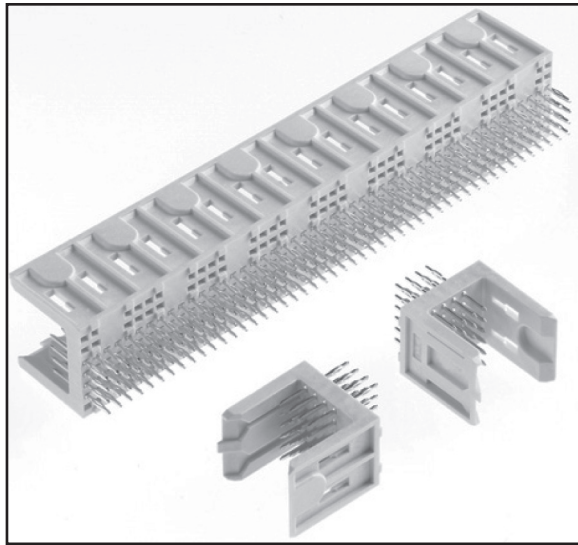


# 3M™ MetPak™ 2-FB Header

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.3Mconnectors.com](http://www.3Mconnectors.com) for compliance information (RIA E1 & C1 apply)

Date Modified: September 17, 2013

TS-1120-E  
Sheet 1 of 4

---

## Physical

### Insulation:

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

### Contact:

Material: Phosphor Bronze

### Plating:

Underplating: 50  $\mu$ " [1.27  $\mu$ m] 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> M $\Omega$

**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

---

**3M**

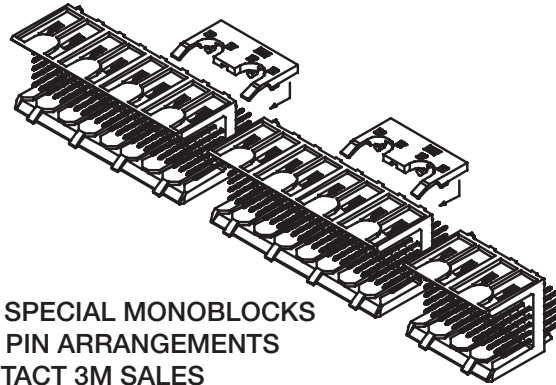
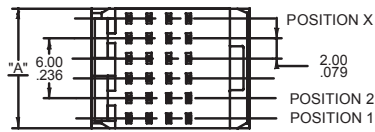
Electronic Solutions Division  
Interconnect Solutions  
<http://www.3Mconnectors.com>

3M is a trademark of 3M Company.  
For technical, sales or ordering information call  
**800-225-5373**

# 3M™ MetPak™ 2-FB Header

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

MP2 Series



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

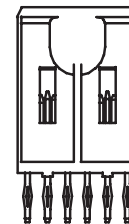
[ ] Dimensions for  
Reference Only



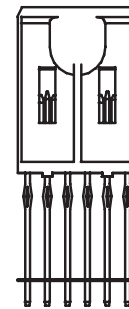
**5 ROW PRODUCT**



**SOLDER TAIL  
PRODUCT**



**PRESS FIT  
PRODUCT**



**PRESS FIT  
PRODUCT  
REAR  
PLUG-UP**

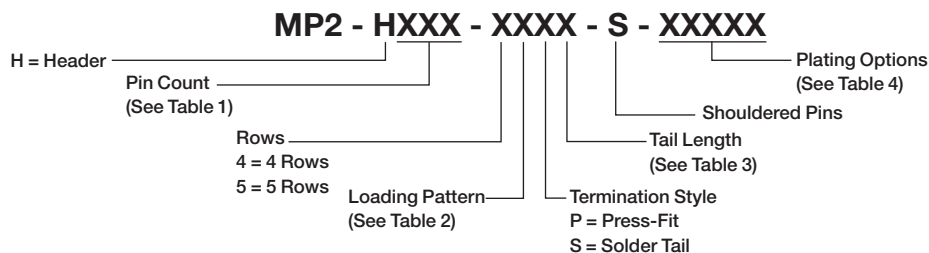
Contact 3M For Rear Plug-Up Option



**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



TS-1120-E  
Sheet 2 of 4

# 3M™ MetPak™ 2-FB Header

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

MP2 Series

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
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 Primary Contact Area 0.10 µm [4 µ"] Min. Au Needle Eye Area 0.10 µm [4 µ"] Min. Au Secondary Contact Area 1.27 m [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

