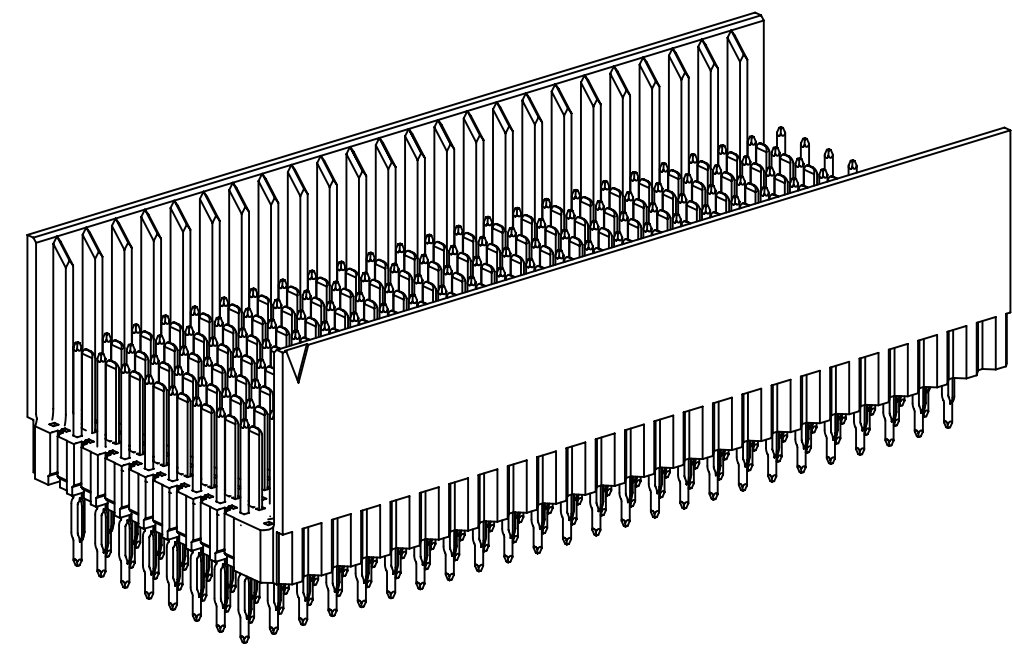
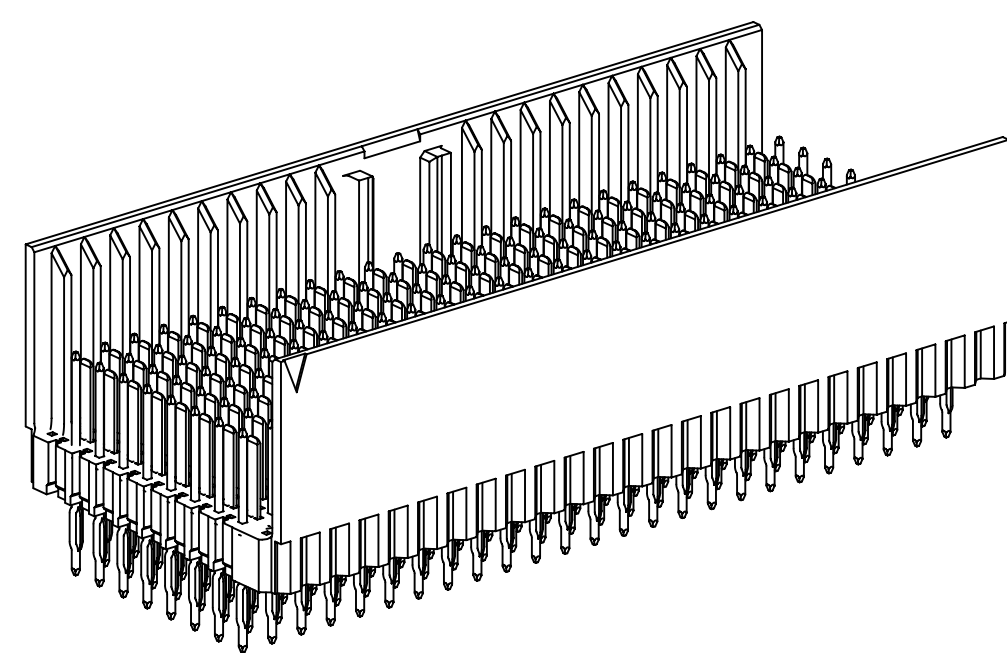


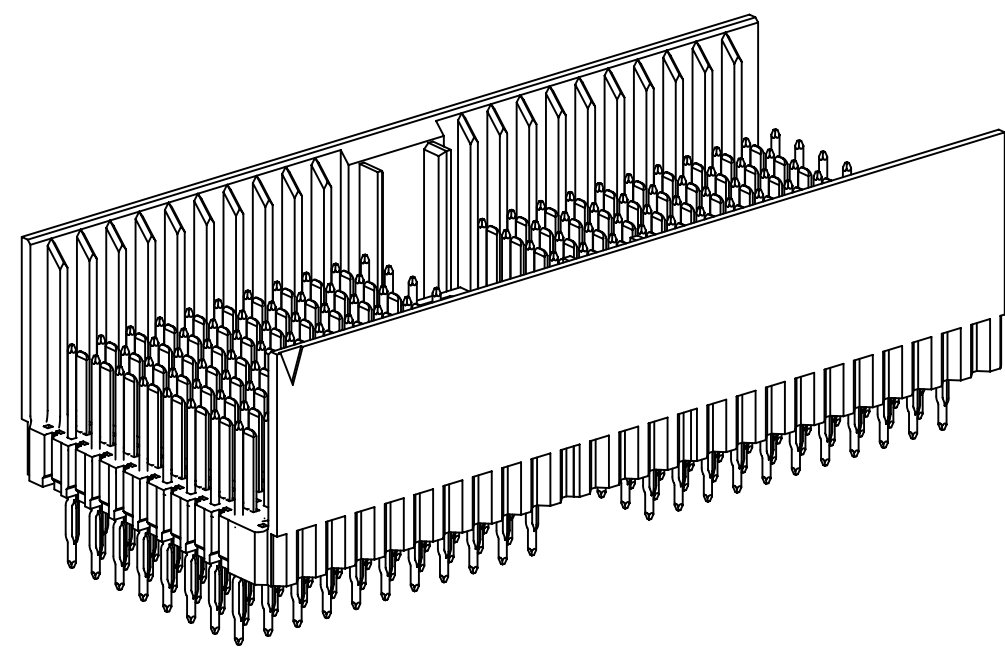
3M™ HSHM PRESS-FIT HEADER, 8-ROW, HSHM SERIES
FOR HIGH SPEED HARD METRIC APPLICATIONS



