

3M™ MetPak™ 2-FB Header

2 mm 4/5 Row, Vertical, Solder or Press-Fit Tail, Shouldered Pin

MP2 Series



Solder Tail

- End-to-end stackable
- Select load capability
- Monoblockable
- Shoulder Pin

Press Fit

- End-to-end stackable
- Early mate late break for hot swapping (press-fit EMLB adjusted by application tooling)
- Select load capability
- Monoblockable
- Push-on shoulder pin
- Optional feed-through tail for rear plug-up midplane applications
- Accepts Universal Tooling
- RoHS Compliant. See the Regulatory Information Appendix (RIA) in the “RoHS compliance” section of www.3Mconnector.com for compliance information (RIA E1 & C1 apply)

Date Modified: May 10, 2010

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Physical

Insulation:

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

Contact:

Material: Phosphor Bronze

Plating:

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

Electrical

Current Rating: Signal: 1.5 A – All contacts simultaneously

Insulation Resistance: 10³ M Ω

Withstanding Voltage: 1,000 V_{AC}

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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FOR SPECIAL MONOBLOCKS
AND PIN ARRANGEMENTS
CONTACT 3M SALES
REPRESENTATIVE



4 ROW PRODUCT

mm
[inch]

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

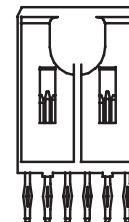
[] Dimensions for
Reference Only



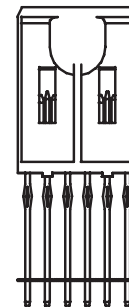
5 ROW PRODUCT



**SOLDER TAIL
PRODUCT**



**PRESS FIT
PRODUCT**



**PRESS FIT
PRODUCT
REAR
PLUG-UP**

Contact 3M For Rear Plug-Up Option



Notes:

1. Refer to IEC 61076-4-104 Futurebus+® global standard.
2. "Press Fit" describes a contact tail having a compliant section designed to make a reliable electrical connection with a plated through-hole (PTH) in a printed circuit board, typically a "back plane."

Ordering Information



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| Pin Count | Dim. "A" mm [inch] | Dim "C" mm [inch] | Rows |
|-----------|--------------------|-------------------|------|
| 024 | 11.95 [0.471] | 10.00 [0.394] | 4 |
| 048 | 23.95 [0.943] | 22.00 [0.866] | 4 |
| 072 | 35.95 [1.415] | 34.00 [1.339] | 4 |
| 096 | 47.95 [1.889] | 46.00 [1.811] | 4 |
| 120 | 59.95 [2.36] | 58.00 [2.283] | 4 |
| 144 | 71.95 [2.833] | 70.00 [2.756] | 4 |
| 168 | 83.95 [3.305] | 82.00 [3.228] | 4 |
| 192 | 95.95 [3.778] | 94.00 [3.701] | 4 |
| 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 [1.888] | 46.00 [1.811] | 5 |
| 150 | 59.95 [2.361] | 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 |

| Plating Suffix | Press-Fit Tails* | Solder Tails | Plating Composition |
|--------------------------|---------------------|---------------------|---|
| TG30 | (RIA E2 & C2 apply) | (RIA E3 & C2 apply) | 0.76 µm [30 µ"] Min. Au Contact Area 2.54 µm [100 µ"] Min. SnPb Tail Area 1.27 µm [50 µ"] Min. Ni all over |
| TR30 | (RIA E2 & C2 apply) | (RIA E3 & C2 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. SnPb Tail Area 1.27 µm [50 µ"] Min. Ni all over |
| KR | (RIA E1 & C1 apply) | (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 | (RIA E1 & C1 apply) | (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 |
| KV for rear plug-up only | (RIA E1 & C1 apply) | | 0.76 µm [30 µ"] Min. Au Dual Contact Areas 0.10 µm [4 µ"] Min. Au Needle Eye 1.27 µm [50 µ"] Min. Ni all over |

| Plating Suffix | | Dim. "B" |
|----------------|-----------------|--------------|
| Solder Tail | Press-Fit* Tail | |
| 1 | 1 | 4.60 [0.181] |
| 3 | | 2.72 [0.107] |

