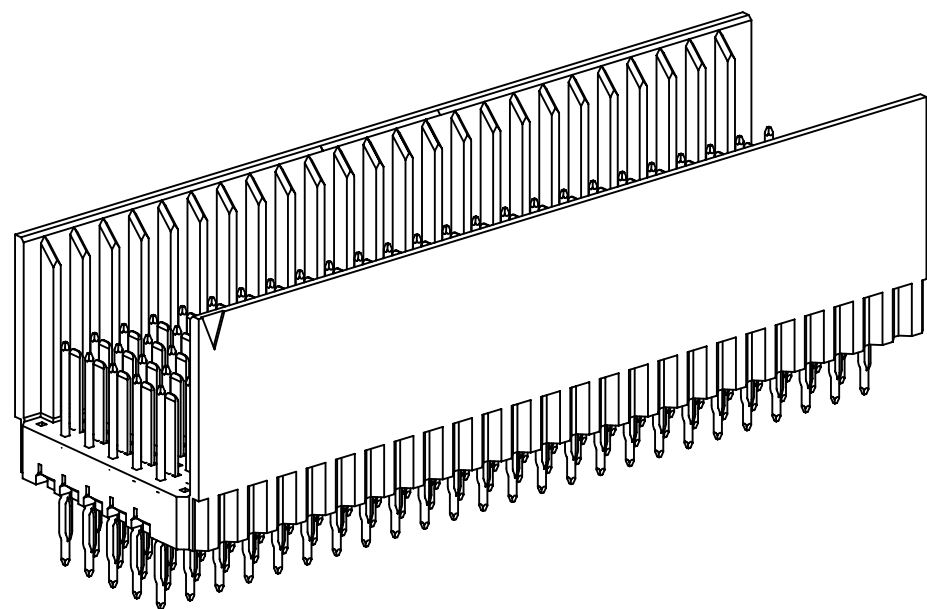
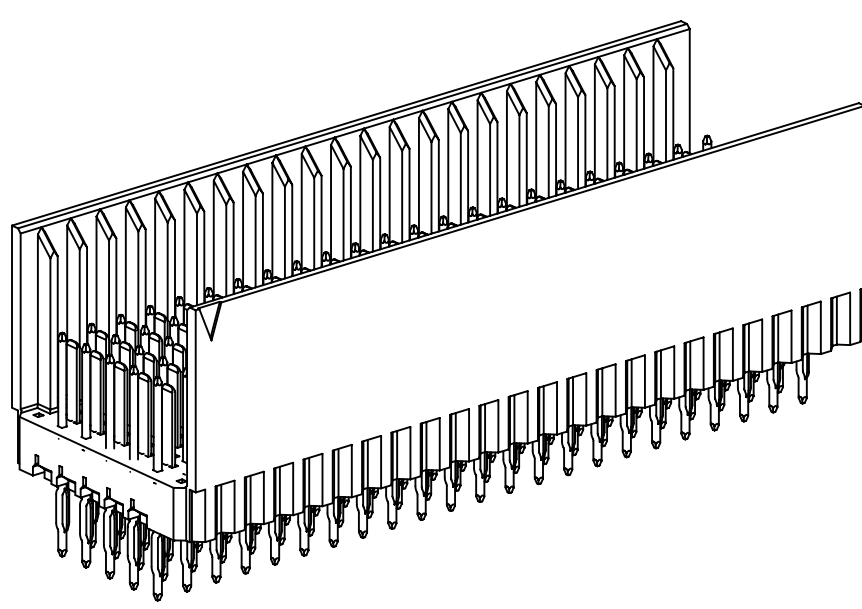


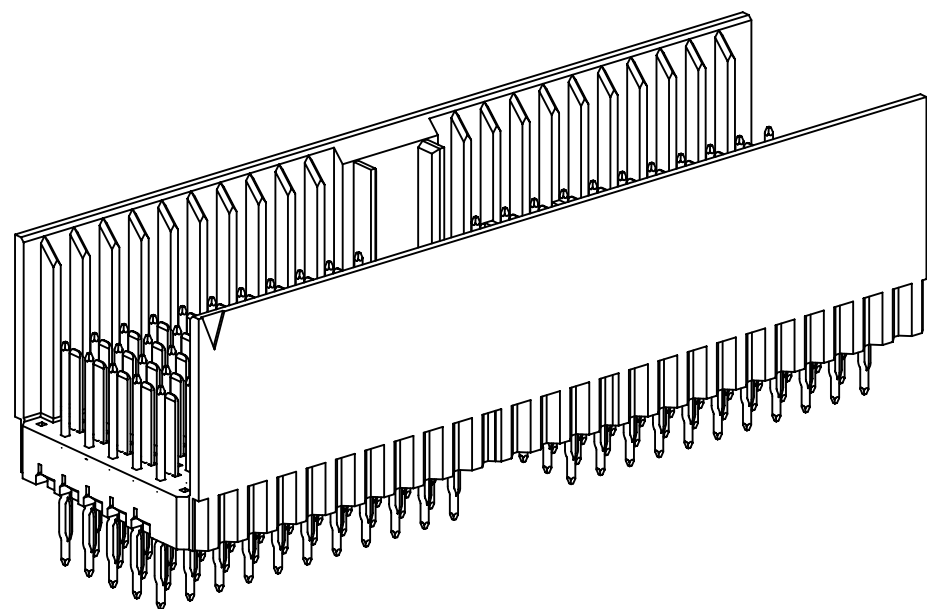
3M™ HSHM PRESS-FIT HEADER, 5-ROW, HSHM SERIES
FOR HIGH SPEED HARD METRIC APPLICATIONS