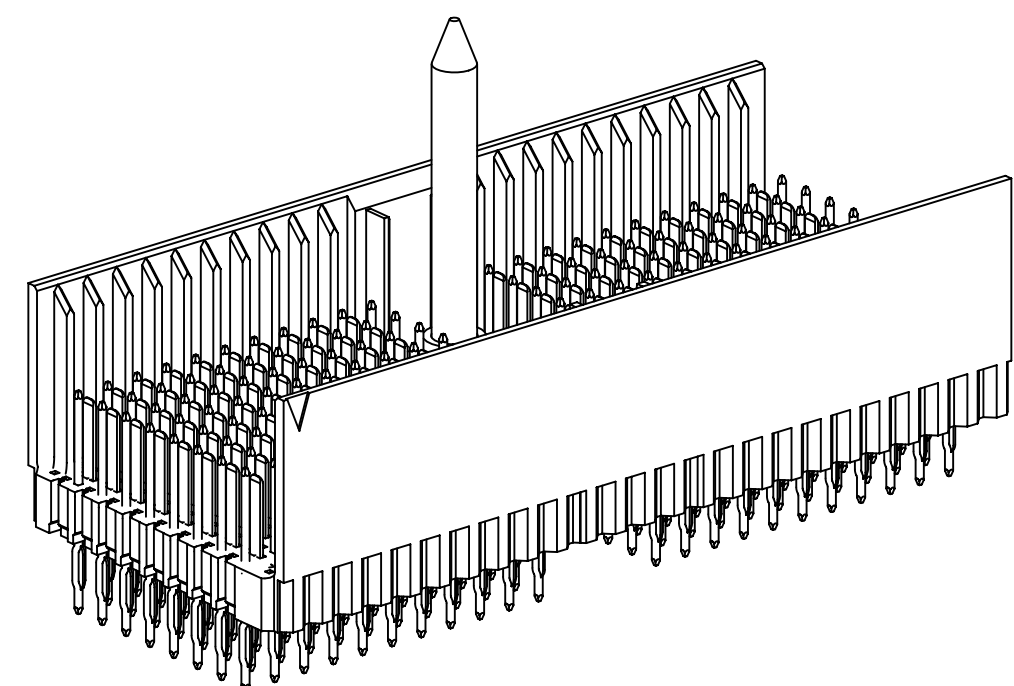
HSHM-H200EX-8CPX



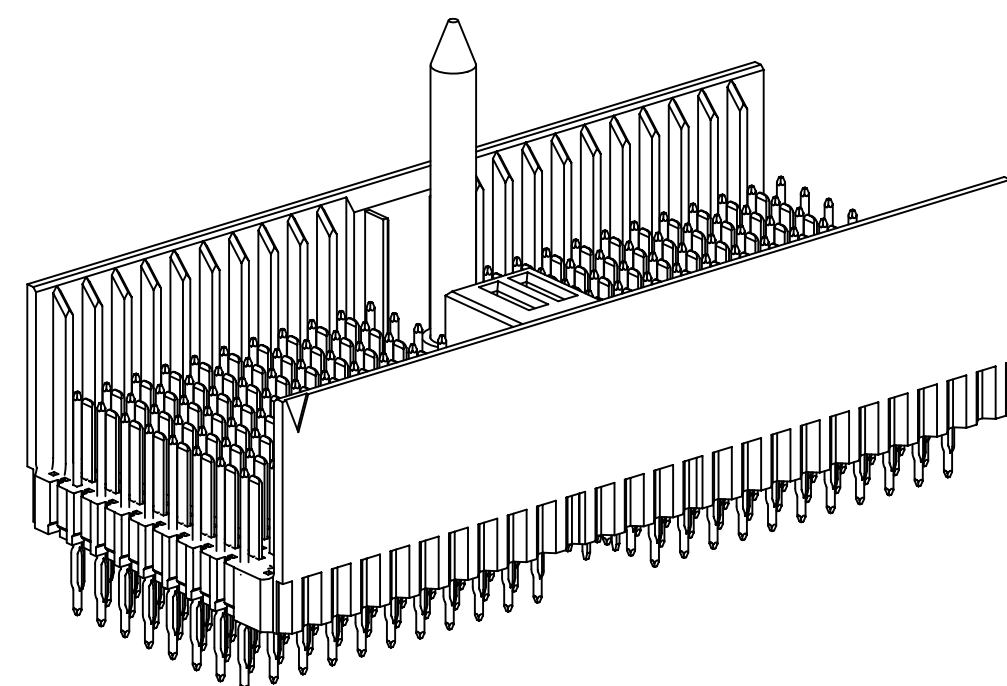
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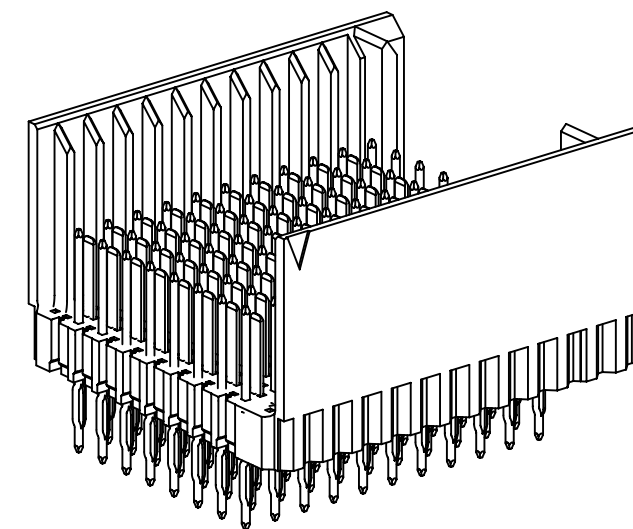
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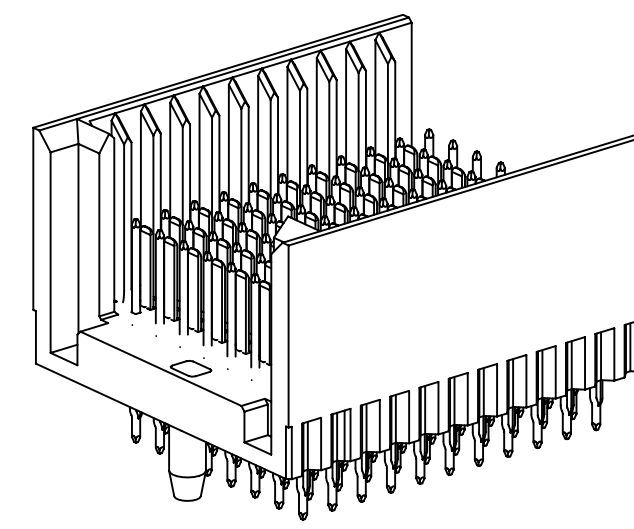
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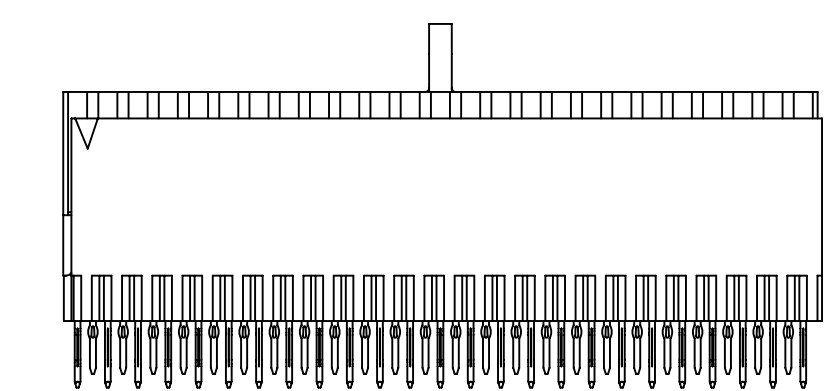
HSHM-H176DPWRX-8CPX



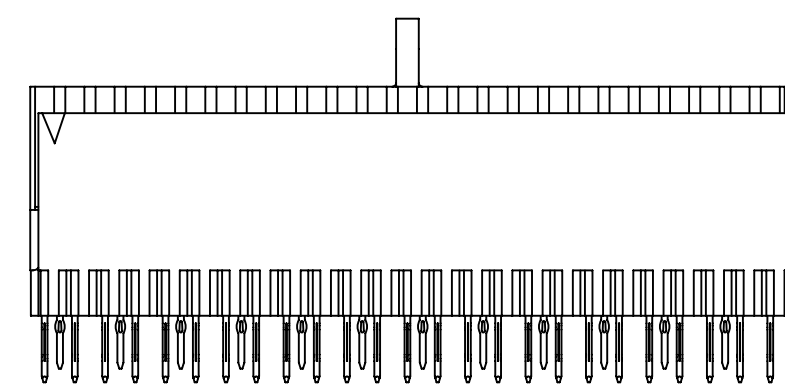
HSHM-H088FLX-8CPX



HSHM-H088FRX-8CPX



COAXIAL, COLUMN DIFFERENTIAL AND STRIPLINE CONFIGURATION



ROW DIFFERENTIAL CONFIGURATION

(UNLESS OTHERWISE SHOWN)
ORDERING INFORMATION
(ROWS I AND Z NOT LOADED)

HSHM-HXXXXXXXX-8CPX-XXXXX

HEADER POSITION AND TYPE

PLATING

HIGH SPEED OPTION:
4 = COAXIAL, COLUMN DIFFERENTIAL AND STRIPLINE (75Ω) APPLICATIONS
5 = ROW DIFFERENTIAL APPLICATIONS

TAIL LENGTH:
1 = 4.4 [.17] PIN AND 3.5 [.14] SHIELD
2 = 2 [.08] PIN AND 2 [.08] SHIELD

PLATING SPECIFICATIONS:

TG30L = .76μm [30μIN] MIN. GOLD ON CONTACT AREA, LUBRICATED
2.54μm [100μIN] MIN. TIN/LEAD ON TERMINAL AREA (RIA C2 & E2 APPLY)
1.27μm [50μIN] MIN. NICKEL ALL OVER.
TYPICALLY HIGHER MAKE ORDER QUANTITIES AS COMPARED TO TG30.

TG30 = .76μm [30μIN] MIN. GOLD ON CONTACT AREA
2.54μm [100μIN] MIN. TIN/LEAD ON TERMINAL AREA (RIA C2 & E2 APPLY)
1.27μm [50μIN] MIN. NICKEL ALL OVER.
STANDARD OPTION.

TG50 = 1.27μm [50μIN] MIN. GOLD ON CONTACT AREA, LUBRICATED
2.54μm [100μIN] MIN. TIN/LEAD ON TERMINAL AREA (RIA C2 & E2 APPLY)
1.27μm [50μIN] MIN. NICKEL ALL OVER.
NON-STANDARD OPTION (AVAILABLE WITH LONGER LEAD TIMES AND HIGHER MAKE ORDER QUANTITIES, MOQ)

- * UP TO 5 Gb/s DATA RATES
- * LOW CROSSTALK AT HIGH FREQUENCIES
- * 50/100Ω (SINGLE-ENDED/DIFFERENTIAL) IMPEDANCE
- * MODULAR/SCALABLE FORMAT IEC 61076-4-101
- * 101 MATED LINES PER INCH
- * SHIPS WITH PROTECTIVE CAP, WHICH ALSO SERVES AS AN INSERTION TOOL
- * END-TO-END STACKABLE WITH 8 ROW 3M METPAK, CP2, HM AND HSHM HEADERS
- * INTEGRATED GUIDE AND GUIDE PIN
- * MULTI-PURPOSE CENTER (MPC) KEYING AND GUIDANCE
- * FOUR INTEGRATED 8.25A POWER CONTACTS

- NOTES
- MATERIAL:
PLASTIC: HIGH TEMP LCP, UL94V-0
PINS: COPPER ALLOY.
 - REGULATORY INFORMATION:
ROHS COMPLIANT. SEE THE REGULATORY INFORMATION APPENDIX (RIA) IN THE "ROHS COMPLIANCE" SECTION OF WWW.3MCONNECTORS.COM FOR COMPLIANCE INFORMATION (RIA E1 & C1 APPLY)
 - IN THE EVENT OF CONFLICT BETWEEN THIS DATA AND THAT CONTAINED IN THE PRODUCT SPECIFICATION, THE PRODUCT SPECIFICATION TAKES PRECEDENT.

MECHANICAL:

NORMAL FORCE (NOMINAL): .57N [58g] SIGNAL, .74N [75g] SHIELD
ENGAGEMENT FORCE (NOMINAL): .32N [33g] SIGNAL, .22N [22g] SHIELD
SEPARATION FORCE (NOMINAL): .20N [20g] SIGNAL, .20N [20g] SHIELD
WIPE (NOMINAL, SHORTEST CONTACT): 2.67 [.105] SIGNAL, 1.57 [.062] 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: 50Ω SINGLE-ENDED, 100Ω DIFFERENTIAL
CURRENT RATING (FULLY LOADED): 1A @ 70°C SIGNAL
INSULATION RESISTANCE: 10⁴ MΩ @ 100 V_{DC}
WITHSTANDING VOLTAGE: 750V_{RMS}

ENVIRONMENTAL:

TEMPERATURE RATING: -55°C TO 125°C

3M ELECTRONIC SOLUTIONS DIVISION
INTERCONNECT SOLUTIONS
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CAUS
UL FILE NO: E68080

