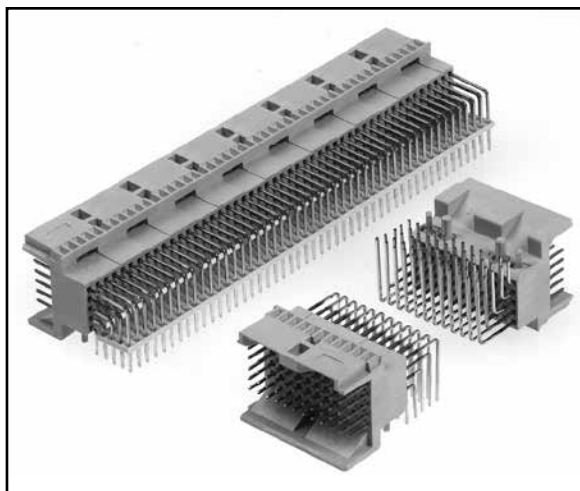


# 3M™ MetPak™ 2-FB Inverse Header

2 mm 5-Row, Right Angle, Solder Tail

MP2 Series



- Three levels of early mate, late break (EMLB)
- sequencing or selective loading options
- Footprint compatible with standard Futurebus+®
- Solder tail with true-position wafer
- Ideal for hot swapping applications
- End-to-end stackable
- Right angle male for daughter card
- Mates with MP2-R for backplane applications and MP2-SXXXG for coplanar applications
- RoHS Compliant. See the Regulatory Information Appendix (RIA) in the “RoHS compliance” section of [www.3Mconnectors.com](http://www.3Mconnectors.com) for compliance information (RIA E1 & C1 apply)

Date Modified: September 17, 2013

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## Physical

### Insulation:

Material: High Temp LCP  
Flammability: UL 94V-0  
Color: Beige

### Contact:

Material: Copper Alloy

### Plating:

Underplating: 50 µ" [1.27 µm] Nickel  
Wiping Area: See Ordering Information  
Solder Tails: See Ordering Information

## Electrical

**Current Rating:** Signal: 1.5 A – All contacts simultaneously

**Insulation Resistance:** 10<sup>3</sup> MΩ

**Withstanding Voltage:** 1000 V<sub>AC</sub>

## Environmental

**Temperature Rating:** -55°C to +125°C

**Process Temperature Rating:** 260°C (Profile per J-STD-020C)

**Moisture Sensitivity Level:** 1 (per J-STD-020C)

UL File No.: E68080

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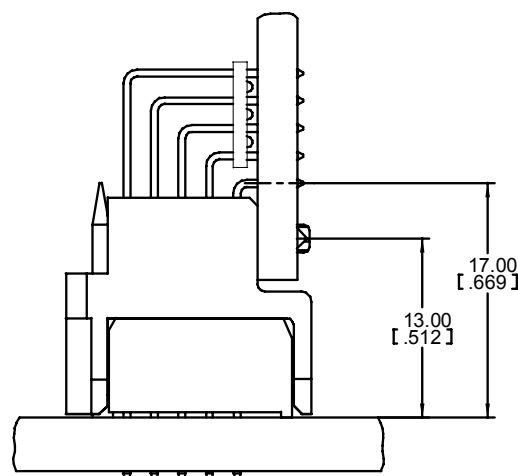
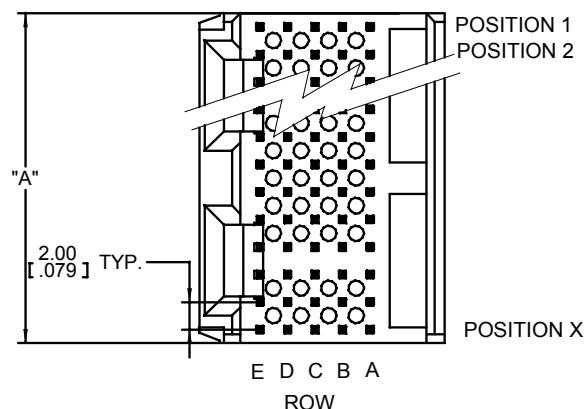
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2 mm 5-Row, Right Angle, Solder Tail