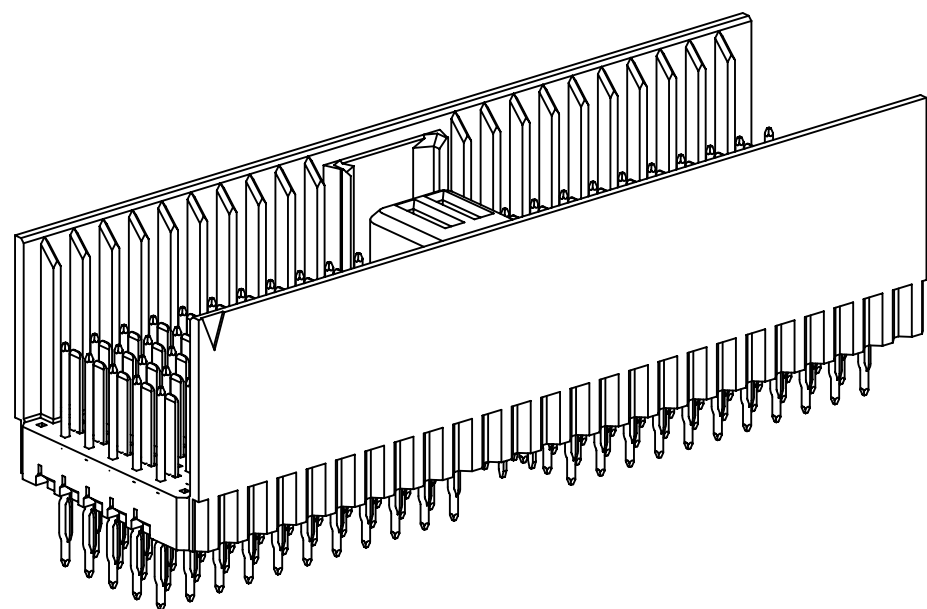
HSHM-H125BX-5CPX
TYPE B25, 125 SIGNAL CONTACTS



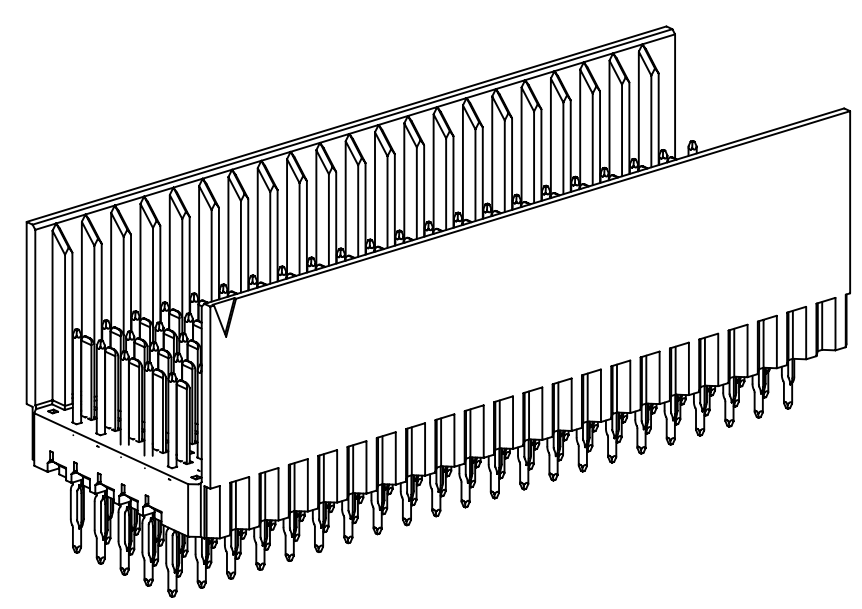
HSHM-H115BX-5CPX
TYPE B23, 115 SIGNAL CONTACTS



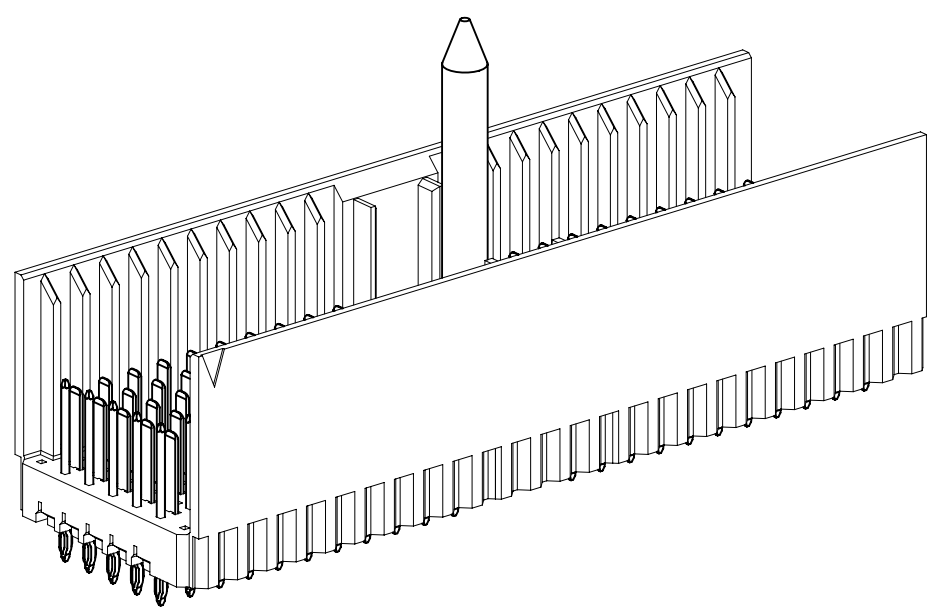
HSHM-H110AX-5CPX
TYPE A, 110 SIGNAL CONTACTS