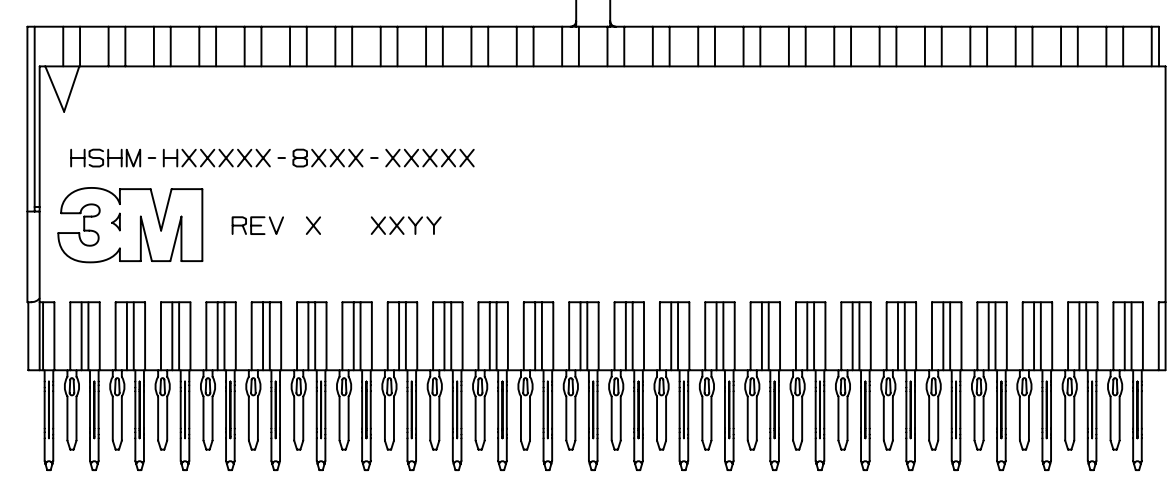
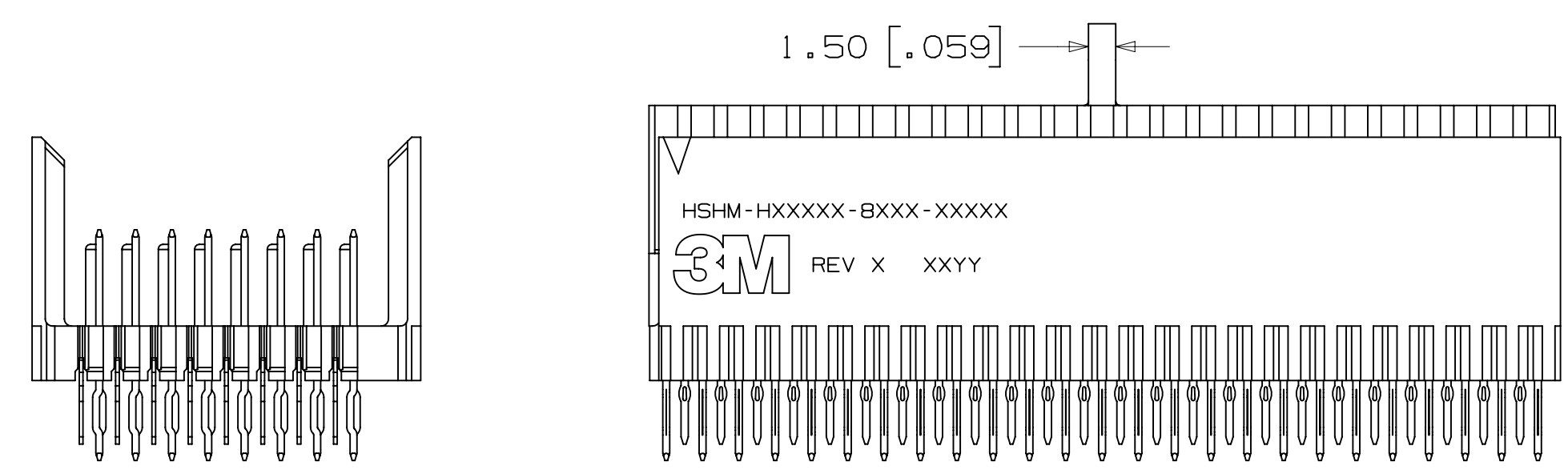
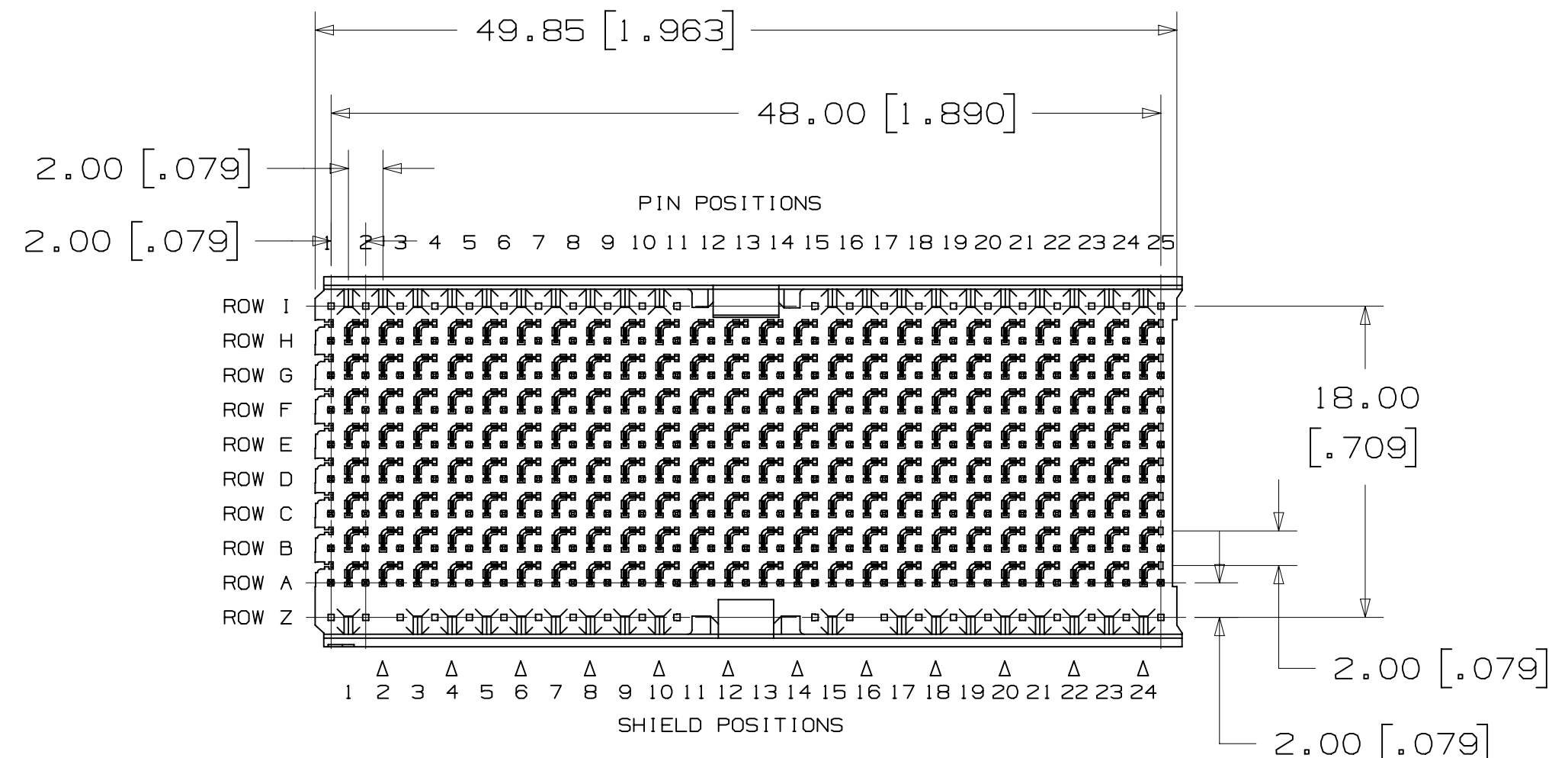
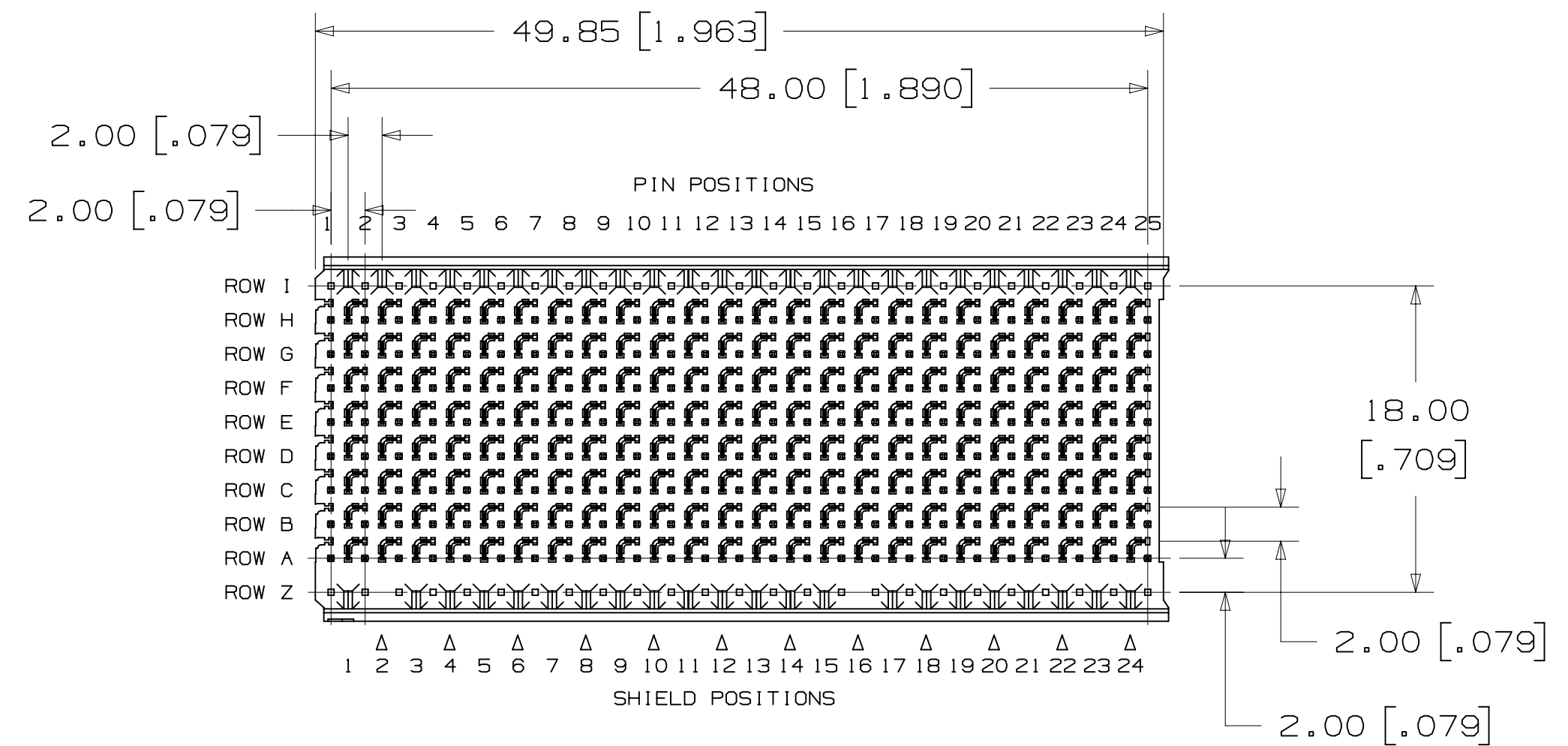
DIMENSIONS: MM [INCHES]

| | | | | | | |
|---------------------------------|---------------|----------------------------|-----|----------------------------|------|------|
| DESIGN REFERENCE | NEXT ASSEMBLY | REV | ECO | ISSUE DATE AND DESCRIPTION | DRFT | CHKD |
| | | | | AUG 31, 2012 | | |
| DIVISION | | DIVISION CODE | | DATE | | |
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| DO NOT SCALE DRAWING | SCALE 5/2 | TOLERANCES EXCEPT AS NOTED | | DATE | | |
| THIRD ANGLE PROJECTION | | INCHES | | AUG 31, 2012 | | |
| INTERPRET PER ASME Y14.5 - 1994 | | MILLIMETERS | | DATE | | |
| MAX SURFACE ROUGHNESS | | .00 ± .01 | | AUG 31, 2012 | | |
| SURFACES | | .000 ± .005 | | DATE | | |
| MARKED ONLY | | .000 ± | | AUG 31, 2012 | | |
| | | .0 ± .3 | | DATE | | |
| | | .00 ± .13 | | AUG 31, 2012 | | |
| | | .000 ± | | DATE | | |
| | | ANGLES | | AUG 31, 2012 | | |

