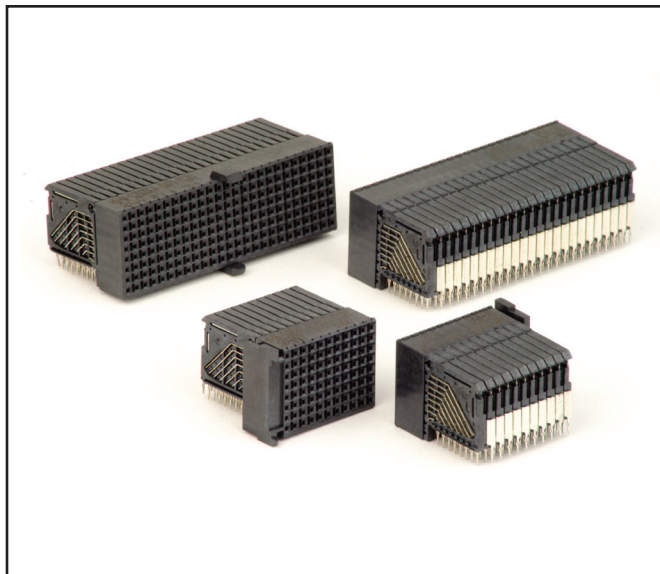


# 3M™ Ultra Hard Metric (UHM) Press-Fit Socket

2 mm, D, DPWR, DE, E, FL & FR Types: 176, 200 or 88 Signal Contacts, 8 Rows, Right Angle

UHM Series



- 7+ Gbps data rates when mated to standard IEC 61076-4-101 headers.
- Low crosstalk at high frequencies
- 50/100  $\Omega$  (single-ended/differential) impedance
- Modular/scalable format IEC 61076-4-101
- Press-fit headers and receptacles
- 101 mated lines per linear inch
- Dual beam contact construction for high reliability
- End-to-end stackable with 8-Row 3M™ CP2, HM, UHM and HSHM Sockets
- Mates with 3M™ CP2, HM, UHM, HSHM Headers
- See the Regulatory Information Appendix (RIA) in the “RoHS compliance” section of [www.3Mconnector.com](http://www.3Mconnector.com) for compliance information (RIA E1 & C1 apply)

Date Modified: February 15, 2010

TS-2326-B  
Sheet 1 of 5

## Physical

### Insulation:

Material: High Temperature Thermoplastic (LCP) - black or natural  
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 with HSHM & UHM headers)  
Engagement Force (Nominal): 0.32 N [33 g] Signal, (0.22 N [22 g] Shield with HSHM & UHM headers)  
Separation Force (Nominal): 0.20 N [20 g] Signal, (0.20 N [20 g] Shield with HSHM & UHM headers)  
Wipe (Nominal, Shortest Contact): 2.67 mm [0.105 in] Signal, 1.57 mm [0.062 in] Shield

Application: These modules are not suitable for stand-alone use, additional guide features recommended per IEC 61076-4-101

### Electrical:

Data Rate: 7+ Gbps data rates (when mated to standard IEC 61076-4-101 headers)  
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

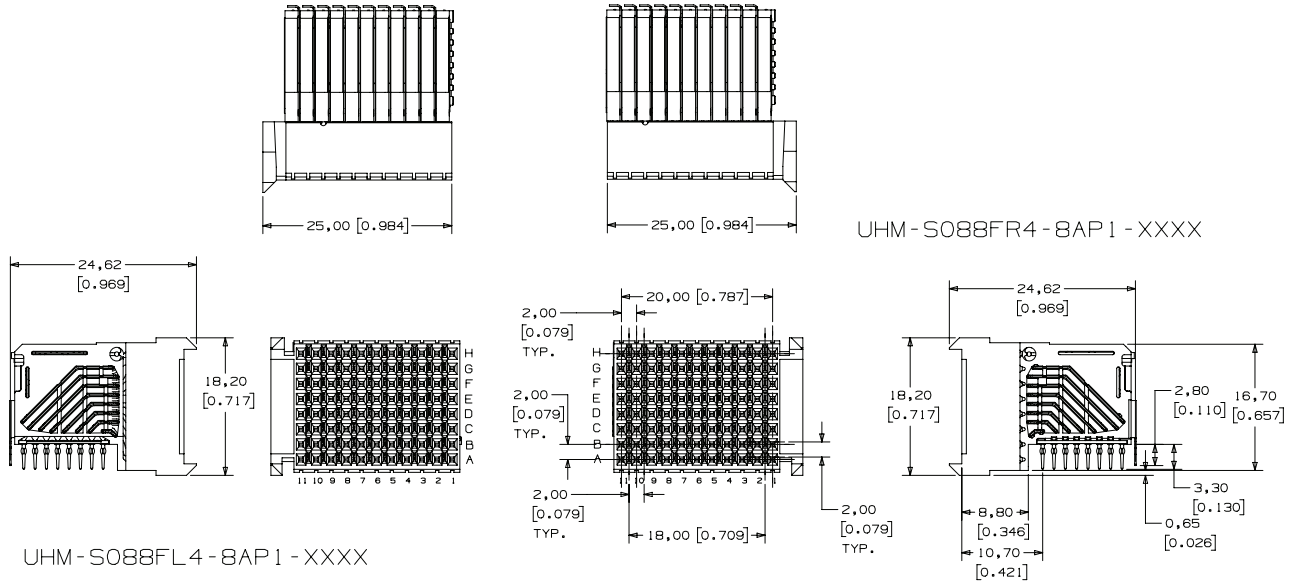
**3M**  
Electronic Solutions Division  
Interconnect Solutions  
<http://www.3Mconnector.com>