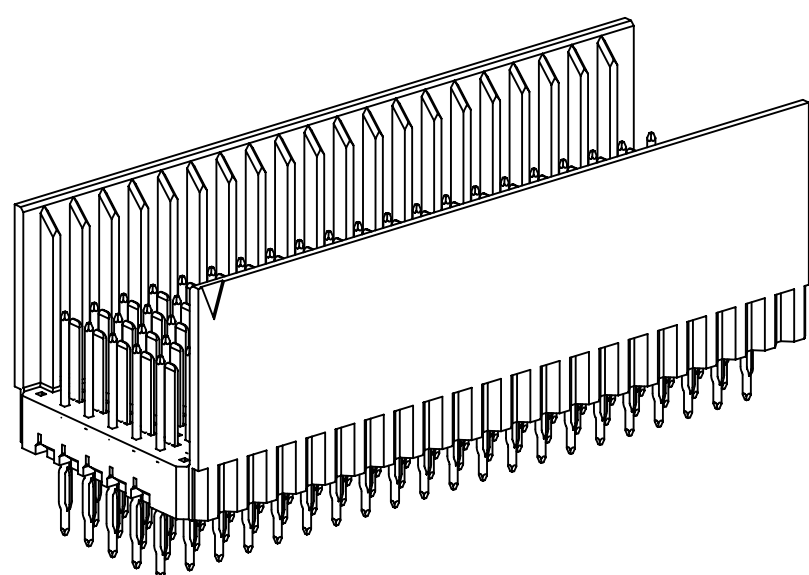
HSHM-H110APWRX-5CPX
TYPE A, 110 SIGNAL AND
4 POWER CONTACTS



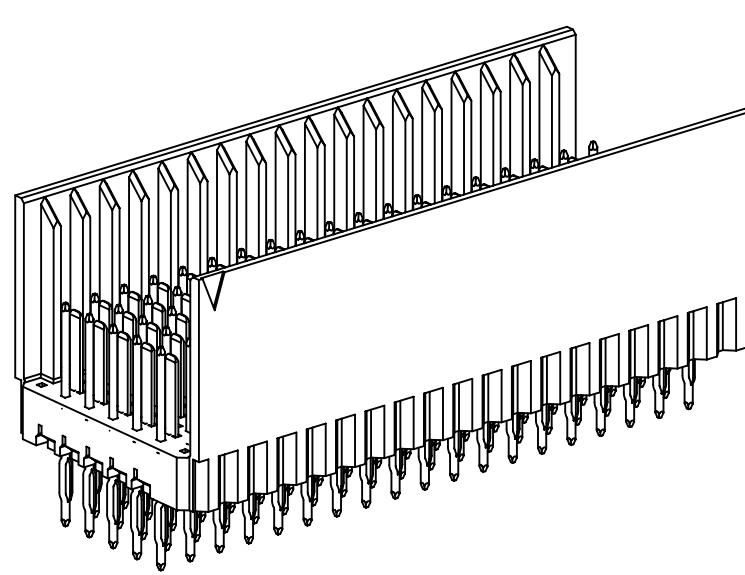
HSHM-H110BX-5CPX
TYPE B22, 110 SIGNAL CONTACTS



HSHM-H110AGX-5CPX
TYPE B22, 110 SIGNAL CONTACTS



HSHM-H105BX-5CPX
TYPE B21, 105 SIGNAL CONTACTS



HSHM-H095BX-5CPX
TYPE B19, 95 SIGNAL CONTACTS

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

HSHM-HXXXXXX-5CPX-XXXXX

HEADER POSITION AND TYPE		PLATING
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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 = .76 μ M [30 μ IN] MIN. GOLD ON CONTACT AREA, LUBRICATED
2.54 μ M [100 μ IN] MIN. TIN/LEAD ON TERMINAL AREA (RIA C2 & E3 APPLY)
1.27 μ M [50 μ IN] MIN. NICKEL ALL OVER.
TYPICALLY HIGHER MAKE ORDER QUANTITIES AS COMPARED TO TG30.

TG30 = .76 μ M [30 μ IN] MIN. GOLD ON CONTACT AREA
2.54 μ M [100 μ IN] MIN. TIN/LEAD ON TERMINAL AREA (RIA C2 & E3 APPLY)
1.27 μ M [50 μ IN] MIN. NICKEL ALL OVER.
STANDARD OPTION.

TG50 = 1.27 μ M [50 μ IN] MIN. GOLD ON CONTACT AREA, LUBRICATED
2.54 μ M [100 μ IN] MIN. TIN/LEAD ON TERMINAL AREA (RIA C2 & E3 APPLY)
1.27 μ M [50 μ IN] 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
- * 63 MATED LINES PER INCH
- * SHIPS WITH PROTECTIVE CAP, WHICH ALSO SERVES AS AN INSERTION TOOL
- * END-TO-END STACKABLE WITH 5 ROW 3M METPAK, CP2, HM AND HSHM HEADERS
- * MULTI-PURPOSE CENTER (MPC) KEYING AND GUIDANCE
- * FOUR INTEGRATED 8.25A POWER CONTACTS