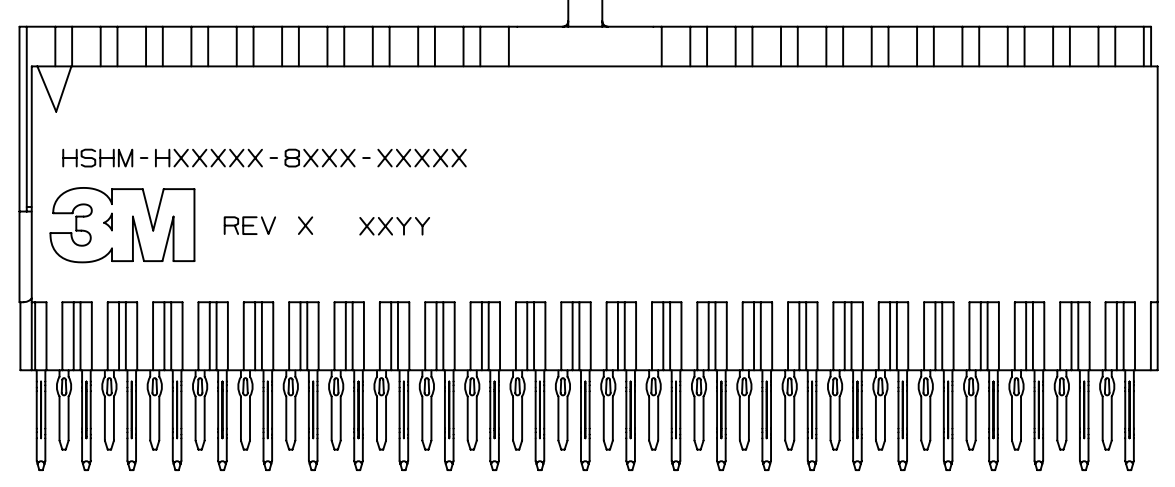
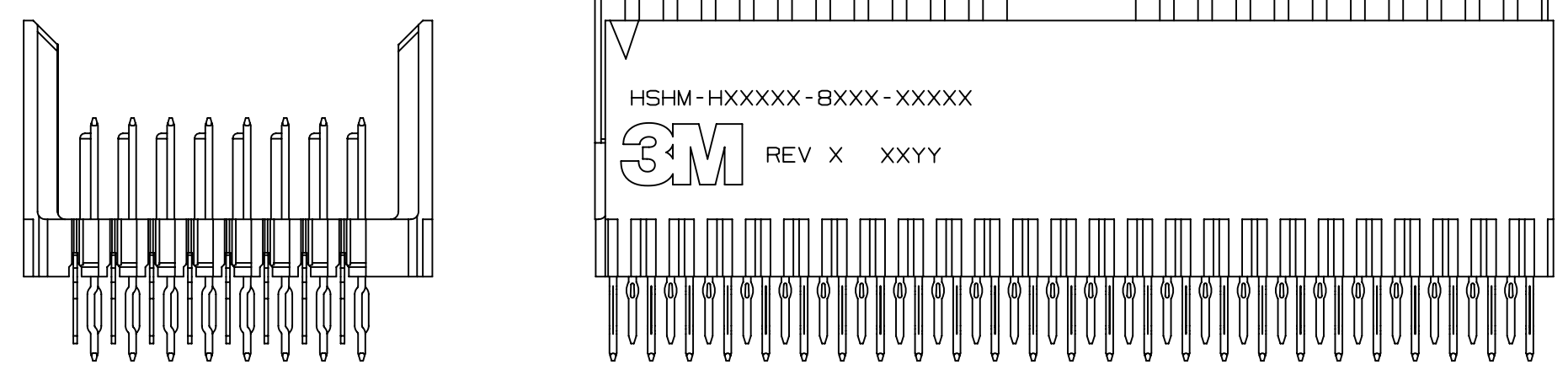
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|---|------------------------------|---|
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| TITLE | | |
| HSHM PRESS-FIT HEADER, 8-ROW, HSHM SERIES | | |
| CAGE NUMBER | SIZE | DRAWING NO. |
| D | | 78-5100-2556-8 |
| REV. | A | |
| MODEL | SHT 1 OF 5 | |

3M™ HSHM PRESS-FIT HEADER, 8-ROW, HSHM SERIES
FOR HIGH SPEED HARD METRIC APPLICATIONS

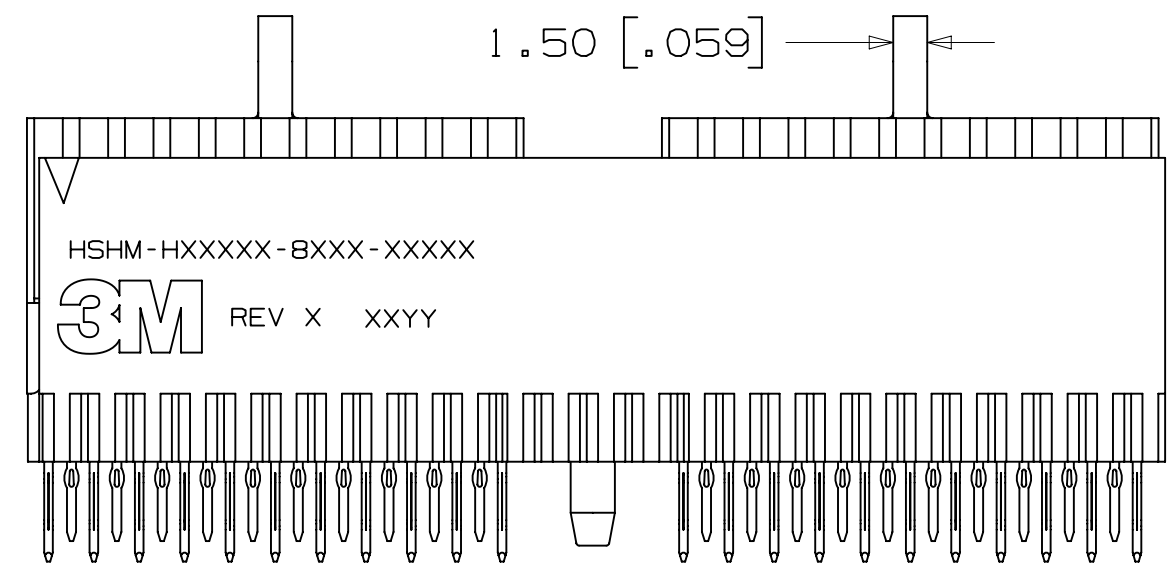
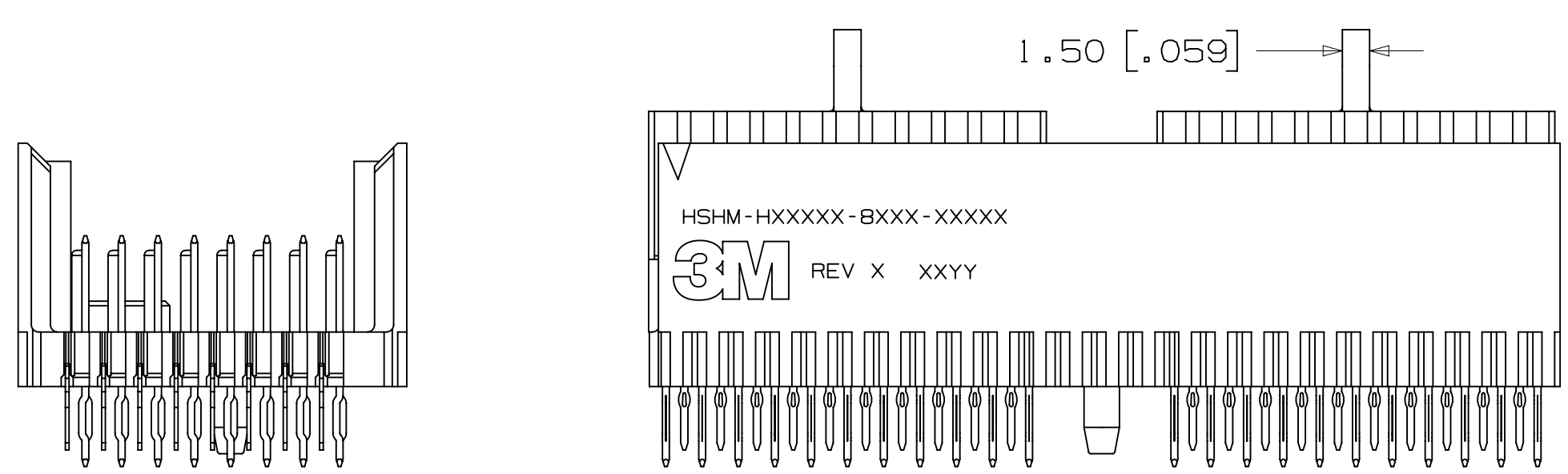
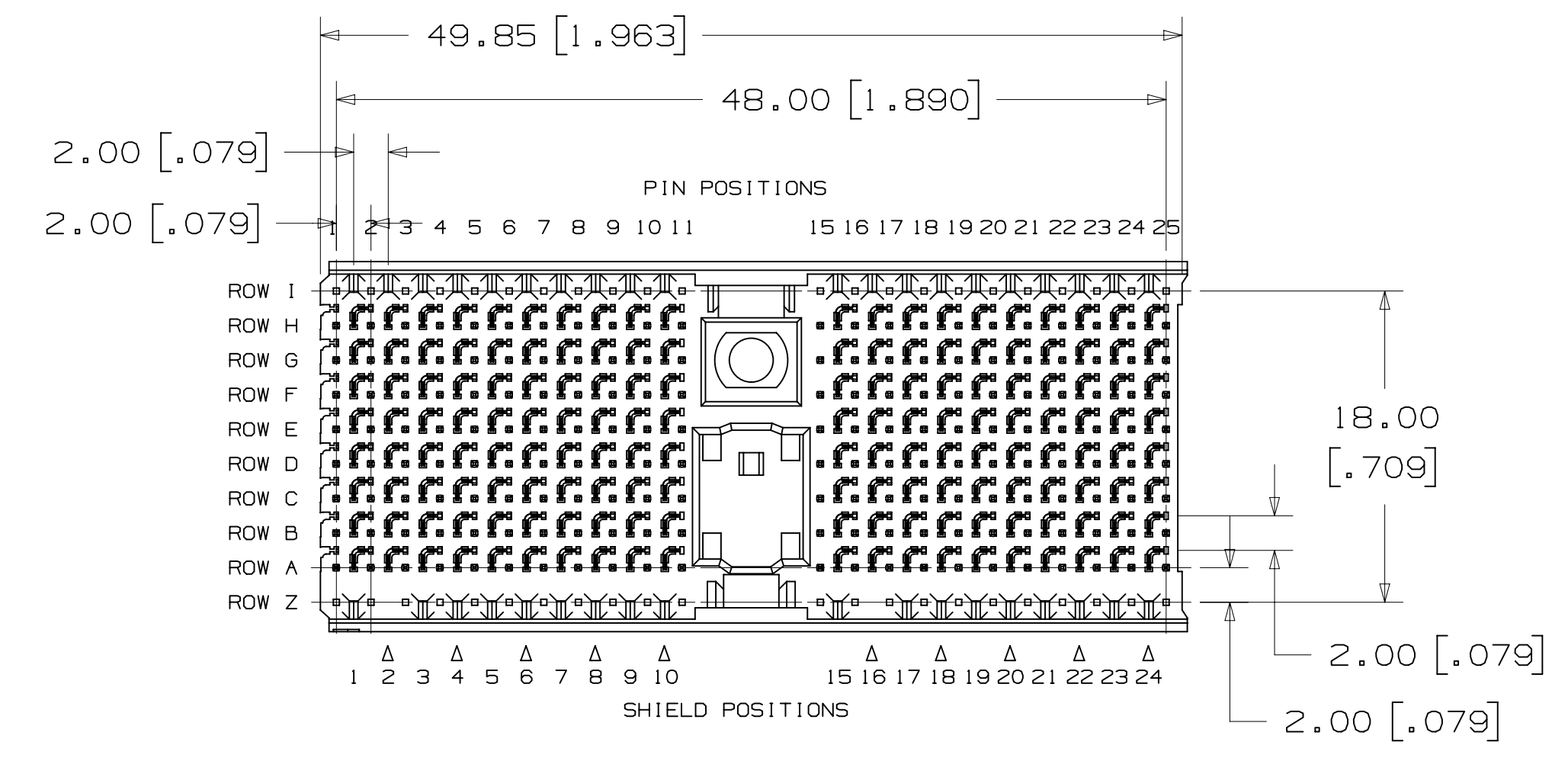
- NOTES
1. CAPS TO BE REMOVED AFTER PRESS-FIT INSTALLATION PROCESS.
 2. ▲ DENOTES SHIELD COLUMN (TAIL ONLY) OMITTED FOR THE ROW DIFFERENTIAL PAIR PART.