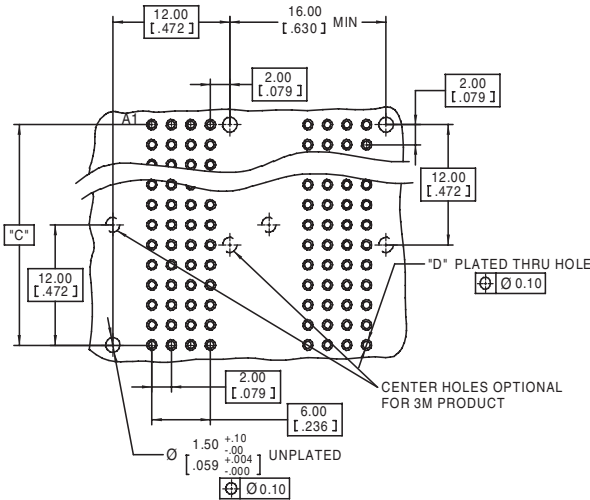
Loading Pattern Code	Description	Mate length Row A	Mate length Row B	Mate length Row C	Mate length Row D	Mate length Row E (5-Row Prod. Only)
1	All Positions Filled	5.00 [0.197]	5.00 [0.197]	5.00 [0.197]	5.00 [0.197]	5.00 [0.197]
2	All Positions Filled	6.50 [0.256]	5.00 [0.197]	5.00 [0.197]	5.00 [0.197]	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]

TS-1120-E  
Sheet 3 of 4

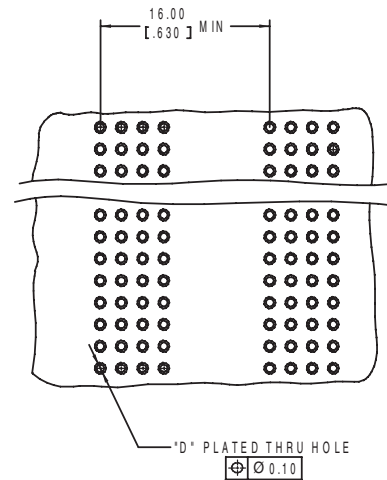
# 3M™ MetPak™ 2-FB Header

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

MP2 Series



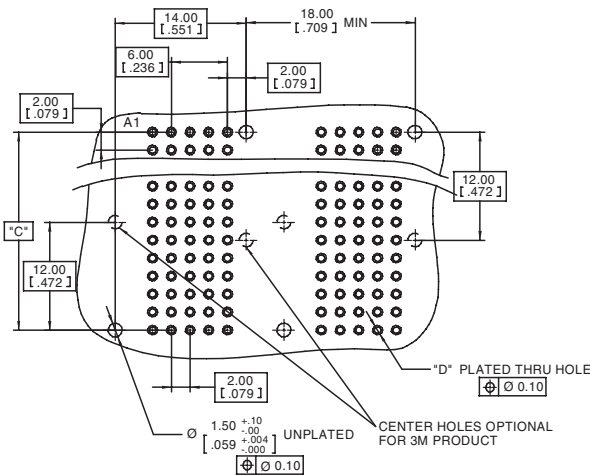
**RECOMMENDED 4 ROW SOLDER  
TAIL PCB HOLE MOUNTING PATTERN**



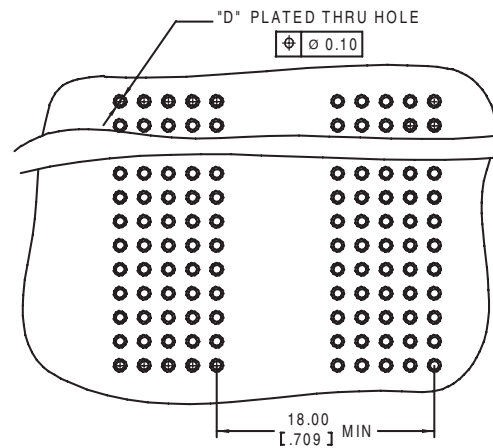
**RECOMMENDED 4 ROW PRESS-FIT**

**Table 5 - HOLE PLATING FINISHES**

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 [.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 [.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**

TS-1120-E  
Sheet 4 of 4

3M is a trademark of 3M Company.

### **Important Notice**

All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product which are not contained in 3M's current publications, or any contrary statements contained on your purchase order shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.

