

# 3M™ MetPak™ 2-FB Socket

2 mm 4/5-Row, Solder Tail or Press-Fit With Tail Cover, Right Angle

MP2 Series



- End-to-end stackable
- Offset dual-beam contact minimizes insertion force
- Expanded pin counts
- Protective Push-Cap
- Monoblockable
- Press or heat stake peg
- 12 mm modular units
- Meets global IEC 61076-4-104 Futurebus+® standard
- See the Regulatory Information Appendix (RIA) in the “RoHS compliance” section of [www.3Mconnector.com](http://www.3Mconnector.com) for compliance information (RIA E1 & C1 apply)

Date Modified: May12, 2010

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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:** 1,000 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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**3M**  
Electronic Solutions Division  
Interconnect Solutions  
<http://www.3Mconnector.com>

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**800-225-5373**

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**4 ROW PRODUCT**

**5 ROW PRODUCT**

FOR SPECIAL MONOBLOCKS  
CONTACT 3M SALES  
REPRESENTATIVE

Note:

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."

| mm (Inch)<br>Tolerance Unless Noted |    |      |       |
|-------------------------------------|----|------|-------|
|                                     | 0  | 0.0  | 0.00  |
| mm                                  | ±3 | ±0.3 | ±0.13 |

( ) Dimensions used for Reference Only

**3M**

## Ordering Information

**MP2 - SXXX - X1XX - X - XXXX**

Contact Count (See Table 1) ————

Rows  
4 = 4 Rows  
5 = 5 Rows ————

Termination Style  
M = Solder Tail (Press Peg)  
(press peg requiring arbor press for PCB assembly)  
(Contact 3M Sales Rep)  
P = Press Fit (w/ Tail Cover) ————

Tail Length (See Table 2) ————

Plating Options:  
(See Table 3)  
C = Capped Solder Tail  
Blank = Press-Fit ————

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| Table 1 - Connector & Row Lengths |                   |         |                   |         |      |             |
|-----------------------------------|-------------------|---------|-------------------|---------|------|-------------|
| Pin Count                         | Dim "A" mm (Inch) |         | Dim "B" mm (Inch) |         | Rows | Block Count |
| 024                               | 11.95             | [0.471] | 10.00             | [0.394] | 4    | 1           |
| 048                               | 23.95             | [0.943] | 22.00             | [0.866] | 4    | 2           |
| 072                               | 35.95             | [1.415] | 34.00             | [1.339] | 4    | 3           |
| 096                               | 47.95             | [1.889] | 46.00             | [1.811] | 4    | 4           |
| 120                               | 59.95             | [2.36]  | 58.00             | [2.283] | 4    | 5           |
| 144                               | 71.95             | [2.833] | 70.00             | [2.756] | 4    | 6           |
| 168                               | 83.95             | [3.305] | 82.00             | [3.228] | 4    | 7           |
| 192                               | 95.95             | [3.778] | 94.00             | [3.701] | 4    | 8           |
| 030                               | 11.95             | [0.471] | 10.00             | [0.394] | 5    | 1           |
| 060                               | 23.95             | [0.943] | 22.00             | [0.866] | 5    | 2           |
| 090                               | 35.95             | [1.415] | 34.00             | [1.339] | 5    | 3           |
| 120                               | 47.95             | [1.888] | 46.00             | [1.811] | 5    | 4           |
| 150                               | 59.95             | [2.361] | 58.00             | [2.283] | 5    | 5           |
| 180                               | 71.95             | [2.833] | 70.00             | [2.756] | 5    | 6           |
| 210                               | 83.95             | [3.305] | 82.00             | [3.228] | 5    | 7           |
| 240                               | 95.95             | [3.778] | 94.00             | [3.701] | 5    | 8           |

| Table 2 - Tail & Post Lengths                   |            |              |              |
|---|------------|--------------|--------------|
| Contact-to-PC Board Tail Termination Option No. |            | Dim "C"      | Dim. "D"     |
| Solder  | Press-Fit* |              |              |
| M1  |            | 2.72 [0.107] | 3.57 [0.141] |
| M2  | P1         | 3.53 [0.139] | 3.57 [0.141] |

\*Compliant-Pin Tail

| Table 3 - Plating |                     |                     |   |
|-------------------|---------------------|---------------------|---|
| 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<br>2.54 µm [100 µ"] Min. SnPb Tail Area<br>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<br>0.67 µm [27 µ"] Min. PdNi Contact Area<br>2.54 µm [100 µ"] Min. SnPb Tail Area<br>1.27 µm [50 µ"] Min. Ni all over                       |
| FJ                | (RIA E1 & C1 apply) | (RIA E1 & C1 apply) | 0.25 µm [10 µ"] Min. Au Contact Area<br>2.54 µm [100 µ"] Min. Matt Whisker Mitigating Sn Tail Area<br>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<br>2.54 µm [100 µ"] Min. Matt Whisker Mitigating Sn Tail Area<br>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<br>0.67 µm [27 µ"] Min. PdNi Contact Area<br>2.54 µm [100 µ"] Min. Matt Whisker Mitigating Sn Tail Area<br>1.27 µm [50 µ"] Min. Ni all over |

\*Compliant-Pin Tail

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**Table 4 -- HOLE PLATING For TG30 and TR30 FINISHES ONLY**

| HOLE | Finished Dia.<br>mm [in] | Cu Thickness<br>mm [in] | SnPb Thickness<br>microns [μ"] | Drilled Hole Dia.<br>mm [in] |
|------|--------------------------|-------------------------|--------------------------------|------------------------------|
| "D"  | 0.65-0.80 [.0256-.0315]  | 0.025 [.001] min        | 15 [600] max                   | 0.81-0.86 [.0319-.0339]      |

**Table 5 -- HOLE PLATING For KR and LR FINISHES ONLY**

| HOLE | Finished Dia.<br>mm [in]     | Cu Thickness<br>mm [in]      | Immersion Matte Sn<br>Thickness<br>microns [μ"] | Electrolytic Au<br>Thickness<br>microns [μ"] | OSP ENTEK<br>Thickness<br>microns [μ"] | Drilled Hole Dia.<br>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<br>0.85mm [ #66 ] TWIST DRILL |

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**3M Electronics Solutions Division**

6801 River Place Blvd.  
Austin, TX 78726-9000  
U.S.A.  
1-800-225-5373  
[www.3Mconnector.com](http://www.3Mconnector.com)

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Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: [ocean@oceanchips.ru](mailto:ocean@oceanchips.ru)

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А