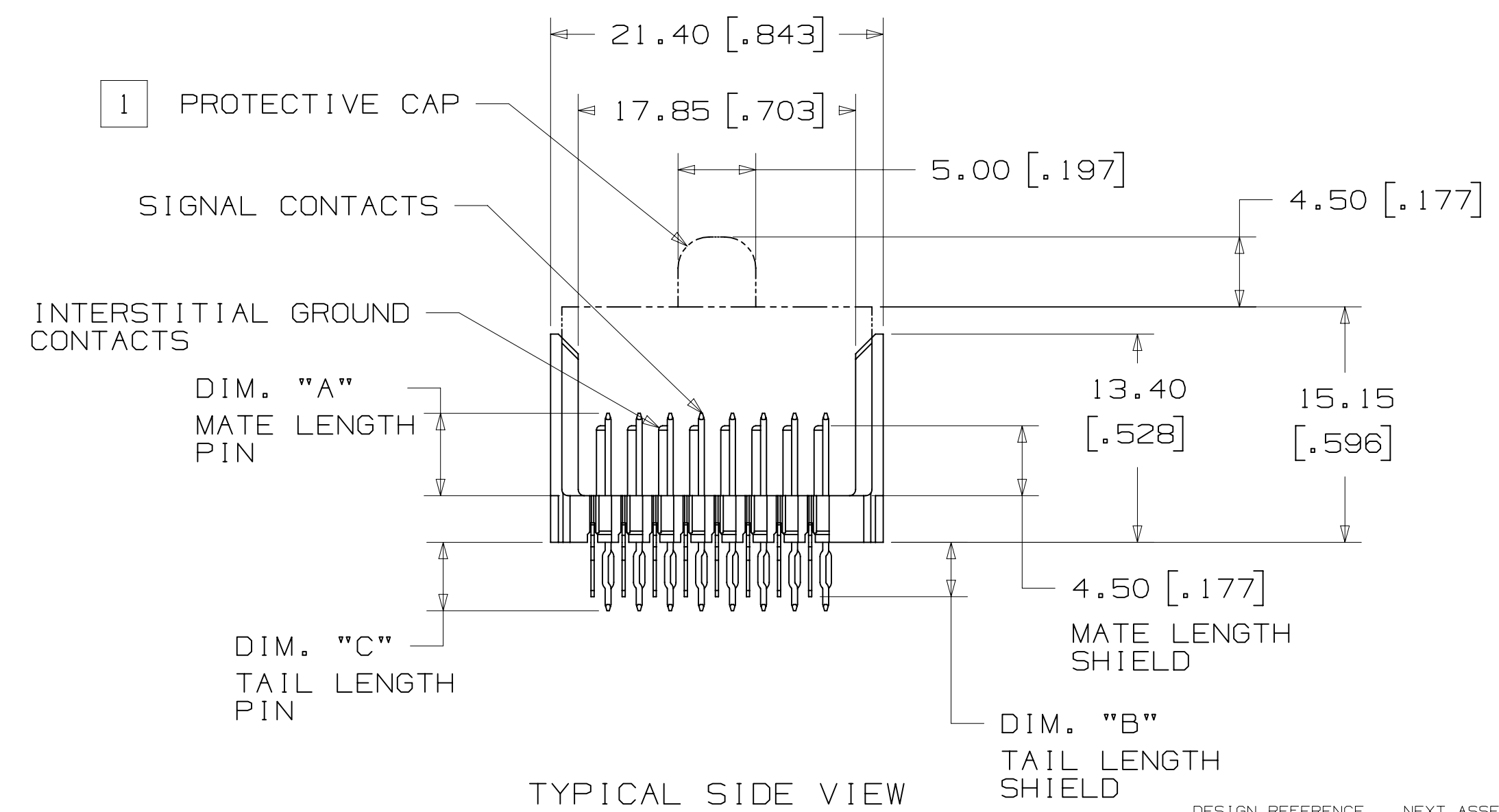
HSHM-H200EX-8CPX



HSHM-H200DEX-8CPX



HSHM-H176DX-8CPX



TYPICAL SIDE VIEW DIMENSIONS FOR THE HEADERS ON THIS DRAWING

STANDARD CONFIGURATION

| | | |
|----------|-----------|-------------------|
| DIM. "A" | 5.3 [.21] | FOR ROWS A THRU H |
| DIM. "B" | TABULATED | SEE ORDERING INFO |
| DIM. "C" | TABULATED | SEE ORDERING INFO |

FOR NON-STANDARD CONFIGURATIONS CONTACT A 3M SALES REPRESENTATIVE

| | | | | | | |
|------------------------|---------------|---------------------------------|-----|----------------------------|------|------|
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| | | | | AUG 31, 2012 | | |
| DIVISION | | INTERCONNECT SOLUTIONS | | ISD | | |
| DO NOT SCALE DRAWING | SCALE 3/1 | TOLERANCES EXCEPT AS NOTED | | INCHES | | |
| THIRD ANGLE PROJECTION | | INTERPRET PER ASME Y14.5 - 1994 | | MILLIMETERS | | |
| MAX SURFACE ROUGHNESS | | SURFACES | | MARKED ONLY | | |
| CAGE NUMBER | | SIZE | | DRAWING NO. | | REV. |
| D78-5100-2556-8 | | A | | SHT 2 OF 5 | | |

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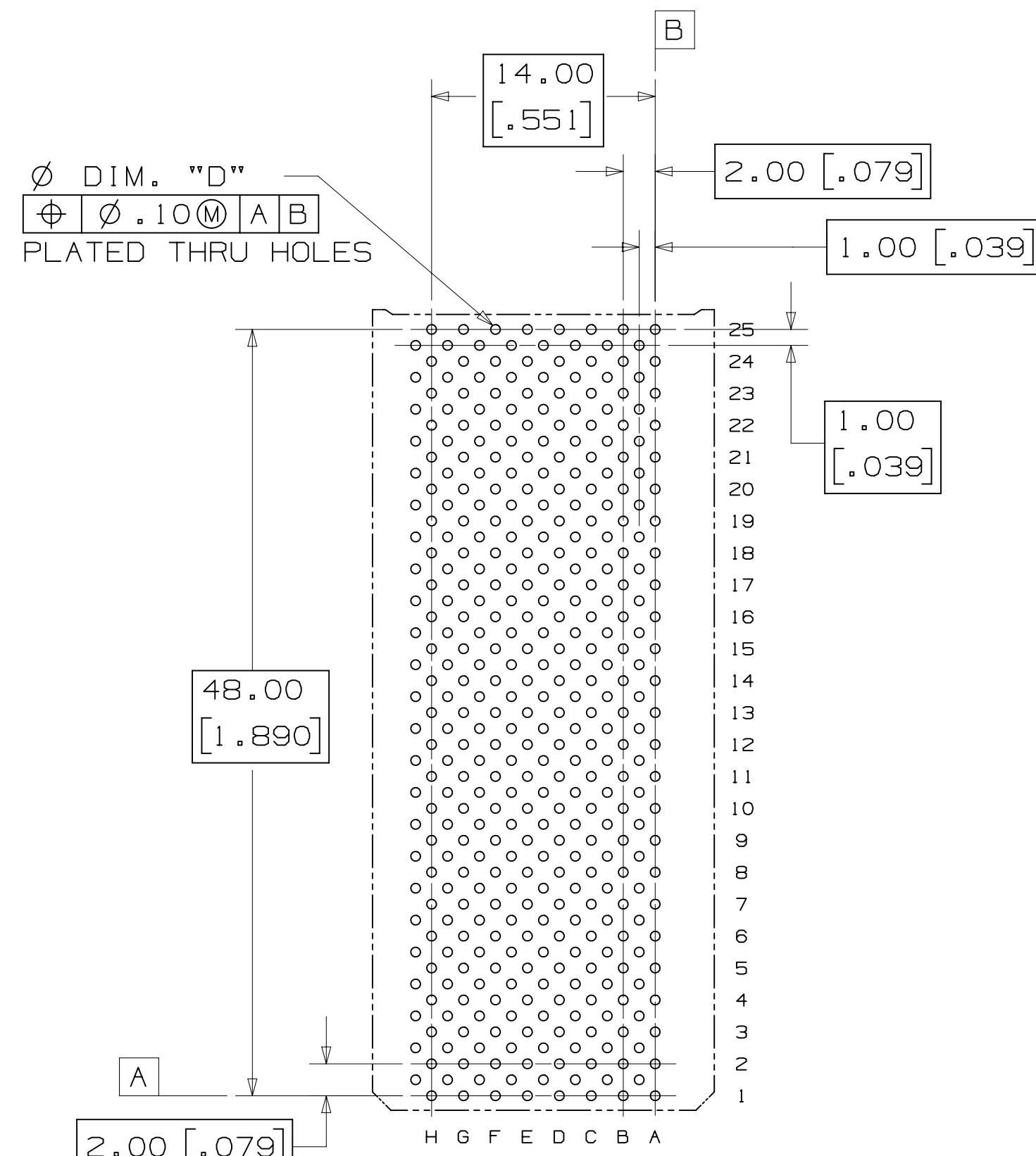
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DRAWING NUMBER: 78-5100-2556-8

