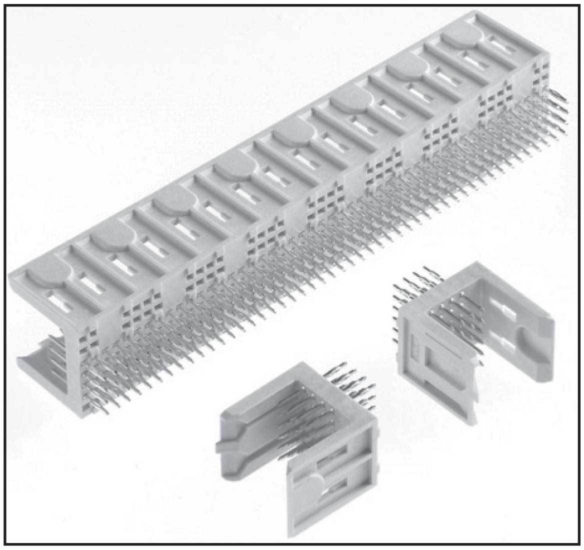
3M™ MetPak™ 2-FB Header

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 TS-1120-D
Sheet 1 of 4

Physical

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

Contact:
Material: Phosphor Bronze

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: 10^3 MΩ
Withstanding Voltage: 1,000 V_{AC}

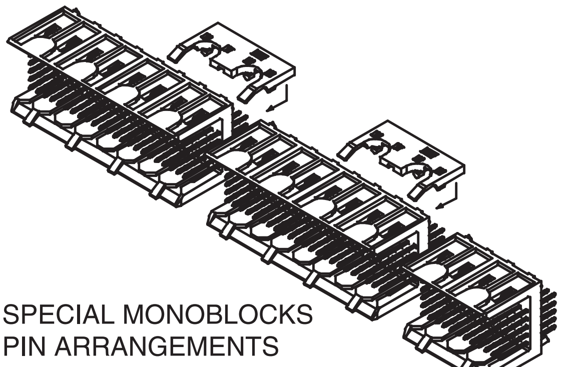
Environmental

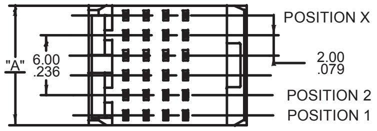
Temperature Rating: -55°C to +125°C
Process Temperature Rating: 260°C (Profile per J-STD-020C)
Moisture Sensitivity Level: 1 (per J-STD-020C)

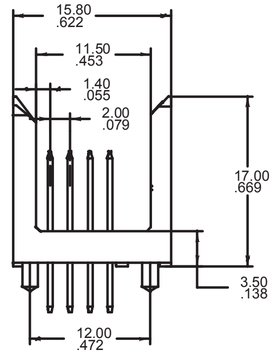
UL File No.: E68080

3M™ MetPak™ 2-FB Header

2 mm 4/5 Row, Vertical, Solder or Press-Fit Tail, Shouldered Pin — MP2 Series







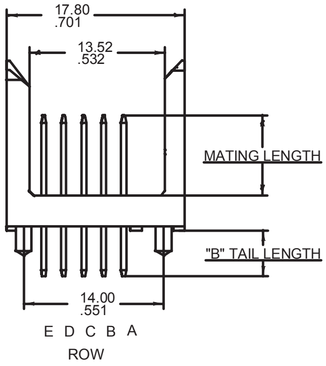
4 ROW PRODUCT

FOR SPECIAL MONOBLOCKS AND PIN ARRANGEMENTS CONTACT 3M SALES REPRESENTATIVE

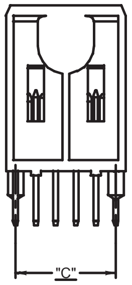
mm
[inch]

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

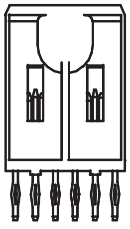
[ ] Dimensions for Reference Only



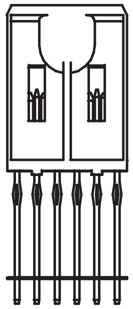
5 ROW PRODUCT



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

MP2 - HXXX - XXXX - S - XXXXX

H = Header

Pin Count (See Table 1)

