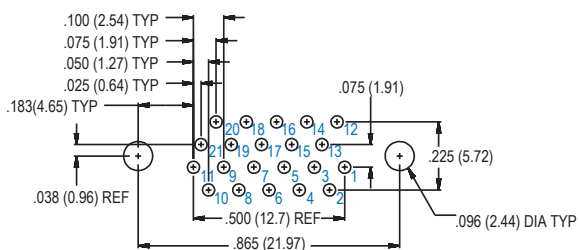
Patterns shown are for connector mounting side of PC board.



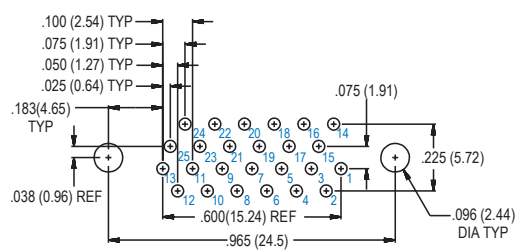
9 PIN



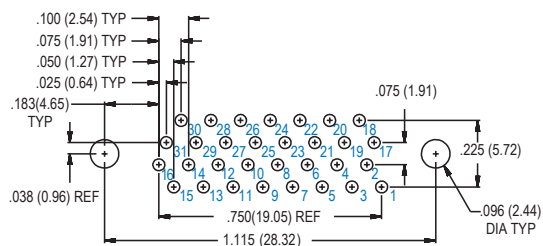
15 PIN



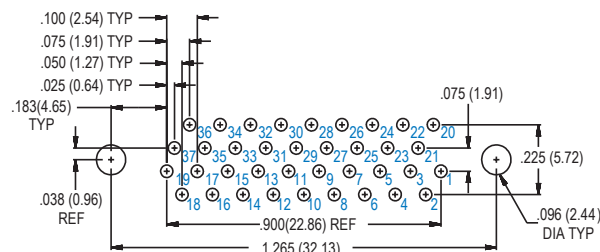
21 PIN



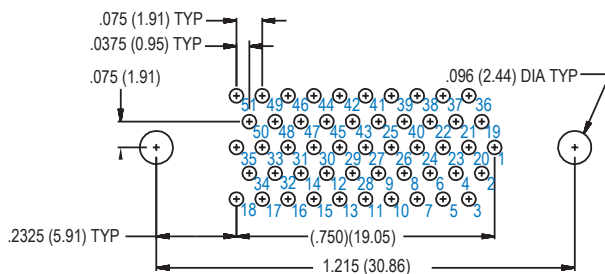
25 PIN



31 PIN



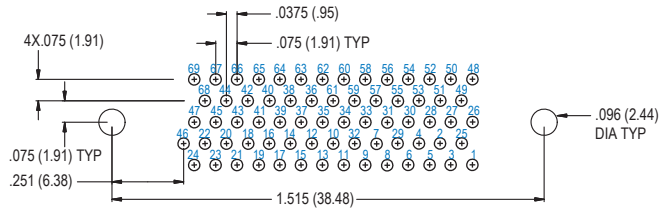
37 PIN



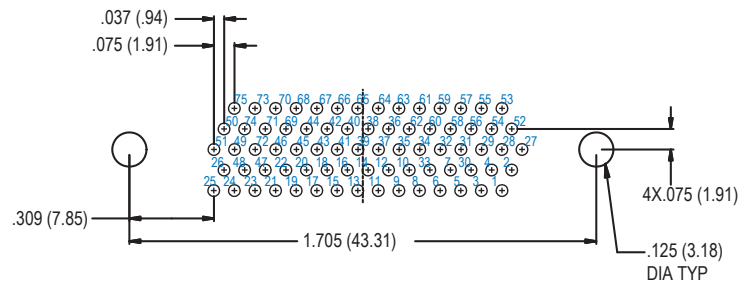
51 PIN

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

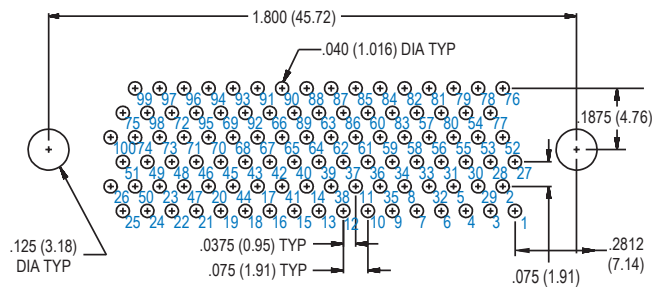
Patterns shown are for connector mounting side of PC board.



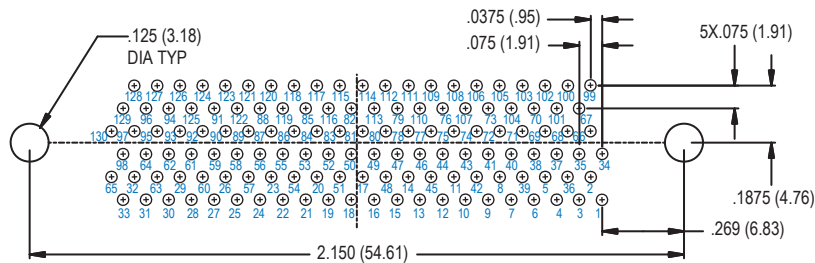
69 PIN



75 PIN



100 PIN



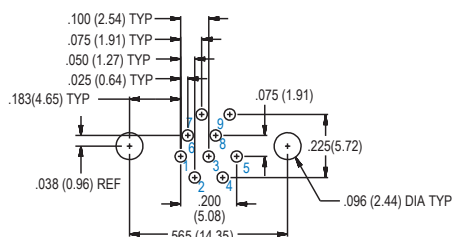
130 PIN



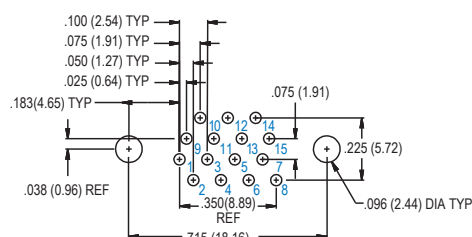
# Micro-D MWDM-CBS Vertical Board Mount PCB Layouts