*Compliant-Pin Tail

| Loading Pattern Code | Description | Mate length Row A | Mate length Row B | Mate length Row C | Mate length Row D | Mate length Row E (5-Row Prod. Only) |
|----------------------|----------------------|-------------------|-------------------|-------------------|-------------------|--------------------------------------|
| 1 | All Positions Filled | 5.00 [0.197] | 5.00 [0.197] | 5.00 [0.197] | 5.00 [0.197] | 5.00 [0.197] |
| 2 | All Positions Filled | 6.50 [0.256] | 5.00 [0.197] | 5.00 [0.197] | 5.00 [0.197] | 5.00 [0.197] |
| 3 | All Positions Filled | 6.50 [0.256] | 5.75 [0.226] | 5.75 [0.226] | 6.50 [0.256] | 6.50 [0.256] |
| 4 | All Positions Filled | 6.50 [0.256] | 6.50 [0.256] | 6.50 [0.256] | 6.50 [0.256] | 6.50 [0.256] |
| 5 | All Positions Filled | 5.75 [0.226] | 7.25 [0.285] | 5.75 [0.226] | 5.75 [0.226] | 5.75 [0.226] |
| 6 | All Positions Filled | 7.25 [0.285] | 5.75 [0.226] | 5.75 [0.226] | 5.75 [0.226] | 5.75 [0.226] |
| 7 | All Positions Filled | 6.50 [0.256] | 5.75 [0.226] | 5.00 [0.197] | 5.00 [0.197] | 5.00 [0.197] |
| 8 | All Positions Filled | 6.50 [0.256] | 5.00 [0.197] | 6.50 [0.256] | 6.50 [0.256] | 6.50 [0.256] |
| 9 | All Positions Filled | 5.00 [0.197] | 6.50 [0.256] | 5.00 [0.197] | 5.00 [0.197] | 5.00 [0.197] |
| A | All Positions Filled | 5.00 [0.197] | 5.75 [0.226] | 6.50 [0.256] | 5.75 [0.226] | 5.00 [0.197] |
| B | All Positions Filled | 5.75 [0.226] | 5.75 [0.226] | 5.75 [0.226] | 5.75 [0.226] | 5.75 [0.226] |
| C | All Positions Filled | 5.00 [0.197] | 5.00 [0.197] | 6.50 [0.256] | 5.00 [0.197] | 5.00 [0.197] |
| D | All Positions Filled | 5.75 [0.226] | 5.75 [0.226] | 7.25 [0.285] | 5.75 [0.226] | 5.75 [0.226] |
| E | All Positions Filled | 7.25 [0.285] | 7.25 [0.285] | 7.25 [0.285] | 7.25 [0.285] | 7.25 [0.285] |
| G | All Positions Filled | 7.25 [0.285] | 5.75 [0.226] | 5.75 [0.226] | 5.00 [0.197] | 5.00 [0.197] |
| H | All Positions Filled | 5.00 [0.197] | 5.75 [0.226] | 5.75 [0.226] | 7.25 [0.285] | 7.25 [0.285] |
| J | All Positions Filled | 8.00 [0.315] | 8.00 [0.315] | 8.00 [0.315] | 8.00 [0.315] | 8.00 [0.315] |
| K | All Positions Filled | 5.00 [0.197] | 6.50 [0.256] | 7.25 [0.285] | 6.50 [0.256] | 5.00 [0.197] |

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**RECOMMENDED 4 ROW SOLDER
TAIL PCB HOLE MOUNTING PATTERN**



**RECOMMENDED 4 ROW PRESS-FIT
PCB HOLE MOUNTING PATTERN**

Table 5 – HOLE PLATING For TG30 and TR30 FINISHES ONLY

| HOLE | Finished Dia. MM [in] | Cu Thickness [mm [in]] | SnPb Thickness microns [μ"] | Drilled Hole Dia. mm [in] |
|------|--------------------------|------------------------|-----------------------------|---------------------------|
| "D" | 0.65-0.80 [0.0256-.0315] | 0.025 [0.001] min. | 15 [600] max. | 0.81-0.86 [0.0319-.0339] |

Table 6 – HOLE PLATING For KR, LR, and KV FINISHES ONLY

| HOLE | Finished Dia. MM [in] | Immersion Matte Sn Thickness microns [μ"] | Electrolytic Au Thickness microns [μ"] | OSP ENTEK Thickness microns [μ"] | Drilled Hole Dia. mm [in] |
|------|----------------------------|---|--|----------------------------------|---|
| "D" | 0.700-0.800 [0.0276-.0315] | 0.025-0.045 [0.001-0.002] | 0.1 - 0.5 [4 - 20] | 0.2 - 0.5 [8 - 20] | 0.830-0.860 [0.0330-.0340] or 0.85 mm [#66] TWIST DRILL |



**RECOMMENDED 5 ROW SOLDER
TAIL PCB HOLE MOUNTING PATTERN**



**RECOMMENDED 5 ROW PRESS-FIT
PCB HOLE MOUNTING PATTERN**

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