MP2 Series



MATED WITH MP2-RXXX-5XXX-XXXX



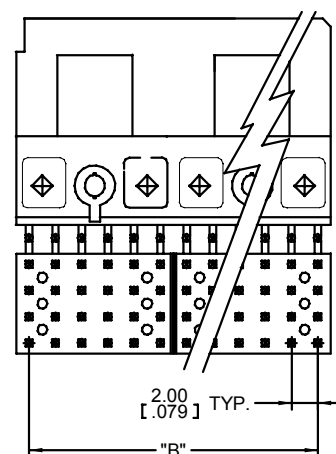
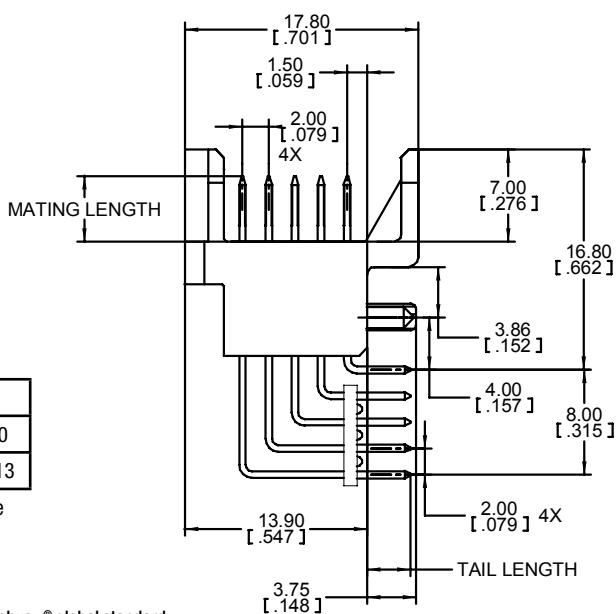
mm  
[inch]

| Tolerance Unless Noted |    |      |       |
|------------------------|----|------|-------|
|                        | 0  | 0.0  | 0.00  |
| mm                     | ±3 | ±0.3 | ±0.13 |

[ ] Dimensions for Reference Only

## Notes:

1. Refer to IEC 61076-4-104 Futurebus+® global standard.
2. For special pin arrangements, contact 3M.



## Ordering Information

P = Right Angle Header  
Inversed

Pin Count  
(See Table 1)

Rows  
5 = 5 Rows

Loading Pattern and Tail  
Length (See Table 2)

**MP2 - PXXX - 5XM1 - XXXXX**

Plating Options  
(See Table 3)

Termination Style  
M = Solder Tail

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2 mm 5-Row, Right Angle, Solder Tail

MP2 Series

| Table 1 - Connector & Row Lengths |                       |                      |      |
|-----------------------------------|-----------------------|----------------------|------|
| Pin Count                         | Dim. "A" mm<br>[inch] | Dim "B" mm<br>[inch] | Rows |
| 030                               | 11.95 [0.471]         | 10.00 [0.394]        | 5    |
| 060                               | 23.95 [0.943]         | 22.00 [0.866]        | 5    |
| 090                               | 35.95 [1.415]         | 34.00 [1.339]        | 5    |
| 120                               | 47.95 [1.889]         | 46.00 [1.811]        | 5    |
| 150                               | 59.95 [2.36]          | 58.00 [2.283]        | 5    |
| 180                               | 71.95 [2.833]         | 70.00 [2.756]        | 5    |
| 210                               | 83.95 [3.305]         | 82.00 [3.228]        | 5    |
| 240                               | 95.95 [3.778]         | 94.00 [3.701]        | 5    |
| 270                               | 107.95 [4.251]        | 106.00 [4.173]       | 5    |
| 300                               | 119.95 [4.722]        | 118.00 [4.646]       | 5    |
| 420                               | 167.95 [6.612]        | 166.00 [6.535]       | 5    |