3 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)

```

3 ELECTRICAL :

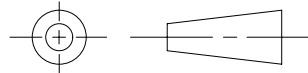
DATA RATE: 5 Gb/s
CHARACTERISTIC IMPEDANCE: 50Ω SINGLE-ENDED, 100Ω DIFFERENTIAL
CURRENT RATING (FULLY LOADED): 1A @ 70°C SIGNAL
INSULATION RESISTANCE: 10⁴ MΩ @ 100 V_{DC}
WITHSTANDING VOLTAGE: 750V_{RMS}

3 ENVIRONMENTAL :

TEMPERATURE RATING: -55° C TO 125° C

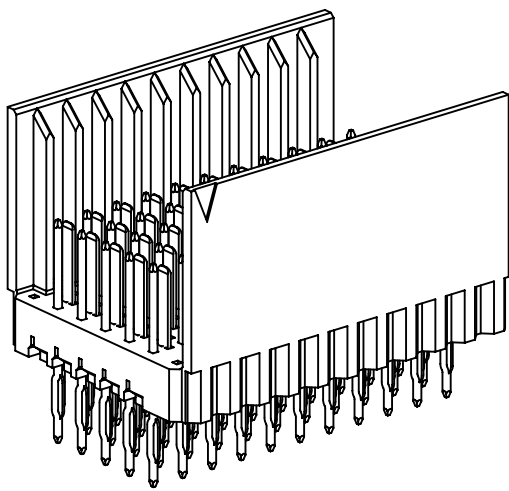
3M ELECTRONICS MATERIALS SOLUTIONS DIVISION
INTERCONNECT SOLUTIONS
<http://www.3mconnectors.com>

3M IS A TRADEMARK OF 3M COMPANY.
FOR TECHNICAL, SALES OR ORDERING
INFORMATION CALL 800-225-5373

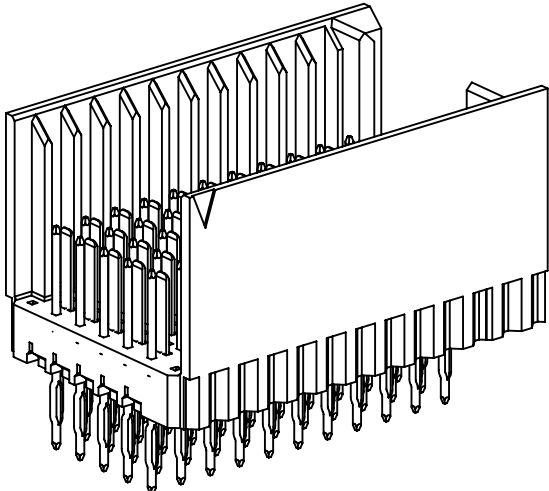
DIMENSIONS: MM (INCH)				A 50065		SEP 17,2013		JNC TS	
DESIGN REFERENCE				NEXT ASSEMBLY		PRODUCTION RELEASE			