3M is a trademark of 3M Company.  
For technical, sales or ordering information call  
**800-225-5373**

# 3M™ Ultra Hard Metric (UHM) Press-Fit Socket

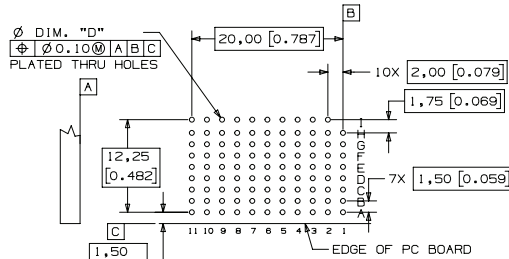
2 mm, D, DPWR, DE, E, FL & FR Types: 176, 200 or 88 Signal Contacts, 8 Rows, Right Angle

UHM Series



UHM-S088FL4-8AP1-XXXX

UHM-S088FR4-8AP1-XXXX



RECOMMENDED HOLE PATTERN

mm [Inch]			
Tolerance Unless Noted			
	0.	.0	.00
mm	1	0.3	0.13

[ ] Dimensions used for Reference Only

Hole Plating Table mm [in.]			
Finished Hole Dia. (D)	Cu. Thickness	SnPb Thickness	Drilled Hole Dia.
0.550 - 0.650 [.0217 - .0256]	0.025 - 0.045 [.0010 - .0018]	0.008 - 0.018 [.0003 - .0007]	0.686 - 0.727 [.0270 - .0286]

## Ordering Information

### UHM-SXXXXX4-8AP1-XXXX

Number of Signal Contacts & Body Style: \_\_\_\_\_  
088FL, 088FR, 176D, 176DPWR, 200DE, 200E

High Speed Option: \_\_\_\_\_  
4 = 50 Ohm Coaxial single-ended and  
100 Ohm Differential pair  
applications

Tail Length: \_\_\_\_\_  
1 = 3.3 mm

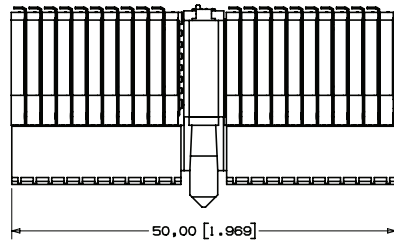
Plating um [u"]:  
TG30 = 0.76 [30] Min. Au Contact Area  
2.54 [100] Min. SnPb Terminal Area  
1.27 [50] Min. Ni All Over  
(RIA E2 & C2 apply)