| Table 2 - Mate & Tail Lengths, mm vs. Loading Pattern |                           |                         |                         |                         |                         |                         |                         |                         |                         |                         |                         |
|-------------------------------------------------------|---------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Loading<br>Pattern<br>Code                            | Description               | Mate<br>Length<br>Row A | Mate<br>Length<br>Row B | Mate<br>Length<br>Row C | Mate<br>Length<br>Row D | Mate<br>Length<br>Row E | Tail<br>Length<br>Row A | Tail<br>Length<br>Row B | Tail<br>Length<br>Row C | Tail<br>Length<br>Row D | Tail<br>Length<br>Row E |
| 1                                                     | All Positions Filled      | 5.00                    | 5.00                    | 5.00                    | 5.00                    | 5.00                    | 3.30                    | 3.30                    | 3.30                    | 3.30                    | 3.30                    |
| 2                                                     | All Positions Filled      | 4.25                    | 5.00                    | 5.00                    | 5.00                    | 5.00                    | 4.05                    | 3.30                    | 3.30                    | 3.30                    | 3.30                    |
| 3                                                     | All Positions Filled      | 3.50                    | 4.25                    | 4.25                    | 5.00                    | 5.00                    | 4.80                    | 4.05                    | 4.05                    | 3.30                    | 3.30                    |
| 4                                                     | All Positions Filled      | 4.25                    | 5.00                    | 4.25                    | 4.25                    | 4.25                    | 4.05                    | 3.30                    | 4.05                    | 4.05                    | 4.05                    |
| 5                                                     | Rows A, B, C and D Filled | 5.00                    | 5.00                    | 5.00                    | 5.00                    | NA                      | 3.30                    | 3.30                    | 3.30                    | 3.30                    | NA                      |
| 6                                                     | Rows A, B, C and D Filled | 5.00                    | 4.25                    | 4.25                    | 5.00                    | NA                      | 3.30                    | 4.05                    | 4.05                    | 3.30                    | NA                      |
| 7                                                     | All Positions Filled      | 4.25                    | 5.00                    | 4.25                    | 5.00                    | 4.25                    | 4.05                    | 3.30                    | 4.05                    | 3.30                    | 4.05                    |
| 8                                                     | All Positions Filled      | 4.25                    | 4.25                    | 4.25                    | 4.25                    | 4.25                    | 4.05                    | 4.05                    | 4.05                    | 4.05                    | 4.05                    |
| 9                                                     | All Positions Filled      | 5.00                    | 3.50                    | 3.50                    | 3.50                    | 4.25                    | 3.30                    | 4.80                    | 4.80                    | 4.80                    | 4.05                    |
| A                                                     | All Positions Filled      | 3.75                    | 4.50                    | 5.25                    | 4.50                    | 3.75                    | 4.55                    | 3.80                    | 3.05                    | 3.80                    | 4.55                    |
| B                                                     | All Positions Filled      | 3.75                    | 4.50                    | 3.75                    | 4.50                    | 3.75                    | 4.55                    | 3.80                    | 4.55                    | 3.80                    | 4.55                    |
| C                                                     | All Positions Filled      | 5.75                    | 5.75                    | 5.75                    | 5.75                    | 5.75                    | 2.55                    | 2.55                    | 2.55                    | 2.55                    | 2.55                    |
| D                                                     | All Positions Filled      | 4.25                    | 5.00                    | 5.75                    | 5.00                    | 4.25                    | 4.05                    | 3.30                    | 2.55                    | 3.30                    | 4.05                    |
| E                                                     | All Positions Filled      | 5.00                    | 5.75                    | 5.75                    | 5.75                    | 5.00                    | 4.05                    | 4.05                    | 4.05                    | 4.05                    | 4.05                    |
| G                                                     | Rows A, B, C and D Filled | 5.00                    | 4.25                    | 4.25                    | 5.00                    | NA                      | 3.30                    | 4.05                    | 4.05                    | 3.30                    | NA                      |

| Table 3 - Plating         |                                                            |
|---------------------------|------------------------------------------------------------|
| Plating Suffix            | Plating Composition                                        |
| KR<br>(RIA E1 & C1 apply) | 0.76 µm [30 µ"] Min. Au Contact Area                       |
|                           | 2.54 µm [100 µ"] Min. Matt Whisker Mitigating Sn Tail Area |
|                           | 1.27 µm [50 µ"] Min. Ni all over                           |
| LR<br>(RIA E1 & C1 apply) | 0.08 µm [3 µ"] Min. Au Contact Area                        |
|                           | 0.67 µm [27 µ"] Min. PdNi Contact Area                     |
|                           | 2.54 µm [100 µ"] Min. Matt Whisker Mitigating Sn Tail Area |
|                           | 1.27 µm [50 µ"] Min. Ni all over                           |

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## MP2 Series



| HOLE | Finished Dia.<br>MM [in]     | Cu Thickness [mm<br>[in]     | Immersion Matte<br>Sn Thickness<br>microns [μ"] | Electrolytic Au<br>Thickness<br>microns [μ"] | OSP ENTEK<br>Thickness<br>microns [μ"] | Drilled Hole<br>Dia. mm [in]                              |
|------|------------------------------|------------------------------|-------------------------------------------------|----------------------------------------------|----------------------------------------|-----------------------------------------------------------|
| "D"  | 0.700-0.800<br>[.0276-.0315] | 0.025-0.045<br>[0.001-0.002] | 0.5 - 2.5<br>[20 - 100]                         | 0.1 - 0.5<br>[4 - 20]                        | 0.2 - 0.5<br>[8 - 20]                  | 0.830-0.860 [.0330-.0340] or 0.85 mm<br>[#66] TWIST DRILL |



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