Rows
4 = 4 Rows
5 = 5 Rows

Loading Pattern (See Table 2)

Termination Style
P = Press-Fit
S = Solder Tail

Tail Length (See Table 3)

Shouldered Pins

Plating Options (See Table 4)

Table 1 - Connector & Row Lengths

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

Table 4 - Plating Options

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

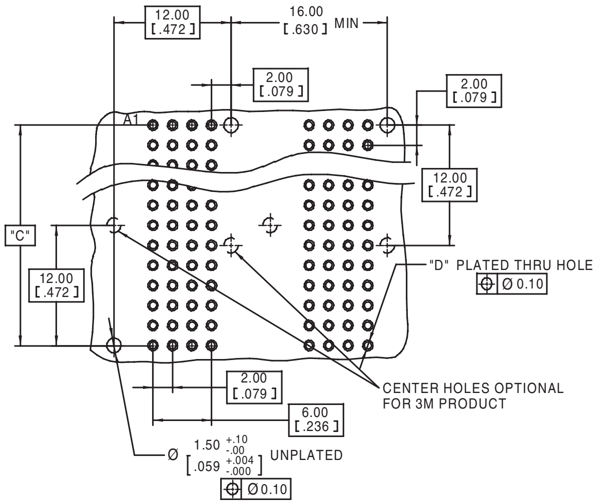
Table 3 - Tail Length Options

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

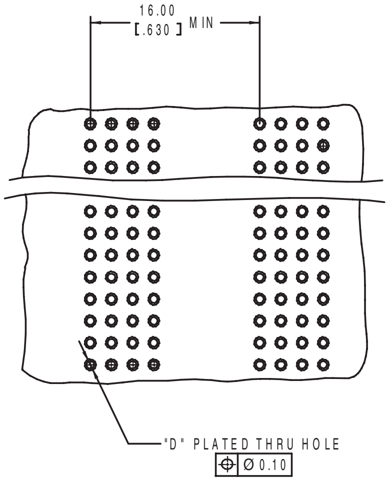
*Compliant-Pin Tail

Table 2 - Mate Length vs. Loading Pattern

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]



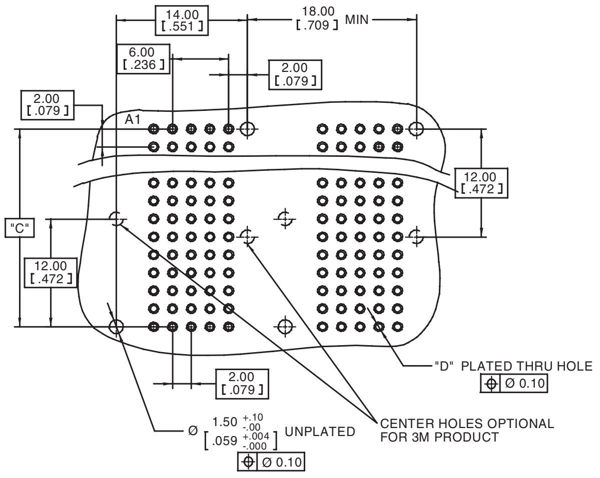
RECOMMENDED 4 ROW SOLDER TAIL PCB HOLE MOUNTING PATTERN



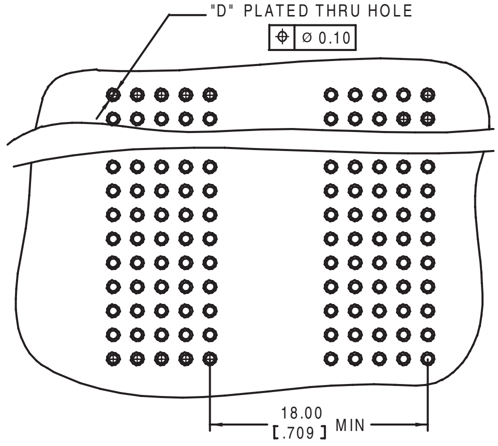
RECOMMENDED 4 ROW PRESS-FIT

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 [.0256-.0315]	0.025 [.001] min.	15 [600] max.	0.81-0.86 [.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 [.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

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