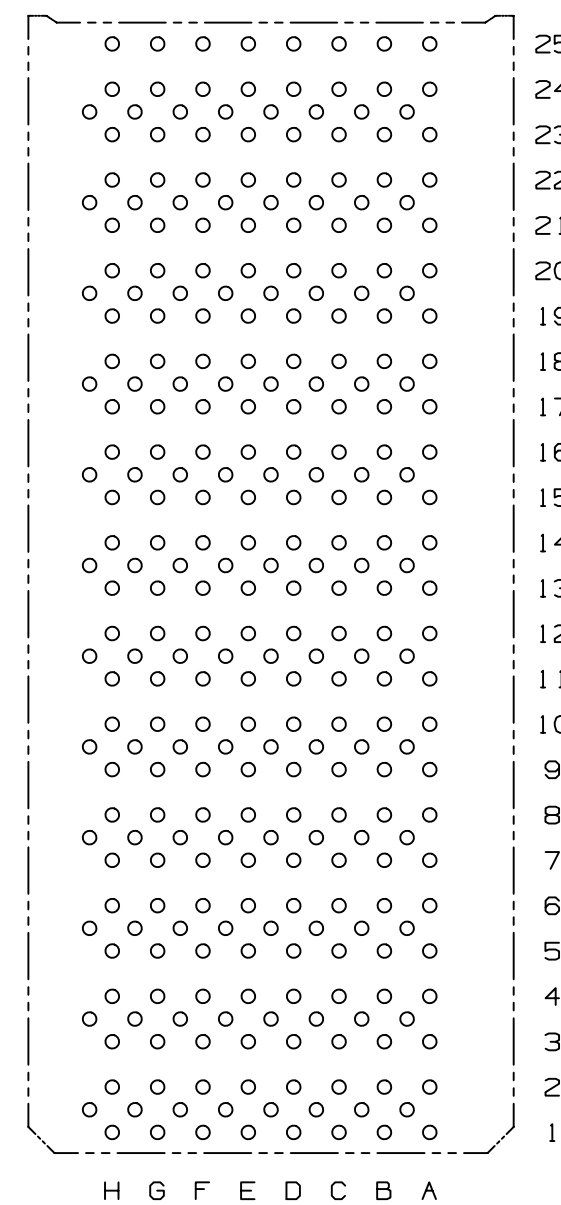
REVISION: A

3M™ HSHM PRESS-FIT HEADER, 8-ROW, HSHM SERIES
FOR HIGH SPEED HARD METRIC APPLICATIONS

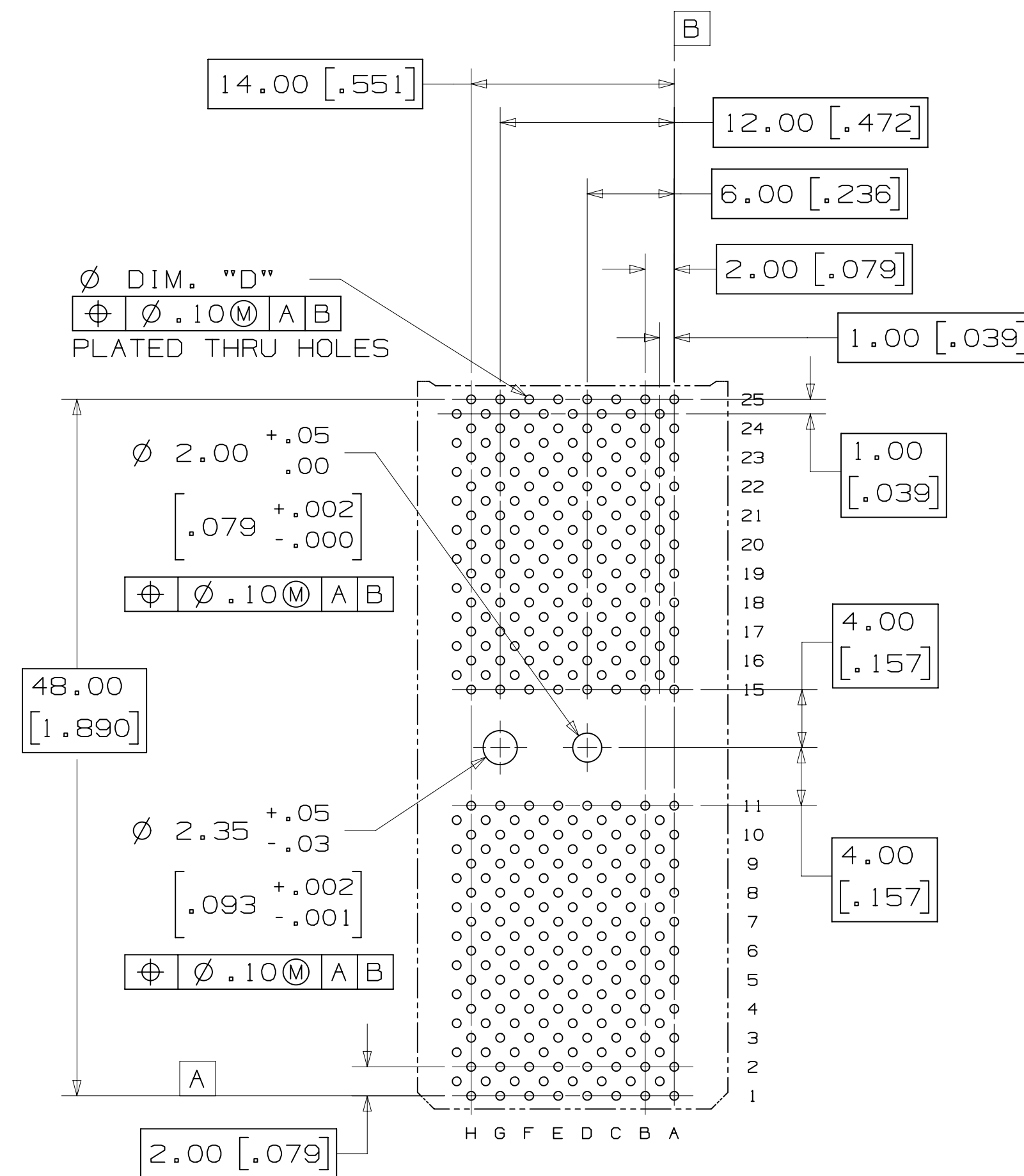
| HOLE | HOLE PLATING TABLE | | | |
|----------|---------------------------|---------------------------|---------------------------|---------------------------|
| | (FINISHED HOLE) | CU THICKNESS | SnPb THICKNESS | DRILLED HOLE DIA. |
| DIM. "B" | .690-.790 [.0270-.0310] | .025-.045 [.0010-.0018] | .008-.018 [.0003-.0007] | .810-.860 [.0320-.0340] |
| DIM. "D" | .457-.559 [.0180-.0220] | .025-.045 [.0010-.0018] | .008-.018 [.0003-.0007] | .584-.625 [.0230-.0246] |



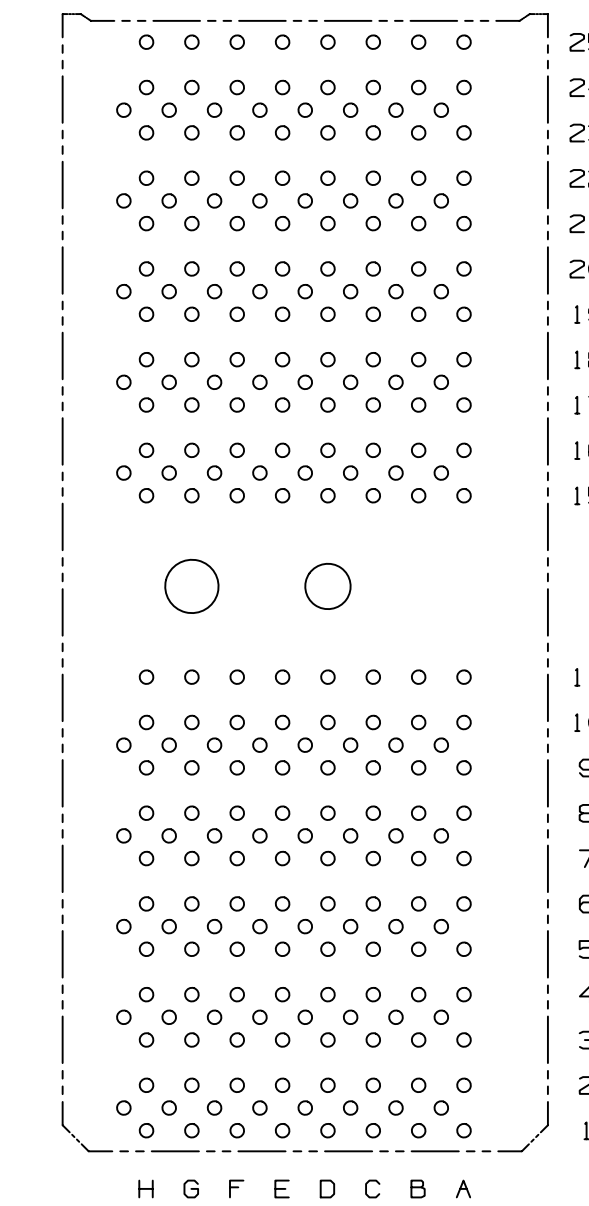
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HSHM-H200DE4-8CPX
COAXIAL, COLUMN DIFFERENTIAL
AND STRIPLINE APPLICATIONS



