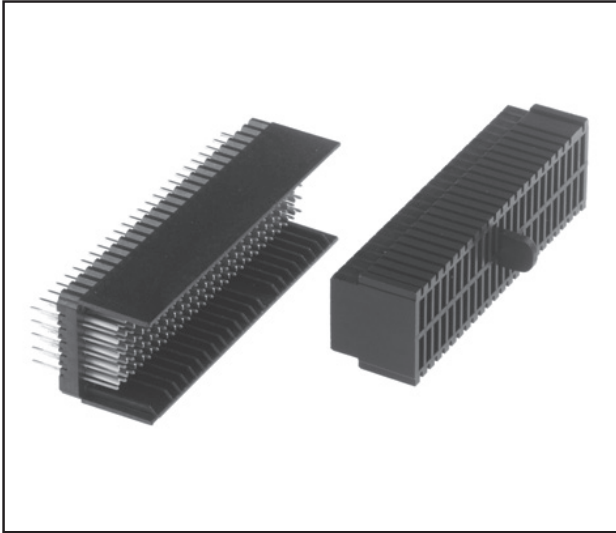


# 3M™ MetPak™ HSHM Press-Fit Header

2 mm Type A, 110 Signal Contacts, 5 Rows, Straight

HSHM Series



- Up to 5 Gb/s data rates
- Low crosstalk at high frequencies
- 50/100  $\Omega$  (single-ended /differential) impedance
- Modular/scalable format IEC 61076-4-101
- 63 mated lines per linear inch
- Multi-purpose center (MPC) for keying and guidance
- End-to-end stackable with 5 row 3M™ MetPak™ CP2, HM and HSHM sockets
- See the Regulatory Information Appendix (RIA) in the “RoHS compliance” section of [www.3mconnector.com](http://www.3mconnector.com) for compliance information

Date Modified: November 9, 2010

TS-2073-B  
Sheet 1 of 3

## Physical

**Insulation Material:** High Temperature Thermoplastic (LCP)

Flammability: UL 94V-0

### Contact

Material: Copper Alloy

Plating: See Ordering Information

## Performance

### Mechanical:

Normal Force (Nominal): 0.57 N [58 g] Signal, 0.74 N [75 g] Shield

Engagement Force (Nominal): 0.32 N [33 g] Signal, 0.22 N [22 g] Shield

Separation Force (Nominal): 0.20 N [20 g] Signal, 0.20 N [20 g] Shield

Wipe (Nominal, Shortest Contact): 2.67 mm [0.105 in] Signal, 1.57 mm [0.062 in] Shield

Mate/Unmate Cycles: 250

Application: This module is suitable for stand-alone use. (Refer to IEC-61076-4-101)

### Electrical:

Data Rate: 5 Gb/s

Characteristic Impedance: 50  $\Omega$  Single-ended, 100  $\Omega$  Differential

Current Rating (Fully Loaded): 1 A @ 70°C Signal

Insulation Resistance:  $10^4$  M $\Omega$  @ 100 V<sub>DC</sub>

Withstanding Voltage: 750 V<sub>rms</sub>

## Environmental

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

UL File No.: E68080

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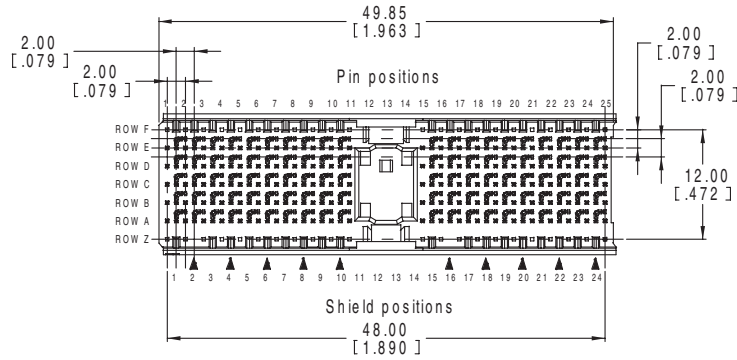
HSHM Series



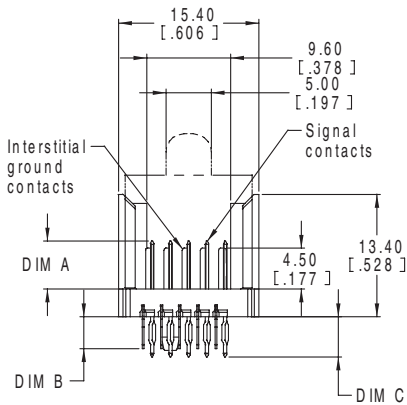
mm  
(Inch)