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

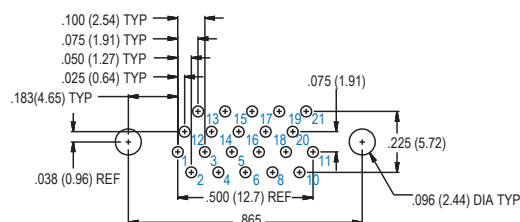
Patterns shown are for connector mounting side of PC board.



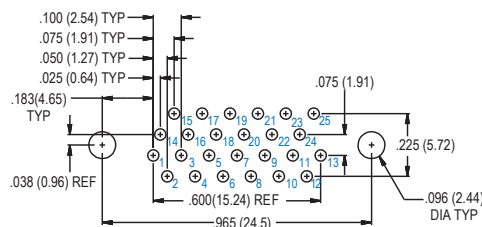
**9 SOCKET**



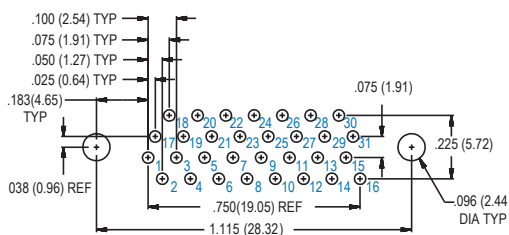
**15 SOCKET**



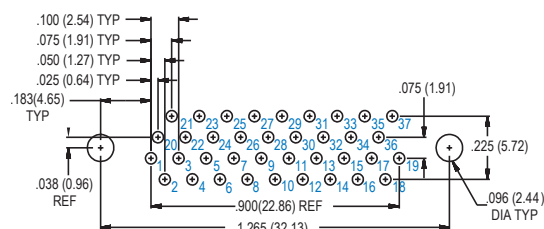
**21 SOCKET**



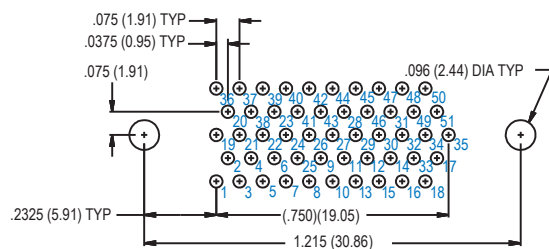
**25 SOCKET**



**31 SOCKET**



**37 SOCKET**

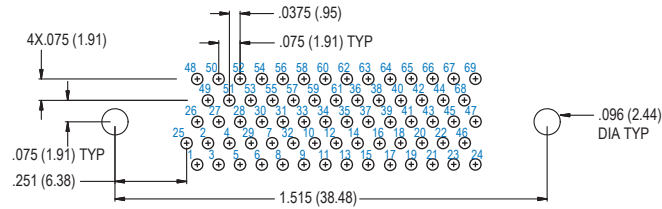


**51 SOCKET**

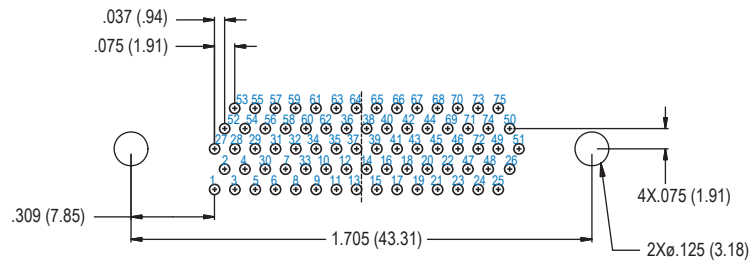


## MICRO-D CBS Board Mount Connector PCB Layouts – Socket Connectors

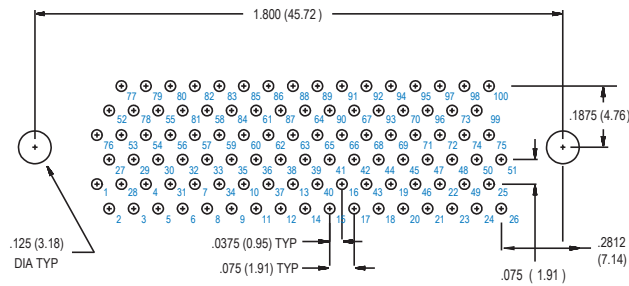
Patterns shown are for connector mounting side of PC board.



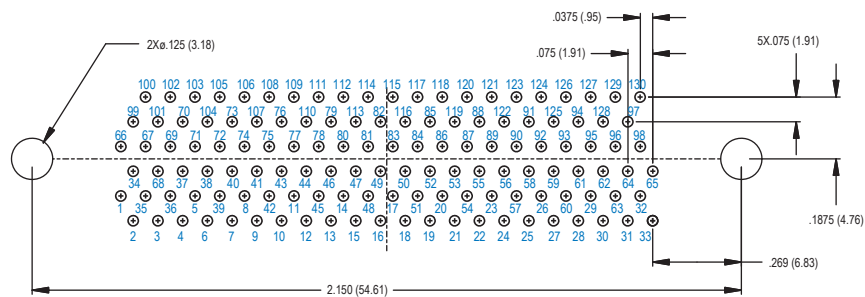
**69 SOCKET**



**75 SOCKET**



**100 SOCKET**



**130 SOCKET**



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