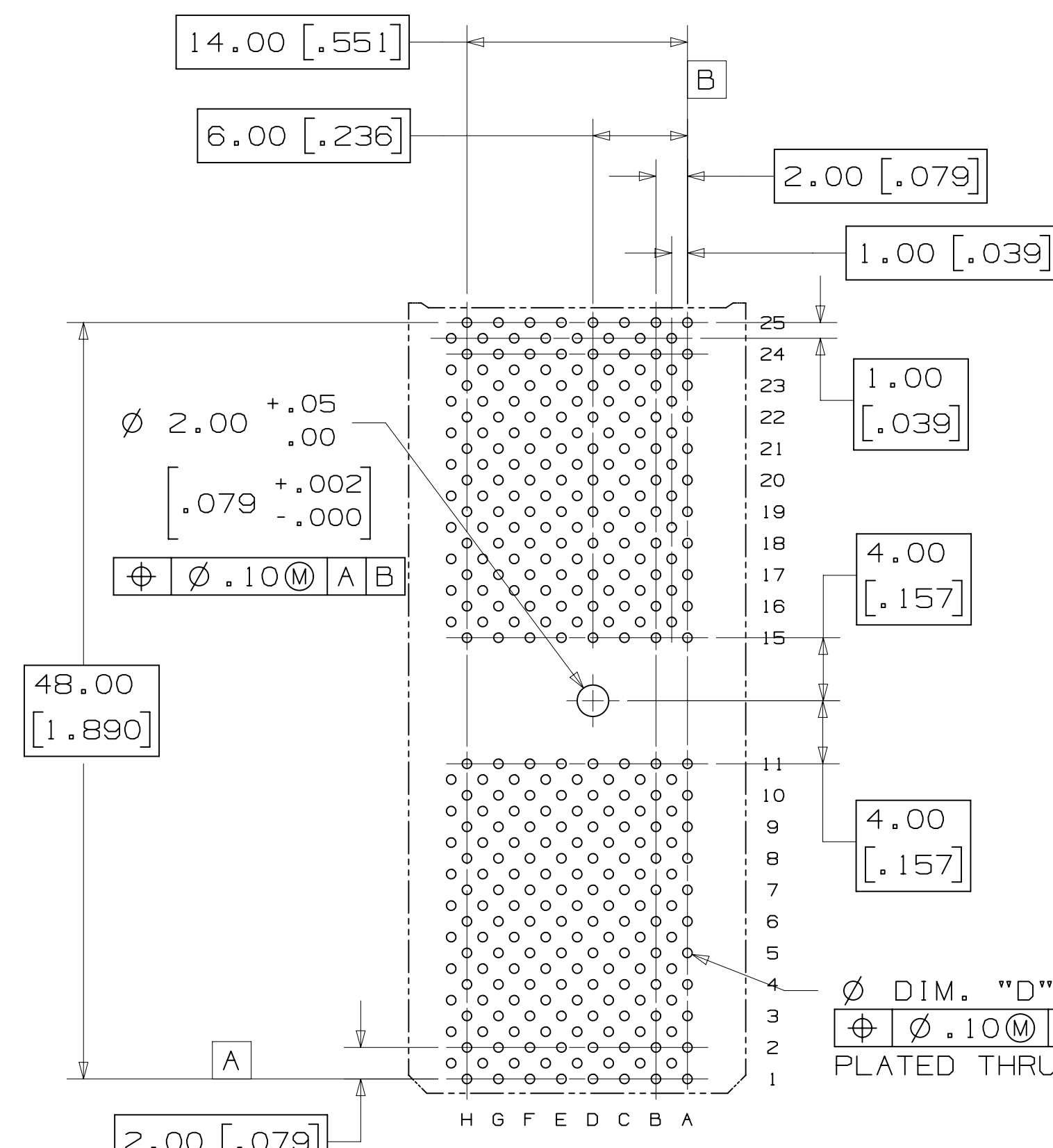
HSHM-H200E5-8CPX
HSHM-H200DE5-8CPX
ROW DIFFERENTIAL APPLICATIONS
(SAME GEOMETRY AS LEFT VIEW
WITHOUT THE GROUND VIAS)



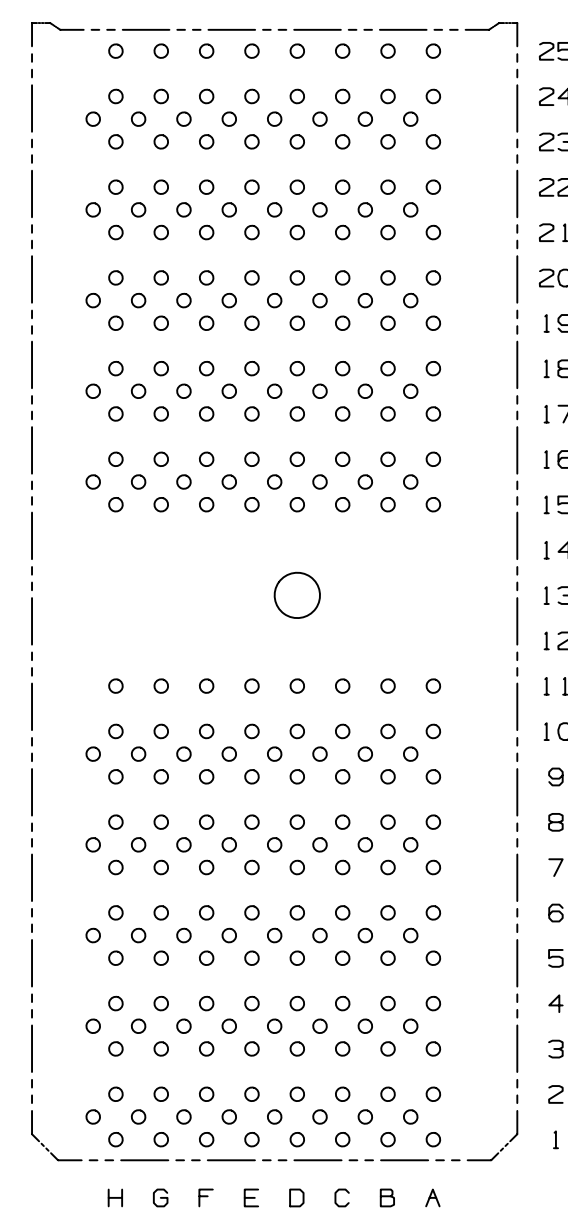
HSHM-H176D4-8CPX
COAXIAL, COLUMN DIFFERENTIAL
AND STRIPLINE APPLICATIONS



HSHM-H176D5-8CPX
ROW DIFFERENTIAL APPLICATIONS
(SAME GEOMETRY AS LEFT VIEW
WITHOUT THE GROUND VIAS)



HSHM-H176DG4-8CPX
COAXIAL, COLUMN DIFFERENTIAL
AND STRIPLINE APPLICATIONS



HSHM-H176DG4-8CPX
ROW DIFFERENTIAL APPLICATIONS
(SAME GEOMETRY AS LEFT VIEW
WITHOUT THE GROUND VIAS)

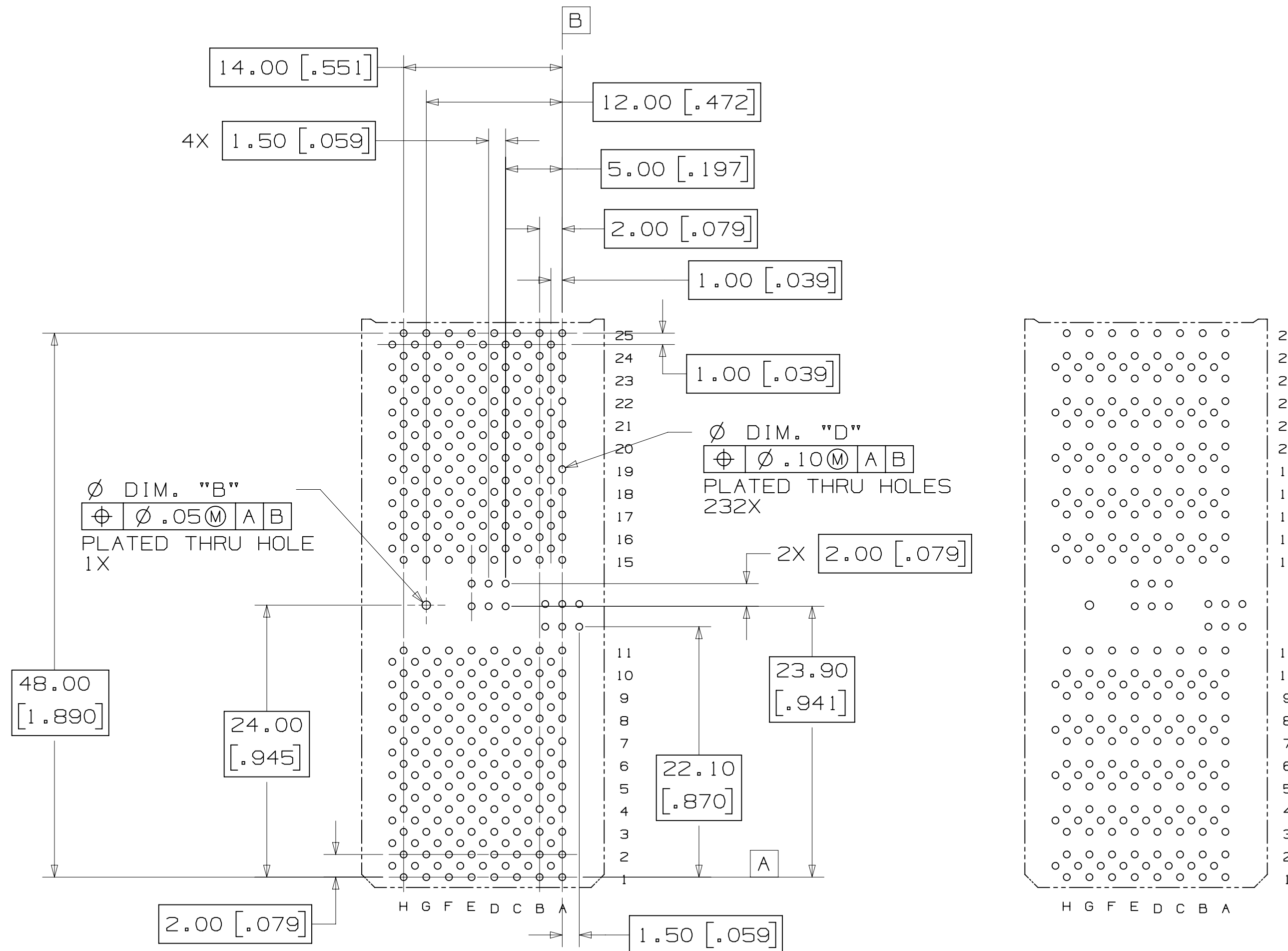
RECOMMENDED PCB MOUNTING HOLE PATTERN
(VIEWED FROM COMPONENT SIDE)

| | | | | | | |
|---------------------------------|---------------|----------------------------|-----|----------------------------|------|------|
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| INTERPRET PER ASME Y14.5 - 1994 | | MILLIMETERS | | DATE | | |
| MAX SURFACE ROUGHNESS | | .00 ± .01 | | DATE | | |
| SURFACES | | .000 ± .005 | | DATE | | |
| MARKED ONLY | | .00 ± .13 | | DATE | | |
| | | .000 ± | | DATE | | |
| | | ANGLES | | DATE | | |

| | | | | |
|--|-------|----------------------------|--------------|------|
| A | 43007 | AUG 31, 2012 | JNC | TS |
| PRODUCTION RELEASE | | | | |
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| CAGE NUMBER | SIZE | DRAWING NO. | REV. | |
| D | | 78-5100-2556-8 | A | |
| MODEL | | | | |
| SHT 4 OF 5 | | | | |

