

# 3M™ MetPak™ HSHM Press-Fit Socket

2 mm Type B22, 110 Signal Contacts, 5 Rows, Right Angle

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
- Press-fit headers and receptacles
- 63 mated lines per linear inch
- Dual beam contact construction for high reliability
- End-to-end stackable with 5 row 3M™ MetPak™ CP2, HM, and HSHM sockets
- Mates with 5 row 3M™ MetPak™ CP2, HM, and HSHM headers
- See the Regulatory Information Appendix (RIA) in the “RoHS compliance” section of [www.3mconnector.com](http://www.3mconnector.com) for compliance information

Date Modified: October 12, 2010

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## Physical

### Insulation:

Material: High Temperature Thermoplastic (LCP)  
Flammability: UL 94V-0

### Color:

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 not suitable for stand-alone use

### 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<sup>4</sup> M $\Omega$  @ 100 V<sub>DC</sub>  
Withstanding Voltage: 750 V<sub>RMS</sub>

## Environmental

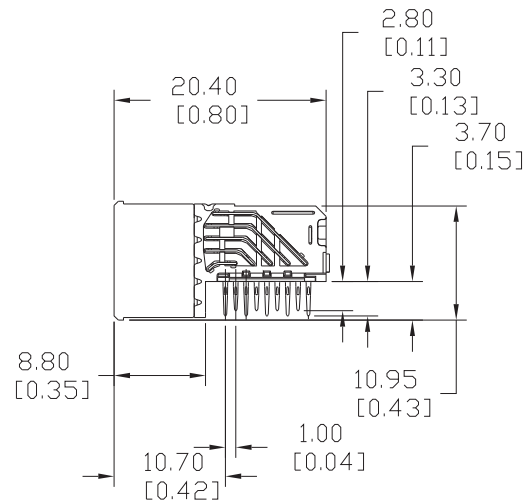
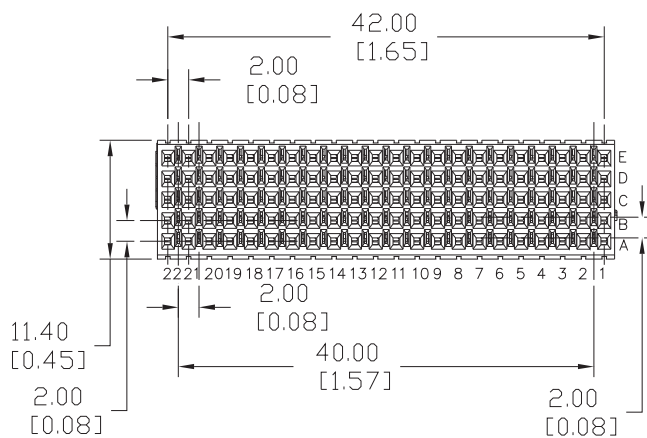
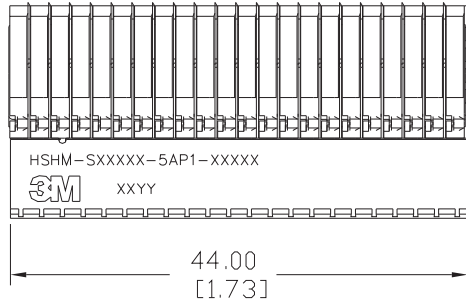
Temperature Rating: -55° C to 125° C

UL File No.: E68080

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mm (Inch)	
Tolerance Unless Noted	
.0	.00
mm ±.1	±.10

( ) Dimensions used for Reference Only

## Ordering Information

### HSHM-S110BX-5AP1-XXXXX

High Speed Option:

- 1 = Row differential applications
- 3 = 6th Row and +2 Row Grounding Applications
- 4 = Coaxial and column differential applications

Plating  $\mu\text{m}$  [ $\mu\text{in}$ ]:

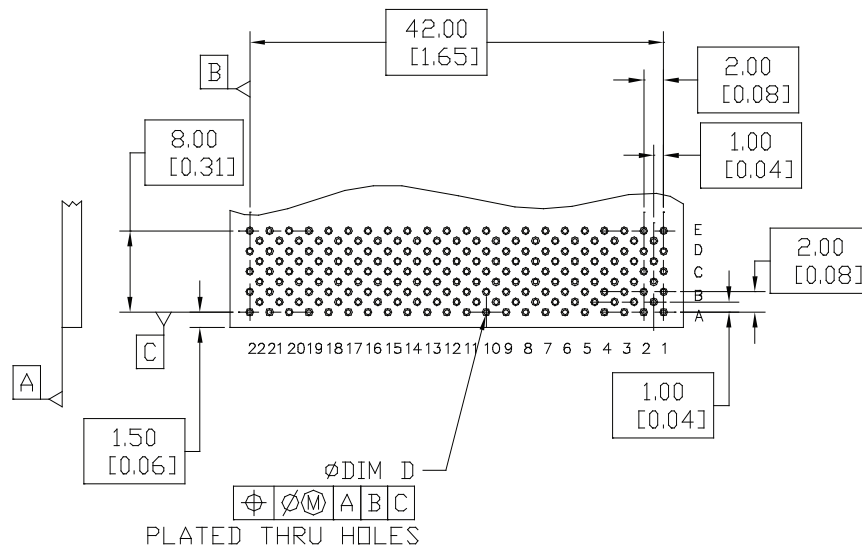
- TG30 = 0.76 [30] Min. Au Contact Area  
2.54 [100] Min. SnPb Terminal Area (RIA C2 & E2 apply)  
1.27 [50] Min. Ni All over  
Standard Option
- TG30L = 0.76 [30] Min. Au Contact Area, Lubricated  
2.54 [100] Min. SnPb Terminal Area (RIA C2 & E2 apply)  
1.27 [50] Min. Ni All over  
Typically higher make order quantities as compared to TG30.
- 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)

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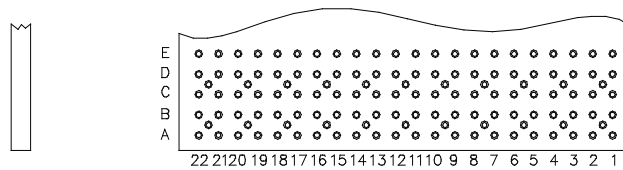
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Recommended PCB hole mounting pattern for coaxial, Column differential and stripline applications..



Recommended PCB hole mounting pattern for row differential applications.  
(Same geometry as above without the ground vias.)

Hole Plating Table mm [in.]

Finished Hole Dia. (D)	Cu. Thickness	SnPb Thickness	Drilled Hole Dia.
0.457 - 0.559 [0.180 - .0220]	0.025 - 0.045 [0.010 - .0018]	0.008 - 0.018 [0.0003 - .0007]	0.584 - 0.625 [0.0230 - .0246]

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