TS-2326-B  
Sheet 2 of 5

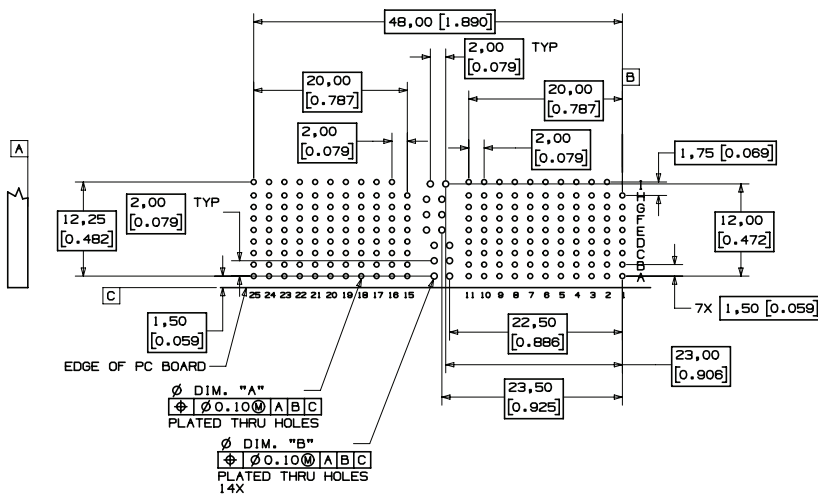
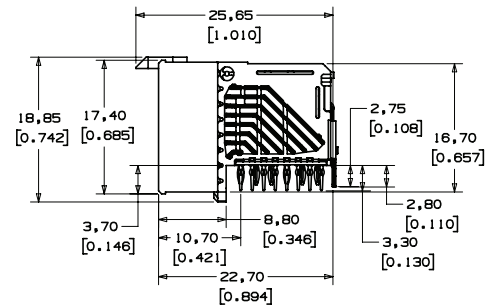
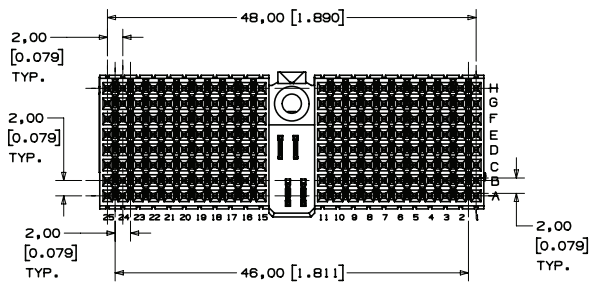
# 3M™ Ultra Hard Metric (UHM) Press-Fit Socket

2 mm, D, DPWR, DE, E, FL & FR Types: 176, 200 or 88 Signal Contacts, 8 Rows, Right Angle

UHM Series



UHM-S176DPWR4-8AP1-XXXX



RECOMMENDED HOLE PATTERN

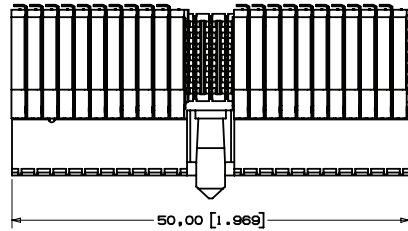
		mm [Inch]		
		Tolerance Unless Noted		
		0.	.0	.00
mm		1	0.3	0.13

[ ] Dimensions used for Reference Only

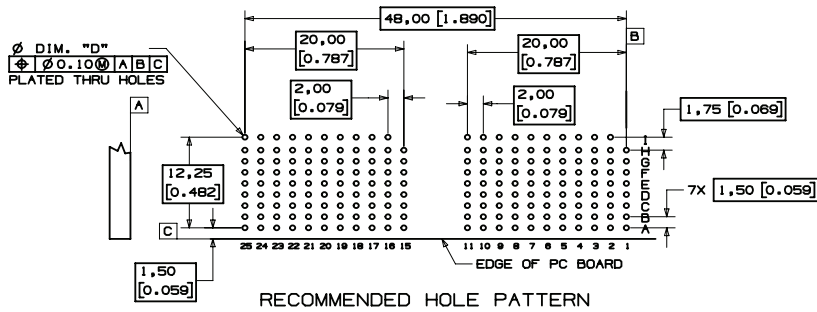
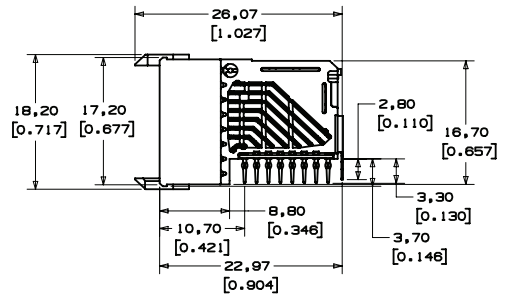
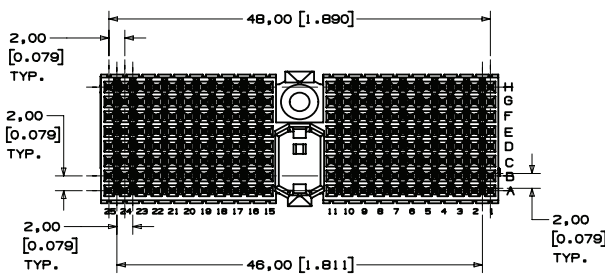
# 3M™ Ultra Hard Metric (UHM) Press-Fit Socket

2 mm, D, DPWR, DE, E, FL & FR Types: 176, 200 or 88 Signal Contacts, 8 Rows, Right Angle