### **Warranty; Limited Remedy; Limited Liability.**

This product will be free from defects in material and manufacture for a period of one (1) year from the time of purchase. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. **Except where prohibited by law, 3M will not be liable for any indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.**



### **3M Electronics Solutions Division**

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

Please recycle. Printed in USA.  
© 3M 2013. All rights reserved.  
RIA-2217B-E

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## 3M:

[MP2-H048-41S1-S-KR](#) [MP2-H030-54P5-S-TR30](#) [MP2-H030-52S1-S-LR](#) [MP2-H030-54P1-S-LR](#) [MP2-H048-44P1-S-KR](#) [MP2-H060-54S1-S-LR](#) [MP2-H120-51S1-S-LR](#) [MP2-H120-54P5-S-TR30](#) [MP2-H192-41P1-S-TR30](#) [MP2-H048-41P5-S-KR](#) [MP2-H168-44P1-S-TR30](#) [MP2-H096-44S3-S-KR](#) [MP2-H024-41S1-S-FJ](#) [MP2-H024-41S1-S-TG](#) [MP2-H024-42S1-S-TR30](#) [MP2-H024-44S1-S-LR](#) [MP2-H030-51P1-S-LR](#) [MP2-H030-51S1-S-TR30](#) [MP2-H096-44S1-S-LR](#) [MP2-H150-51S3-S-KR](#) [MP2-H192-44S2-S-KR](#) [MP2-H096-41P5-S-KV](#) [MP2-H060-54P5-S-KV](#) [MP2-H150-54P1-S-KR](#) [MP2-H024-41P1-S-TR30](#) [MP2-H048-41P1-S-TG30](#) [MP2-H048-41S3-S-TG](#) [MP2-H072-41P1-S-TR30](#) [MP2-H090-51S1-S-TG30](#) [MP2-H090-54S2-S-TG30](#) [MP2-H096-41P1-S-TG30](#) [MP2-H144-41P1-S-TG30](#) [MP2-H150-51S1-S-TR30](#) [MP2-H192-41S1-S-TR30](#) [MP2-H030-51P1-S-TG30](#) [MP2-H096-44S2-S-KR](#) [MP2-H144-41P1-S-KR](#) [MP2-H024-41P1-S-TG30](#) [MP2-H120-51P1-S-TR30](#) [MP2-H024-41P1-S-KR](#) [MP2-H024-41S1-S-LR](#) [MP2-H024-41S1-S-TR30](#) [MP2-H030-51P1-S-KR](#) [MP2-H030-51P1-S-TR30](#) [MP2-H030-51S1-S-LR](#) [MP2-H030-51S3-S-TR30](#) [MP2-H030-54P1-S-TR30](#) [MP2-H048-41P1-S-TR30](#) [MP2-H048-41S1-S-TR30](#) [MP2-H048-44P1-S-TR30](#) [MP2-H060-51P1-S-TR30](#) [MP2-H060-51S1-S-TG30](#) [MP2-H060-54P1-S-TR30](#) [MP2-H060-54S1-S-TR30](#) [MP2-H090-51P1-S-TR30](#) [MP2-H096-41P1-S-TR30](#) [MP2-H096-41S3-S-TR30](#) [MP2-H096-44P1-S-TR30](#) [MP2-H096-44S3-S-TR30](#) [MP2-H120-41S1-S-TG30](#) [MP2-H120-41S1-S-TR30](#) [MP2-H120-44P1-S-TR30](#) [MP2-H120-51P1-S-LR](#) [MP2-H120-51P5-S-TR30](#) [MP2-H120-51S1-S-TG30](#) [MP2-H120-51S1-S-TR30](#) [MP2-H120-54P1-S-TR30](#) [MP2-H144-41S1-S-TR30](#) [MP2-H144-44S1-S-TR30](#) [MP2-H168-41P1-S-TG](#) [MP2-H180-51S2-S-TG30](#) [MP2-H180-54P1-S-TR30](#) [MP2-H180-54P5-S-TG30](#) [MP2-H180-54S3-S-TR30](#) [MP2-H192-44P1-S-TR30](#) [MP2-H192-44S1-S-LR](#) [MP2-H192-44S1-S-TR30](#) [MP2-H192-44S2-S-TR30](#) [MP2-H240-51S1-S-TG30](#) [MP2-H060-54P1-S-TG](#) [MP2-H048-41P1-S-LR](#) [MP2-H120-51P1-S-TG30](#) [MP2-H024-44S1-S-TR30](#) [MP2-H048-44S1-S-TR30](#) [MP2-H150-51P1-S-TR30](#) [MP2-H180-54P1-S-TR40B](#) [MP2-H060-51S1-S-TR30](#) [MP2-H180-54P1-S-PD](#) [MP2-H180-54S3-S-TG30](#) [MP2-H096-44S1-S-TR30](#) [MP2-H120-51S3-S-TR30](#) [MP2-H210-51S3-S-TR30](#) [MP2-H240-51S3-S-TR30](#) [MP2-H096-44P1-S-LR](#) [MP2-H120-41S1-S-LR](#) [MP2-H024-41S1-S-KR](#) [MP2-H048-41S3-S-KR](#) [MP2-H096-41S3-S-KR](#) [MP2-H240-51P1-S-KR](#) [MP2-H240-51S1-S-LR](#)