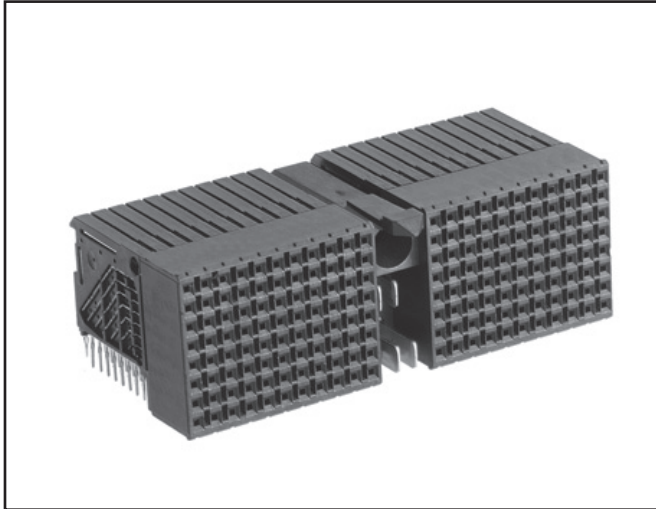


# 3M™ MetPak™ HSHM Press-Fit Power Socket

2 mm Type D, 176 Signal/4 Power Contacts, 8 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
- 101 mated lines per linear inch
- Dual beam contact construction for high reliability
- Four integrated 8.25 A power blades
- End-to-end stackable with 8 row 3M™ MetPak™ 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 16, 2010

TS-2001-B  
Sheet 1 of 3

## 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, 0.98 N [ 100 g ] Power

Engagement Force (Nominal): 0.32 N [33 g] Signal, 0.22 N [ 22 g ] Shield, 1.42 N [ 145 g ] Power

Separation Force (Nominal): 0.20 N [20 g] Signal, 0.20 N [ 20 g ] Shield, 0.89 N [ 91 g ] Power

Wipe (Nominal, Shortest Contact): 2.67 mm [0.105 in] Signal, 1.57 mm [ 0.062 in ] Shield, 1.93 N [ 0.076 in. ] Power

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, 8.25 A at 70×C Power

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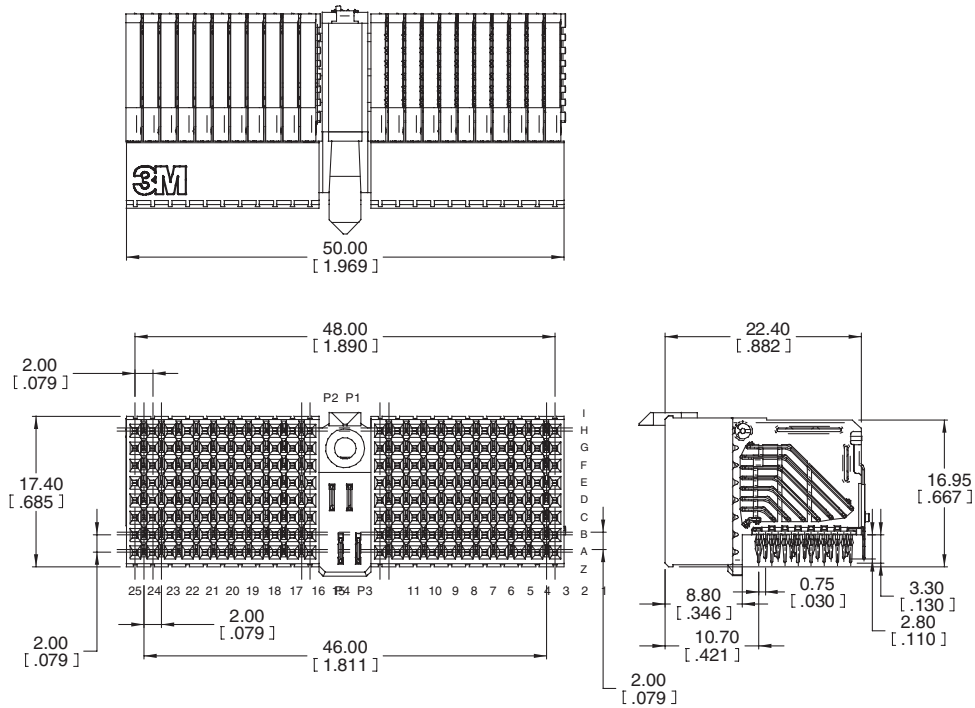
Electronic Solutions Division  
Interconnect Solutions  
<http://www.3M.com/interconnects/>