UHM Series



UHM-S176D4-8AP1-XXXX



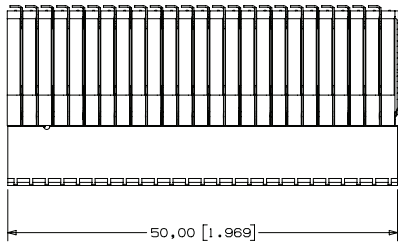
		mm [Inch]		
		Tolerance Unless Noted		
		0.	.0	.00
mm		1	0.3	0.13

[ ] Dimensions used for Reference Only

# 3M™ Ultra Hard Metric (UHM) Press-Fit Socket

2 mm, D, DPWR, DE, E, FL & FR Types: 176, 200 or 88 Signal Contacts, 8 Rows, Right Angle

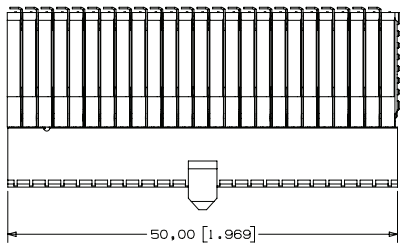
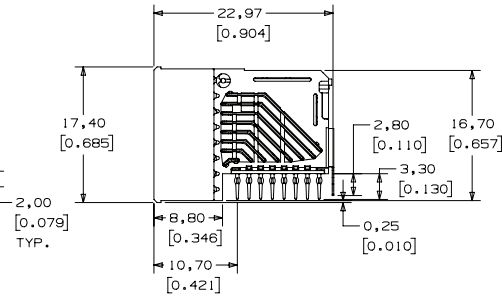
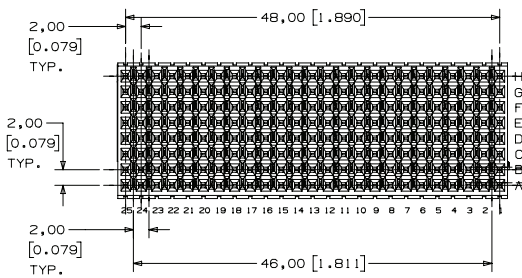
UHM Series



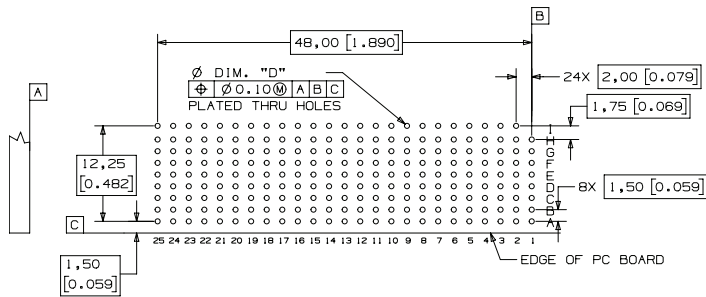
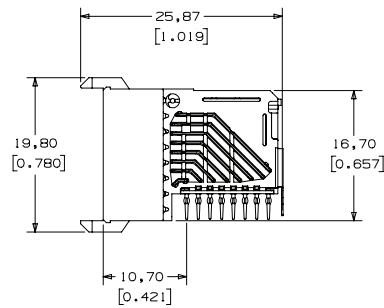
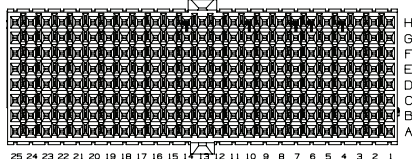
UHM-S200E4-8AP1-XXXX

mm [Inch]			
Tolerance Unless Noted			
0.	.0	.00	
mm	1	0.3	0.13

[ ] Dimensions used for Reference Only



UHM-S200DE4-8AP1-XXXX



RECOMMENDED HOLE PATTERN

TS-2326-B  
Sheet 5 of 5

**Important Notice**

All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product which are not contained in 3M's current publications, or any contrary statements contained on your purchase order shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.

**Warranty; Limited Remedy; Limited Liability.**

This product will be free from defects in material and manufacture for a period of one (1) year from the time of purchase. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. **Except where prohibited by law, 3M will not be liable for any indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.**

**3M Electronics Solutions Division**

6801 River Place Blvd.  
Austin, TX 78726-9000  
U.S.A.  
1-800-225-5373  
[www.3Mconnector.com](http://www.3Mconnector.com)

Please recycle. Printed in USA.  
© 3M 2010. All rights reserved.  
RIA-2217B-E

3M is a trademark of 3M Company.