REV		ECO		ISSUE DATE AND DESCRIPTION		DRFT		CHKD	
CUST CODES				CASTIGLIONE		MFG DATE		DATE	
DIVISION				DIVISION CODE		DATE		DATE	
Interconnect Solutions				ISD		SEP 17,2013		SEP 17,2013	
DO NOT SCALE DRAWING		SCALE 5/2		TOLERANCES EXCEPT AS NOTED		 © 3M COPYRIGHT 2018 This document and the information it contains are 3M property and may not be reproduced or further distributed without 3M's prior written consent, or used or disclosed other than for 3M approved purposes. All rights reserved.			
 THIRD ANGLE PROJECTION INTERPRET PER ASME Y14.5 - 2009				INCHES .0 ± .00 ± .000 ± .005 .0000 ± .0002		TITLE HSHM PRESS-FIT HEADER, 2MM, 5-ROW, HSHM SERIES			
MAX SURFACE ROUGHNESS ✓ ☐ MARKED ONLY				MILLIMETERS 0 ± .00 ±.13 .000 ±		CAGE NUMBER D 78-5100-2633-5		REV. B	
MODEL				HSHM		DET. LISTS		YES ☒ NO ☐	
						SHT 1 OF			

UL
UL FILE NO: E68080

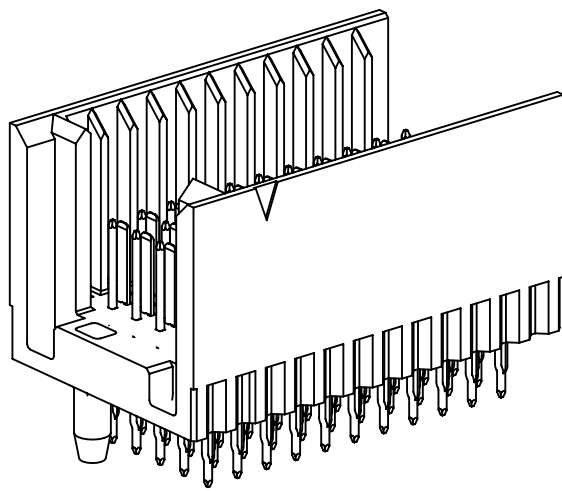
3M™ HSHM PRESS-FIT HEADER, 5-ROW, HSHM SERIES
FOR HIGH SPEED HARD METRIC APPLICATIONS



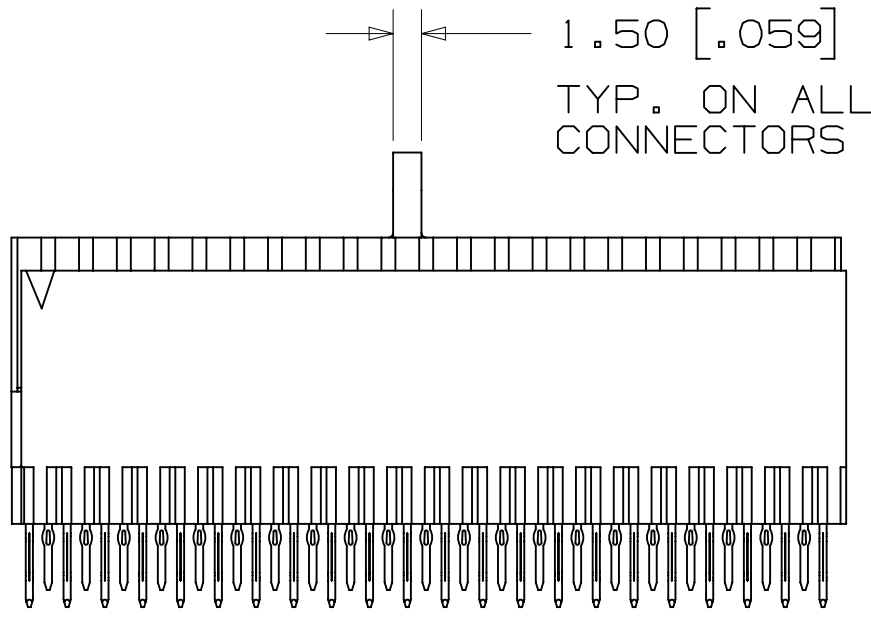
HSHM-H055BX-5CPX
TYPE B11, 55 SIGNAL CONTACTS



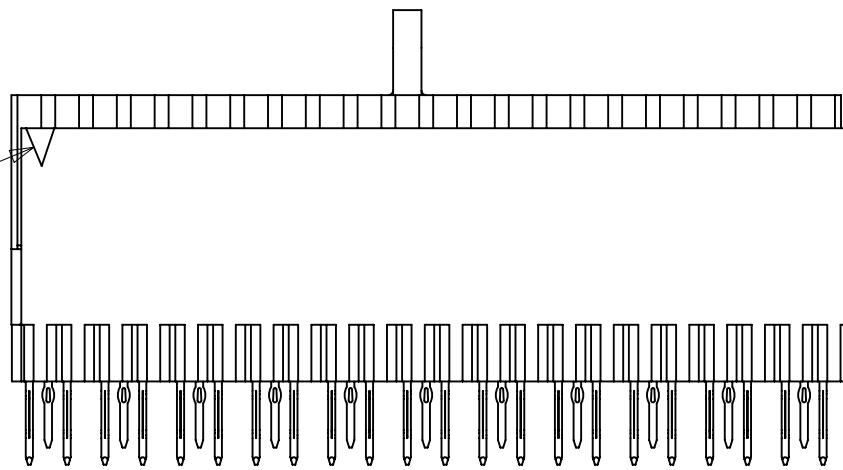
HSHM-H055CLX-5CPX
TYPE CL, 55 SIGNAL CONTACTS



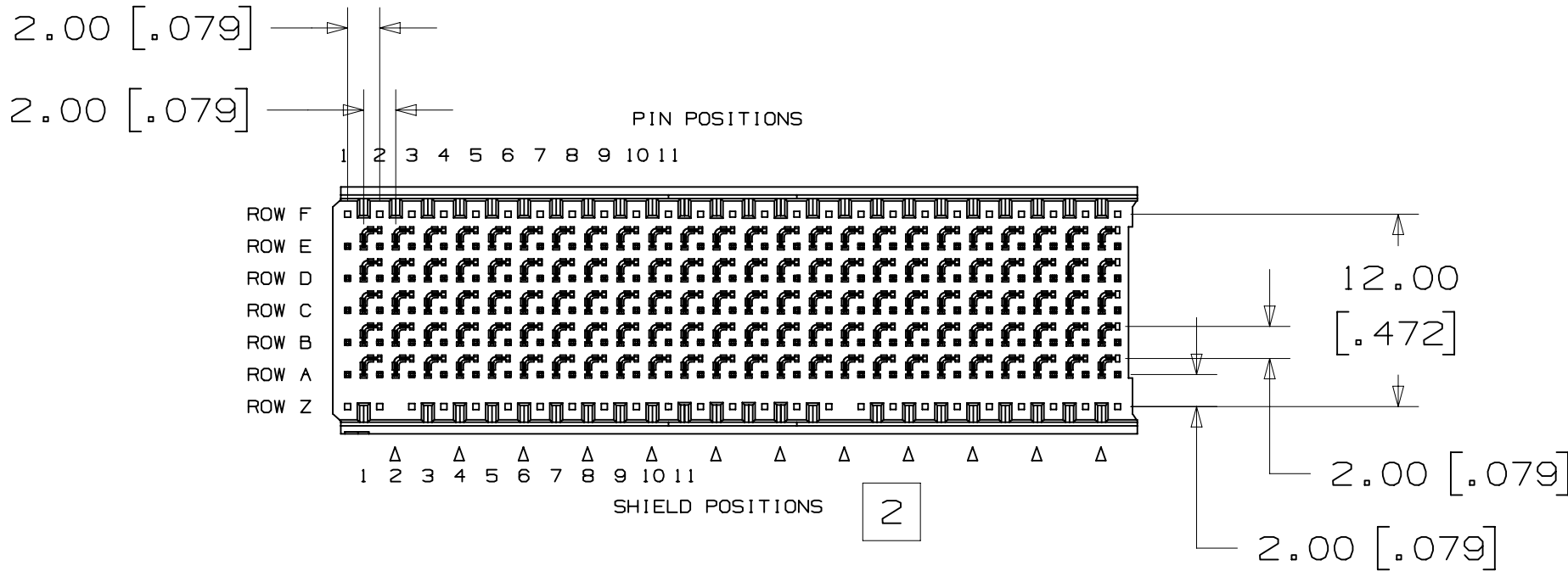
HSHM-H055CRX-5CPX
TYPE CR, 55 SIGNAL CONTACTS



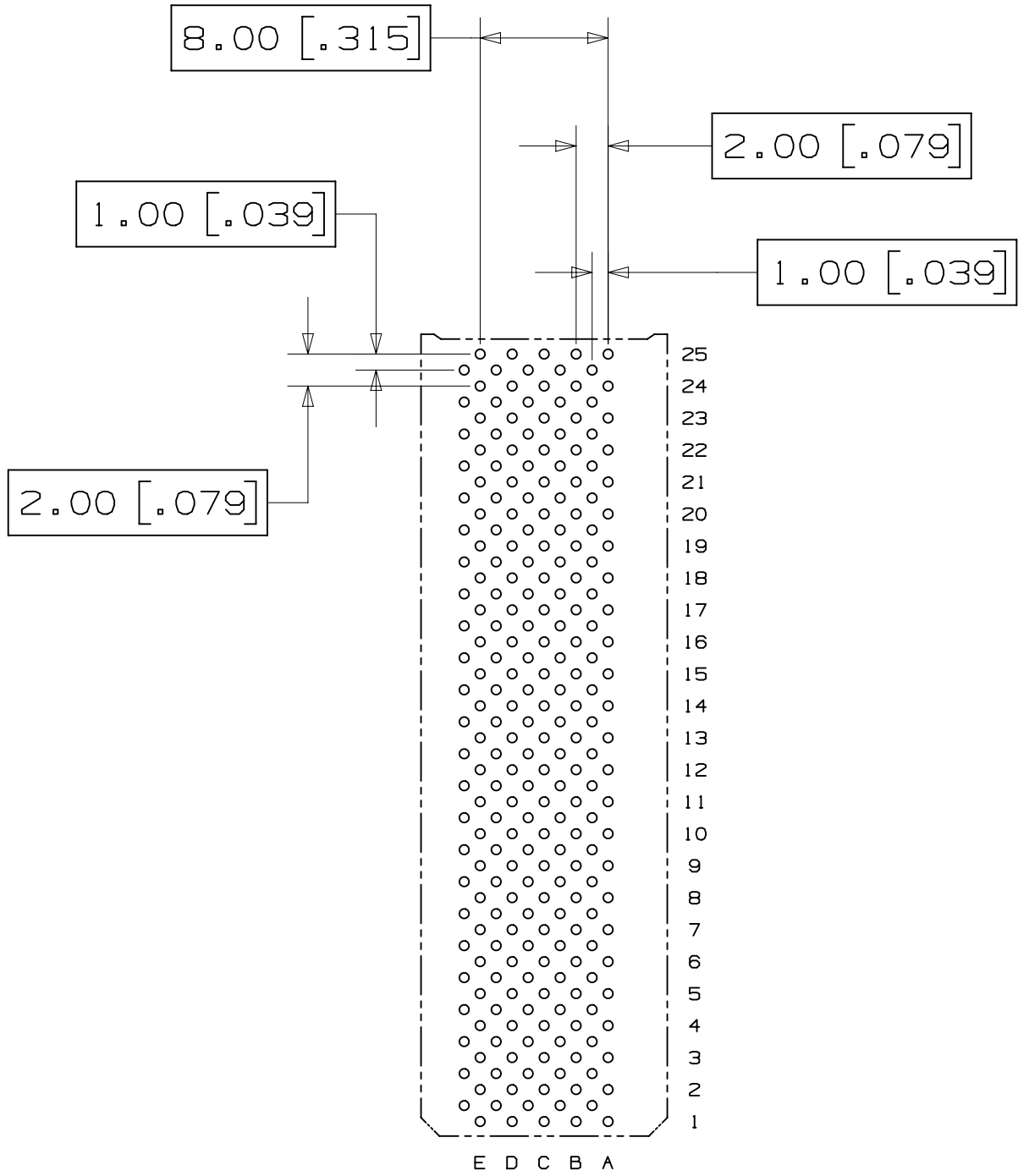
1 COAXIAL, COLUMN DIFFERENTIAL
AND STRIPLINE CONFIGURATION
(SHOWN WITH PROTECTIVE CAPS)



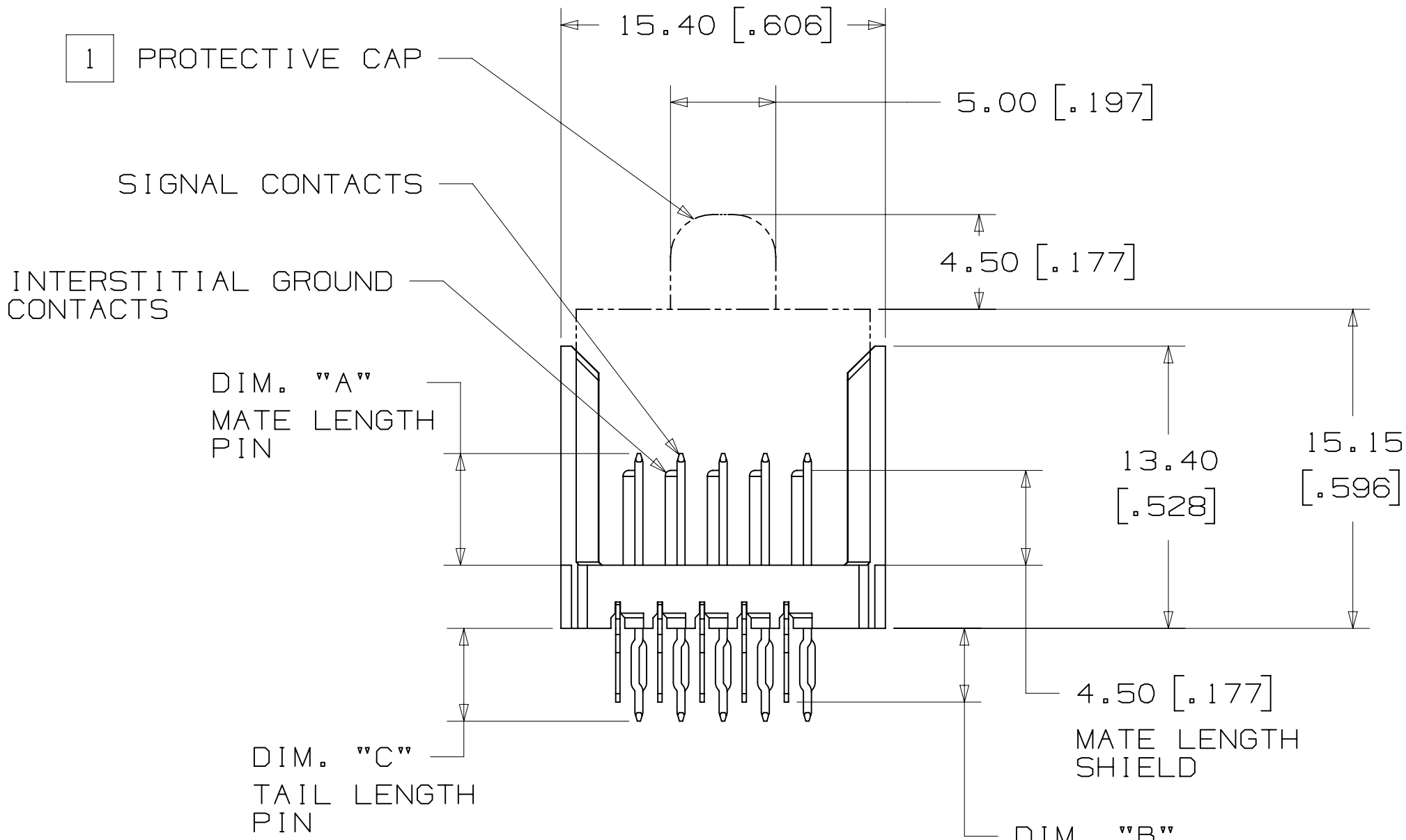
1 ROW DIFFERENTIAL CONFIGURATION
(SHOWN WITH PROTECTIVE CAPS)