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

[ ] Dimensions for Reference Only

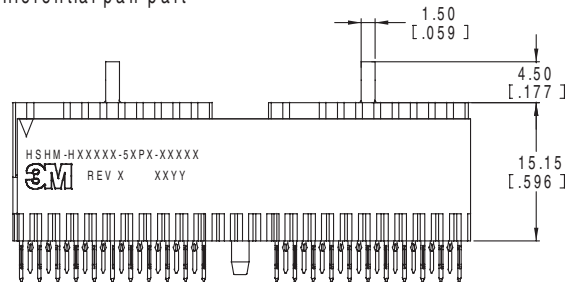


▲ denotes shield column (tail only) omitted for the row differential pair part

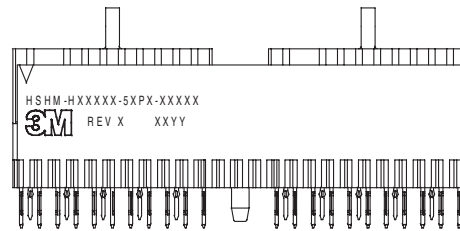


DIM A = Pin mating length  
DIM B = Shield tail length  
DIM C = Pin tail length

Standard Configuration  
DIM A = 5.3 mm for rows A through E  
For non-standard configurations,  
contact sales representative



Coaxial, column differential and stripline configuration shown with protective caps\*



Row differential configuration shown with protective caps\*

\* Caps to be removed after press-fit installation process

## Ordering Information

**HSHM-H110AX - 5CPX- XXXXX** (rows F and Z not loaded)

High Speed Option:

- 4 = Coaxial, column differential and stripline (75 Ω) applications
- 5 = Row differential applications

Tail Length:

- 1 = 4.4 mm pin and 3.5 mm shield
- 2 = 2 mm pin and 2 mm shield

Plating μm [μ"]:

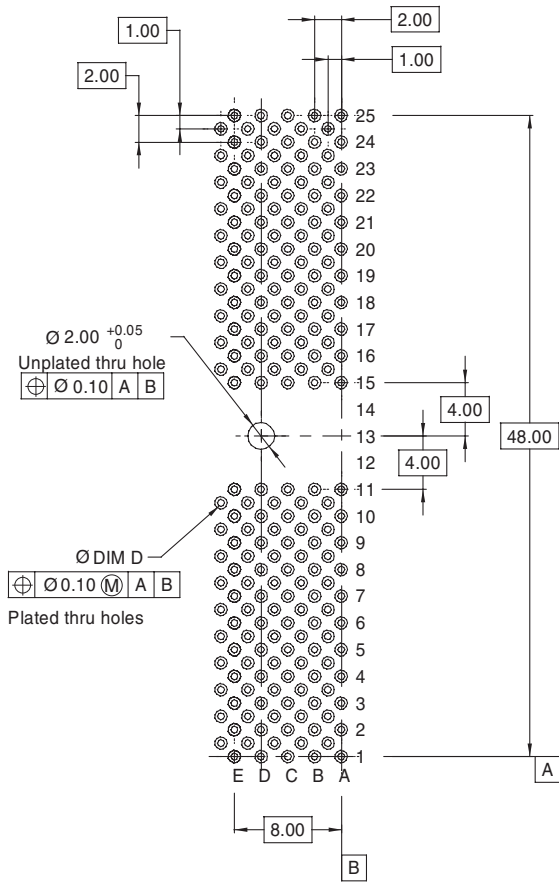
- TG30 = 0.76 [30] Min. Au Contact Area  
2.54 [100] Min. SnPb Terminal Area (RIA C2 & E2 apply)  
1.27 [50] Min. Ni All over  
Standard Option
- TG30L = 0.76 [30] Min. Au Contact Area, Lubricated  
2.54 [100] Min. SnPb Terminal Area (RIA C2 & E2 apply)  
1.27 [50] Min. Ni All over  
Non-Standard Option (Available with longer lead times and higher make order quantities, MOQ)
- TG50 = 1.27 [50] Min. Au Contact Area, Lubricated  
2.54 [100] Min. SnPb Terminal Area (RIA C2 & E2 apply)  
1.27 [50] Min. Ni All over  
Non-Standard Option (Available with longer lead times and higher make order quantities, MOQ)

TS-2073-B  
Sheet 2 of 3

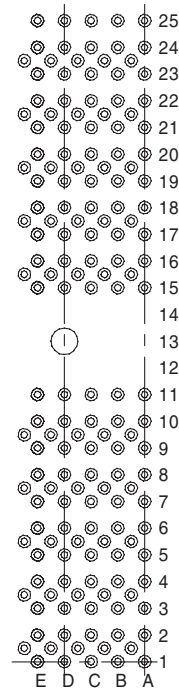
# 3M™ MetPak™ HSHM Press-Fit Header

2 mm Type A, 110 Signal Contacts, 5 Rows, Straight

HSHM Series



Recommended PCB hole mounting pattern for coaxial, column differential and stripline applications



Recommended PCB hole mounting pattern for row differential applications

(Same geometry as left view without the ground vias)

Hole Plating Table mm [in.]			
Finished Hole Dia. "D"	Cu. Thickness	SnPb Thickness	Drilled Hole Dia.
0.457 - 0.559 [.0180 - .0220]	0.025 - 0.045 [.0010 - .0018]	0.008 - 0.018 [.0003 - .0007]	0.584 - 0.625 [.0230 - .0246]

TS-2073-B  
Sheet 3 of 3

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