

3M™ MetPak™ HSHM Press-Fit Header

2 mm Type B22, 110 Signal Contacts, 5 Rows, Straight

HSHM Series



- Up to 5 Gb/s data rates
- Low crosstalk at high frequencies
- 50/100 Ω (single-ended/differential) impedance
- Modular/scalable format IEC 61076-4-101
- Press-fit headers and receptacles
- 63 mated lines per linear inch
- End-to-end stackable with 5 row 3M™ MetPak™ CP2, HM, and HSHM headers
- Mates with 3M™ MetPak™ HSHM sockets
- See the Regulatory Information Appendix (RIA) in the “RoHS compliance” section of www.3mconnector.com for compliance information

Date Modified: November 10, 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 (Refer to IEC-61076-4-101)

Electrical:

Data Rate: 5 Gb/s

Characteristic Impedance: 50 Ω Single-ended, 100 Ω Differential

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

Insulation Resistance: 10⁴ M Ω @ 100 V_{DC}

Withstanding Voltage: 750 V_{RMS}

Environmental

Temperature Rating: -55° C to 125° C

UL File No.: E68080

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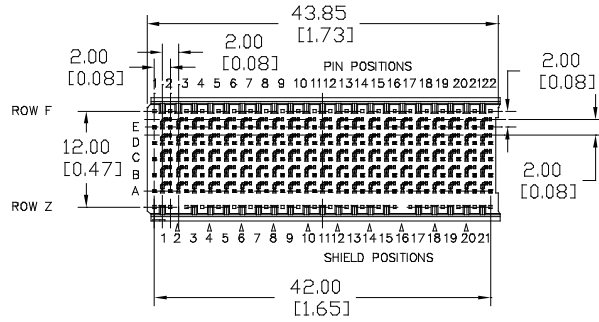
HSHM Series



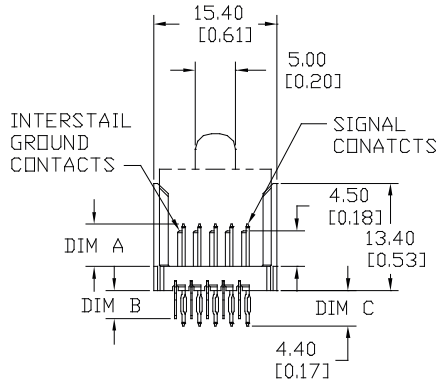
mm
(Inch)

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

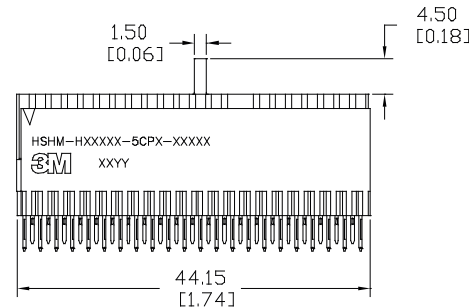
[] Dimensions for Reference Only



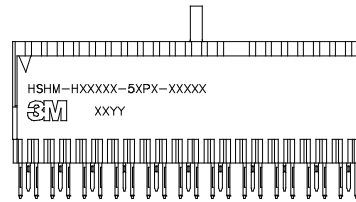
△ Denotes shield column (tail only)
Omitted for the row differential part



Dim. "A" = Pin mounting length
Dim. "B" = Shield tail length
Dim. "C" = Pin tail length



Coaxial column differential and stripline configuration
Shown with protective cap



Row differential and stripline configuration
Shown with protective cap
Caps to be removed after press-fit installation process

Ordering Information

HSHM-H110BX-5CPX-XXXX (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
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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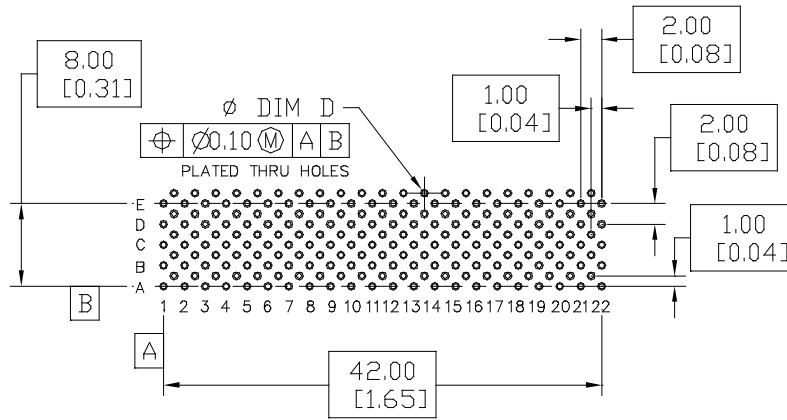
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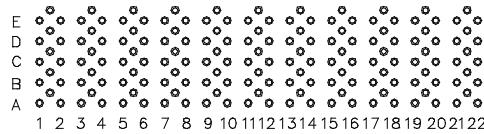
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Recommended PCB hole mounting pattern for coaxial, Column differential and stripline applications.



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 [0.0180 - .0220] | 0.025 - 0.045 [0.0010 - .0018] | 0.008 - 0.018 [0.0003 - .0007] | 0.584 - 0.625 [0.0230 - .0246] |

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RIA-2217B-E

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