TYPICAL TOP VIEW
DIMENSIONS FOR THE
HEADERS ON THIS DRAWING



TYPICAL HOLE PATTERN
DIMENSIONS FOR THE
CONNECTORS ON THIS DRAWING



TYPICAL SIDE VIEW
DIMENSIONS FOR THE
HEADERS ON THIS DRAWING

STANDARD CONFIGURATION

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

FOR NON-STANDARD CONFIGURATIONS
CONTACT A 3M SALES REPRESENTATIVE

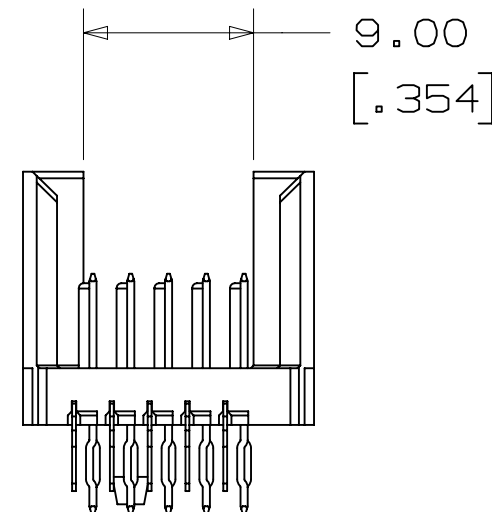
- NOTES
- 1 CAPS TO BE REMOVED AFTER PRESS-FIT INSTALLATION PROCESS.
 - 2 ▲ DENOTES SHIELD COLUMN (TAIL ONLY) OMITTED FOR THE ROW DIFFERENTIAL PAIR PART.

DESIGN REFERENCE	NEXT ASSEMBLY	REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
DO NOT SCALE DRAWING	SCALE 5/2	INTERCONNECT SOLUTIONS	ISD	TOLERANCES EXCEPT AS NOTED	INCHES .00 ± .0005 .0000 ± .0002	MILLIMETERS 0 ± .0001 .00 ± .0013 .000 ± .0002