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**800-225-5373**

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mm  
(Inch)

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

[ ] Dimensions for Reference Only

## Ordering Information

### HSHM-S176DPWRX - 8AP1 - XXXXX

High Speed Option: \_\_\_\_\_  
 1 = Row differential applications  
 4 = Coaxial and column differential applications

Standard configuration (power blade mate length)  
 P1 and P2 = 5.0 mm  
 P3 and P4 = 6.50 mm  
 For non-standard configurations contact sales representative

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

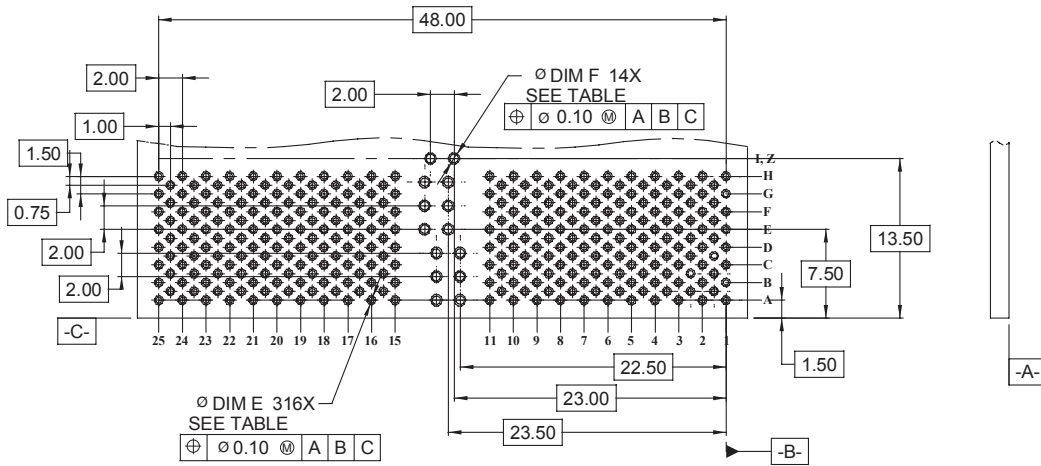
- TG30 = 0.76 [30] Min. Au Contact Area  
 2.54 [100] Min. SnPb Terminal Area (RIA C2 & E2 apply)  
 1.27 [50] Min. Ni All over  
 Standard Option
- TG30L = 0.76 [30] Min. Au Contact Area, Lubricated  
 2.54 [100] Min. SnPb Terminal Area (RIA C2 & E2 apply)  
 1.27 [50] Min. Ni All over  
 Typically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

TS-2001-B  
 Sheet 2 of 3

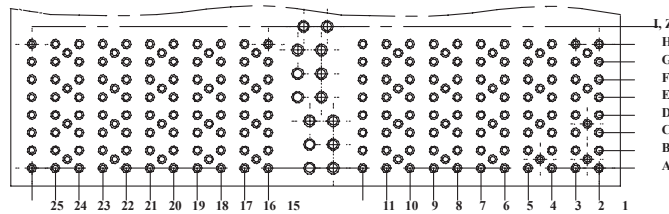
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2 mm Type D, 176 Signal/4 Power Contacts, 8 Rows, Right Angle

HSHM Series



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



Recommended PCB hole mounting pattern for row differential applications

Hole Plating Table

Hole	Finished Hole Dia. "D"	Cu. Thickness	SnPb Thickness	Drilled Hole Dia.
"E"	0.457 - 0.559 [.0180 - .0220]	0.025 - 0.045 [.0010 - .0018]	0.008 - 0.018 [.0003 - .0007]	0.584 - 0.625 [.0230 - .0246]
"F"	0.690 - 0.790 [.0270 - .0310]	0.025 - 0.045 [.0010 - .0018]	0.008 - 0.018 [.0003 - .0007]	0.810 - 0.860 [.0320 - .0340]

TS-2001-B  
Sheet 3 of 3

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