

# 3M™ MetPak™ HSHM Press-Fit Socket

2 mm Type A, 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
- 63 mated lines per linear inch
- Mates with 3M™ MetPak™ HSHM headers
- Dual beam contact construction for high reliability
- 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: October 7, 2010

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## 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 not 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<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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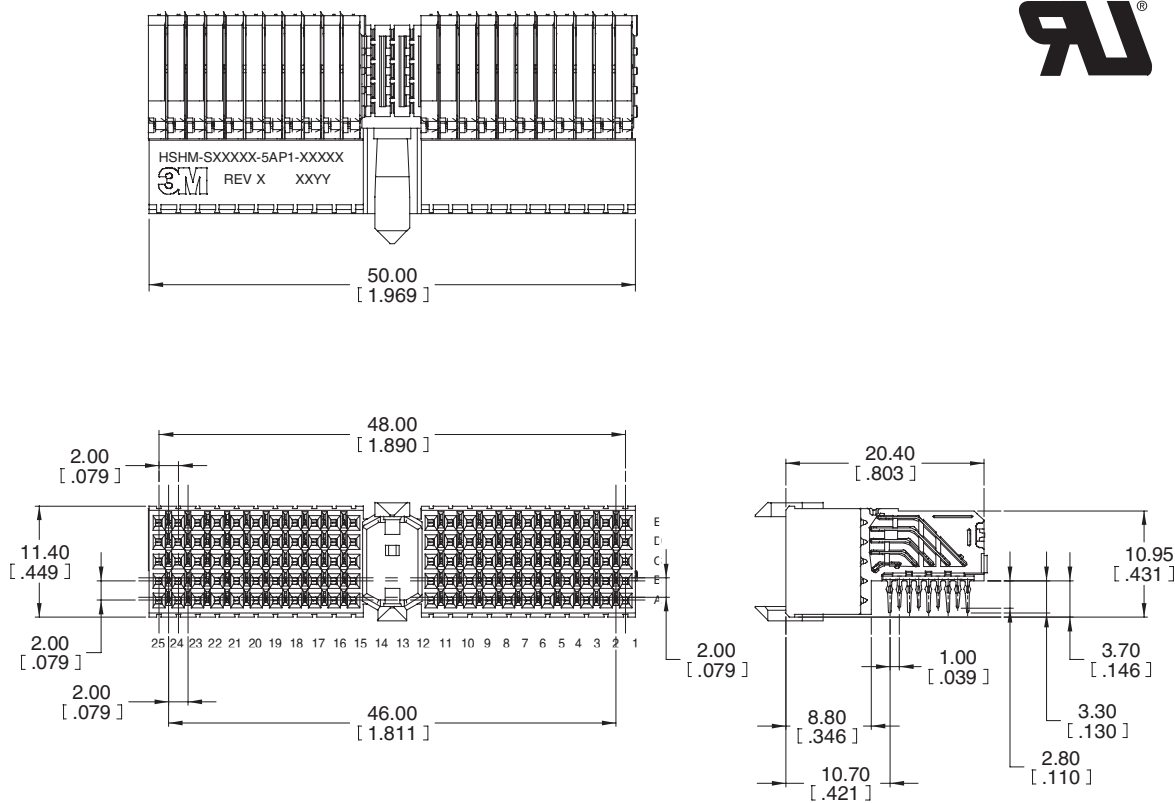
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| mm<br>(Inch)           |    |      |       |
|------------------------|----|------|-------|
| Tolerance Unless Noted |    |      |       |
|                        | 0  | 0.0  | 0.00  |
| mm                     | ±3 | ±0.3 | ±0.13 |

[ ] Dimensions for  
Reference Only

## Ordering Information

### HSHM-S110AX - 5AP1- XXXXX

High Speed Option:

1 = Row differential applications

4 = Coaxial and column differential applications

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

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

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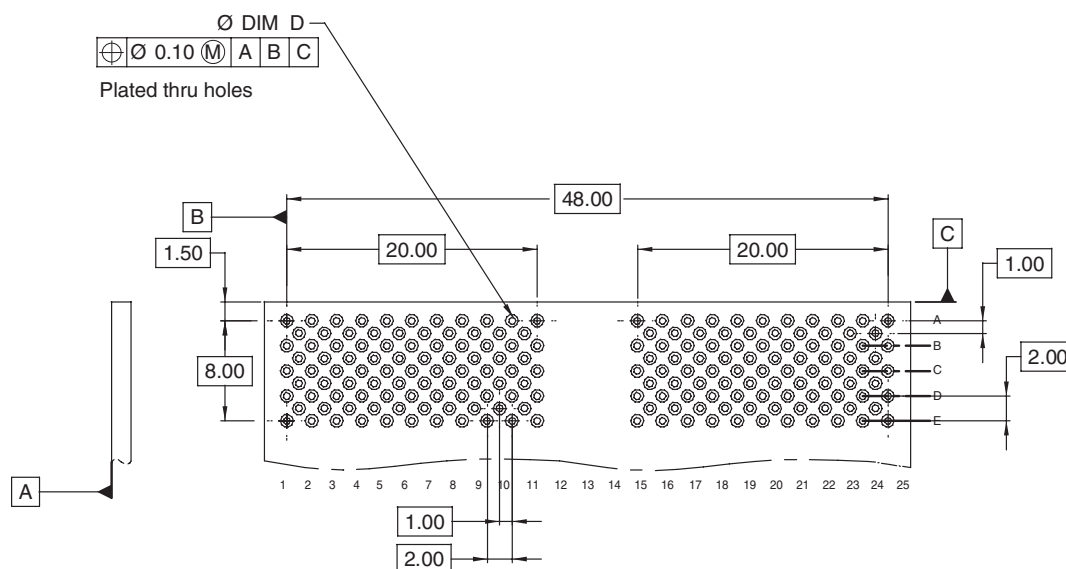
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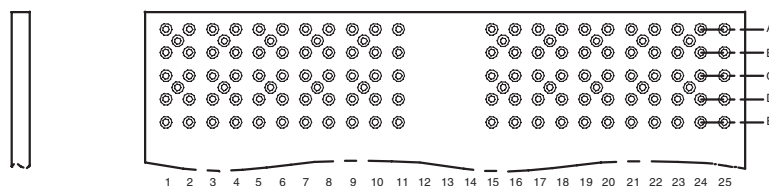
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Recommended PCB hole mounting pattern for coaxial, column differential and stripline applications.



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 [.0180 - .0220] | 0.025 - 0.045 [.0010 - .0018] | 0.008 - 0.018 [.0003 - .0007] | 0.584 - 0.625 [.0230 - .0246] |

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