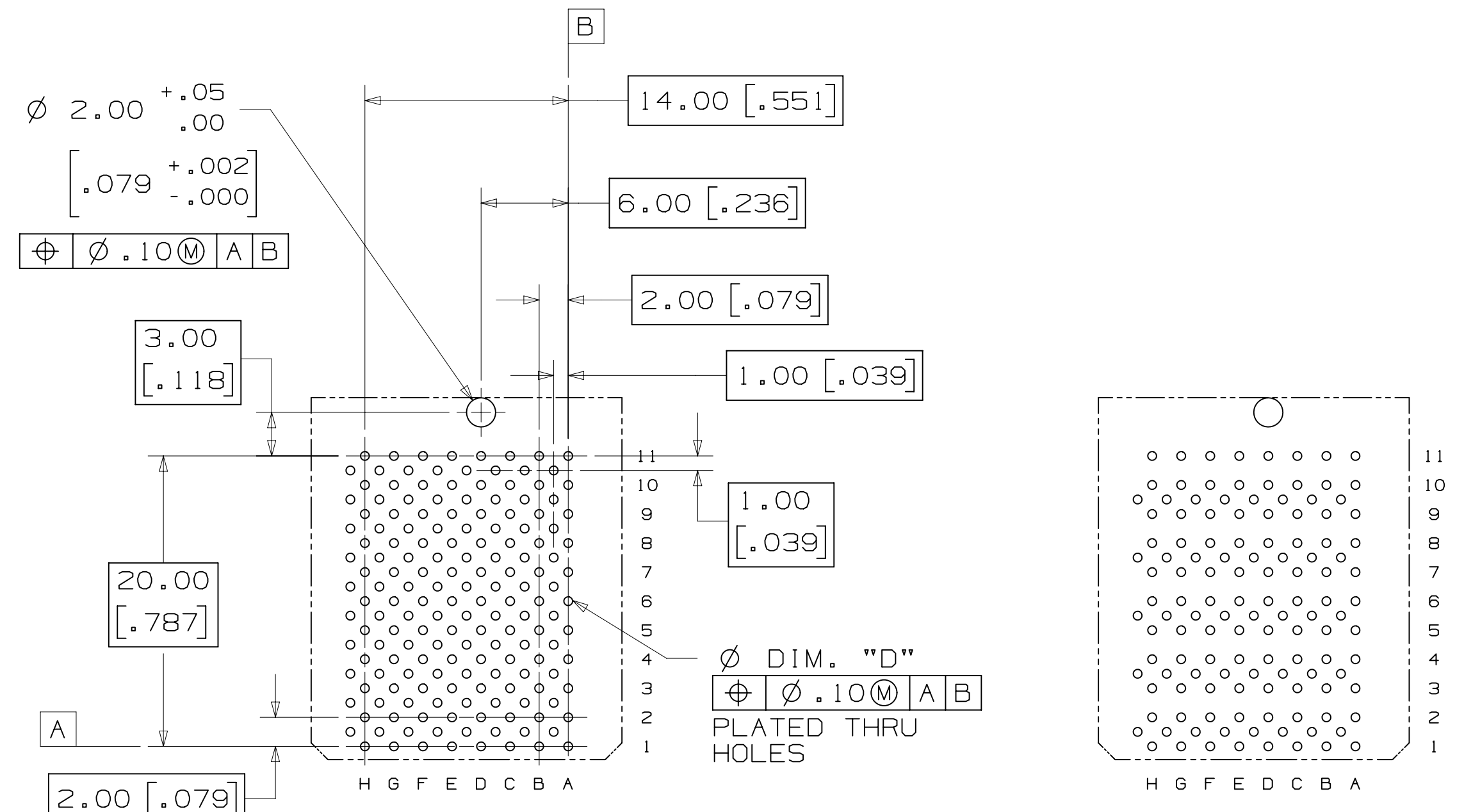
78-5100-2556-8

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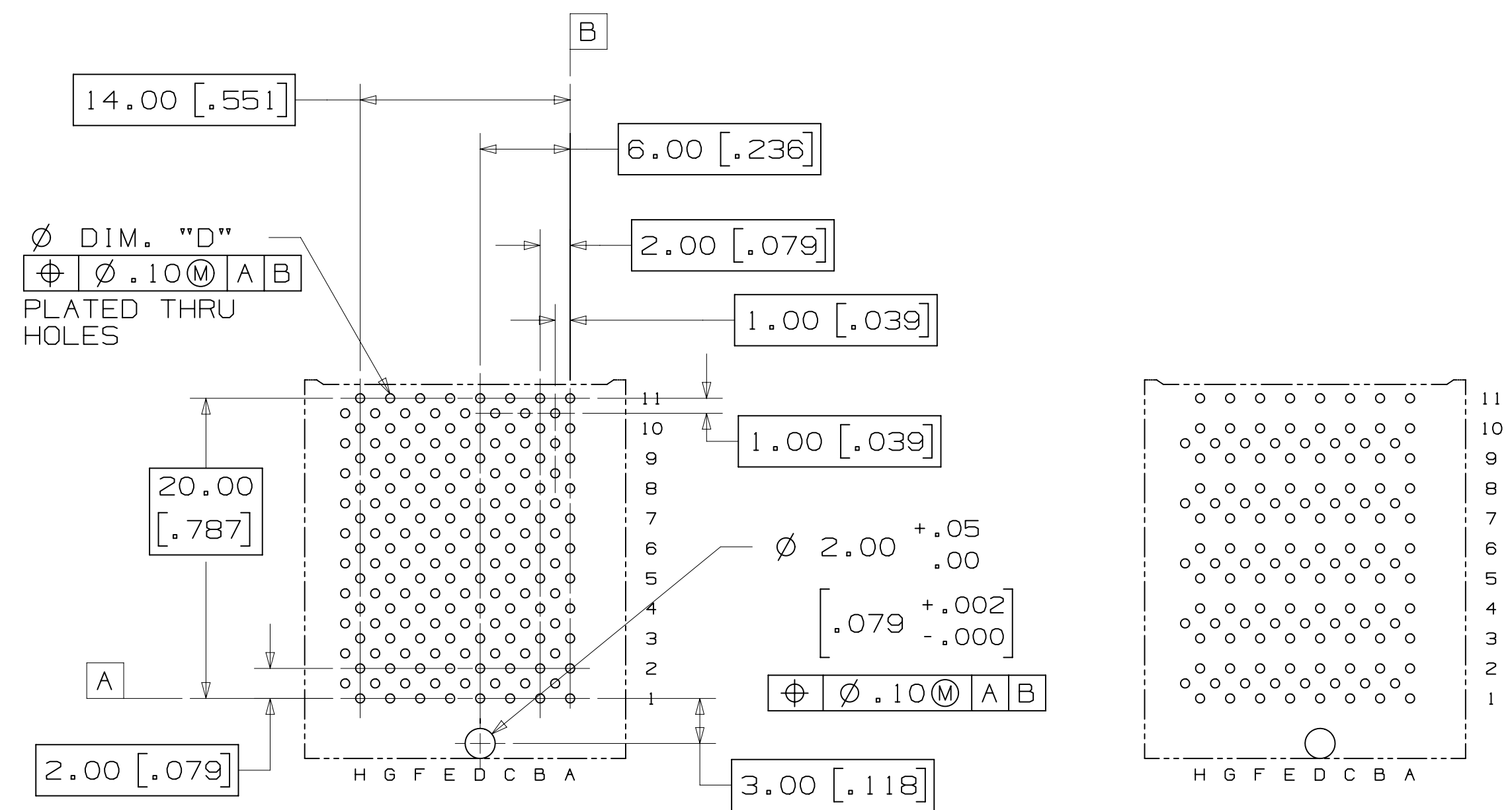
HSHM-H176DPWR4-8CPX
COAXIAL, COLUMN DIFFERENTIAL
AND STRIPLINE APPLICATIONS

HSHM-H176DPWR5-8CPX
ROW DIFFERENTIAL APPLICATIONS
(SAME GEOMETRY AS LEFT VIEW
WITHOUT THE GROUND VIAS)



HSHM-H088FL4-8CPX
COAXIAL, COLUMN DIFFERENTIAL
AND STRIPLINE APPLICATIONS

HSHM-H088FL5-8CPX
ROW DIFFERENTIAL APPLICATIONS
(SAME GEOMETRY AS LEFT VIEW
WITHOUT THE GROUND VIAS)



HSHM-H088FR4-8CPX
COAXIAL, COLUMN DIFFERENTIAL
AND STRIPLINE APPLICATIONS

HSHM-H088FR5-8CPX
ROW DIFFERENTIAL APPLICATIONS
(SAME GEOMETRY AS LEFT VIEW
WITHOUT THE GROUND VIAS)

RECOMMENDED PCB MOUNTING HOLE PATTERN
(VIEWED FROM COMPONENT SIDE)

| | | | | | | |
|---|---------------------------------|----------------------------|-------------|---|------|------|
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| | | | | AUG 31, 2012 | JNC | TS |
| DISTRICT CODES | | CHKD | CASTIGLIONE | DATE | MFG | DATE |
| | | | | AUG 31, 2012 | | |
| DIVISION | DIVISION CODE | APPR | T. SUNIGA | DATE | | |
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| | | MILLIMETERS | | TITLE HSHM PRESS-FIT HEADER, 8-ROW, HSHM SERIES | | |
| THIRD ANGLE PROJECTION | INTERPRET PER ASME Y14.5 - 1994 | MILLIMETERS | | CAGE NUMBER D78-5100-2556-8 | | |
| | | INCHES | | MODEL SHT 5 OF 5 | | |
| MAX SURFACE ROUGHNESS | DT SURFACES | INCHES | | REV. A | | |
| | | MILLIMETERS | | DET. <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | |
| <input checked="" type="checkbox"/> MARKED ONLY | | ANGLES | | | | |

78-5100-2556-8
DRAWING NUMBER