THIRD ANGLE PROJECTION	INTERPRET PER ASME Y14.5 - 2009	MAX SURFACE ROUGHNESS	DT SURFACES	MARKED ONLY	ANGLES	
CAGE NUMBER	SIZE	DRAWING NO.	REV.			
D	78-5100-2633-5	B				
MODEL	HSHM	DET	LISTS	YES	NO	SHT 2 OF 6

A



A



6



4

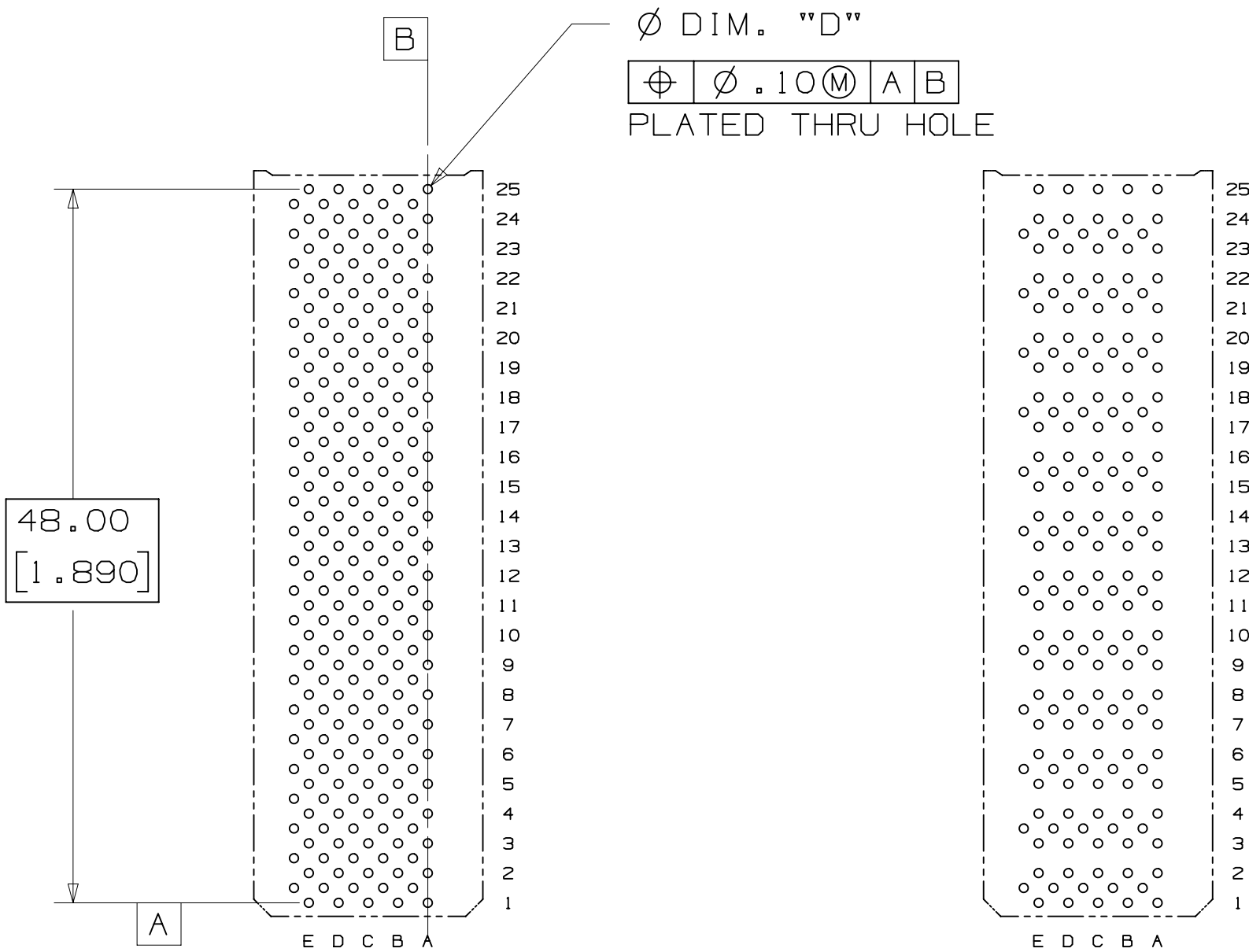


1

A

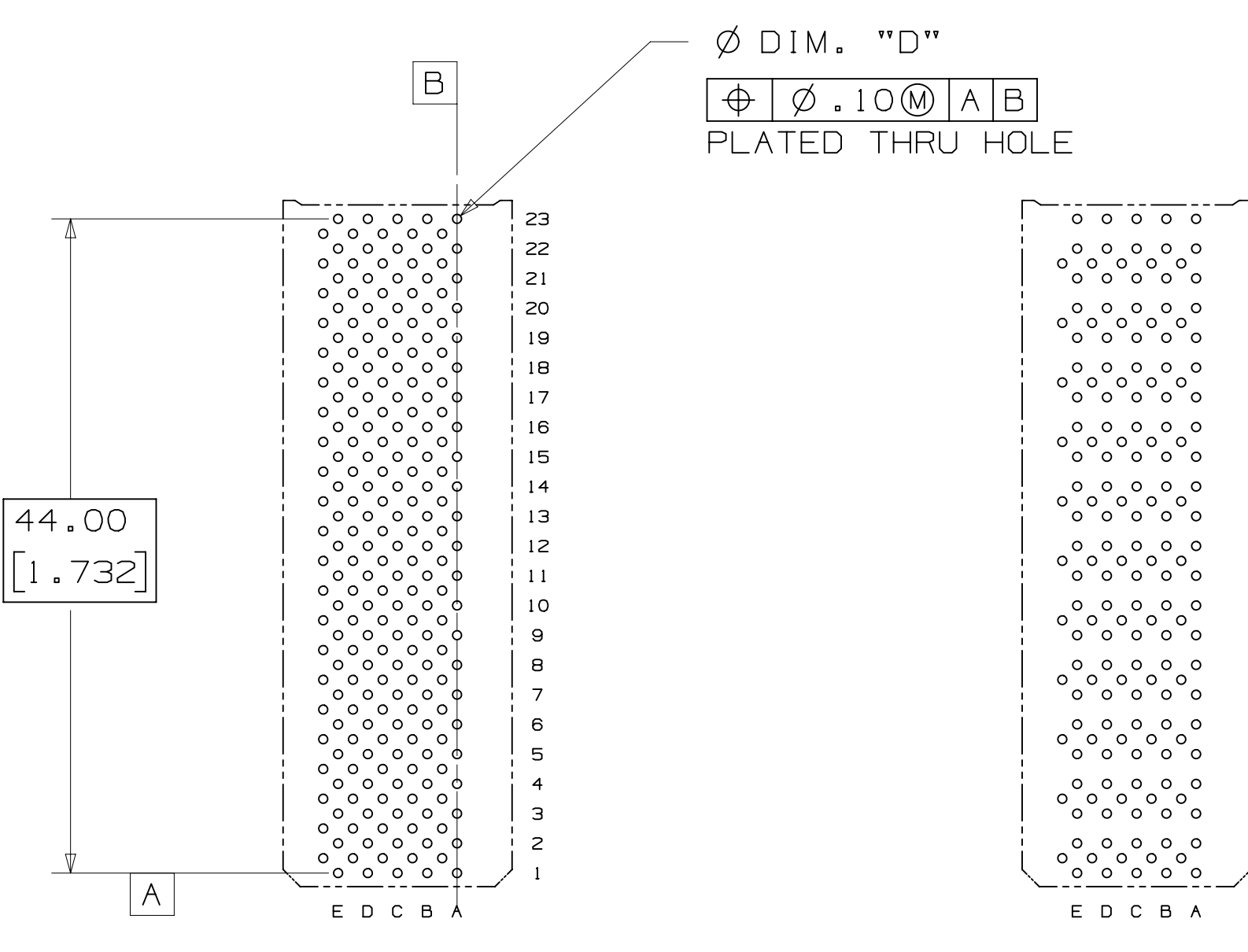
3M™ HSHM PRESS-FIT HEADER, 5-ROW, HSHM SERIES
FOR HIGH SPEED HARD METRIC APPLICATIONS

HOLE PLATING TABLE				
HOLE	(FINISHED HOLE)	Cu THICKNESS	SnPb THICKNESS	DRILLED HOLE DIA.
DIM. "D"	.457-.559 [.0180-.0220]	.025-.045 [.0010-.0018]	.008-.018 [.0003-.0007]	.584-.625 [.0230-.0246]
DIM. "F"	.690-.790 [.0270-.0310]	.025-.045 [.0010-.0018]	.008-.018 [.0003-.0007]	.810-.860 [.0318-.0339]



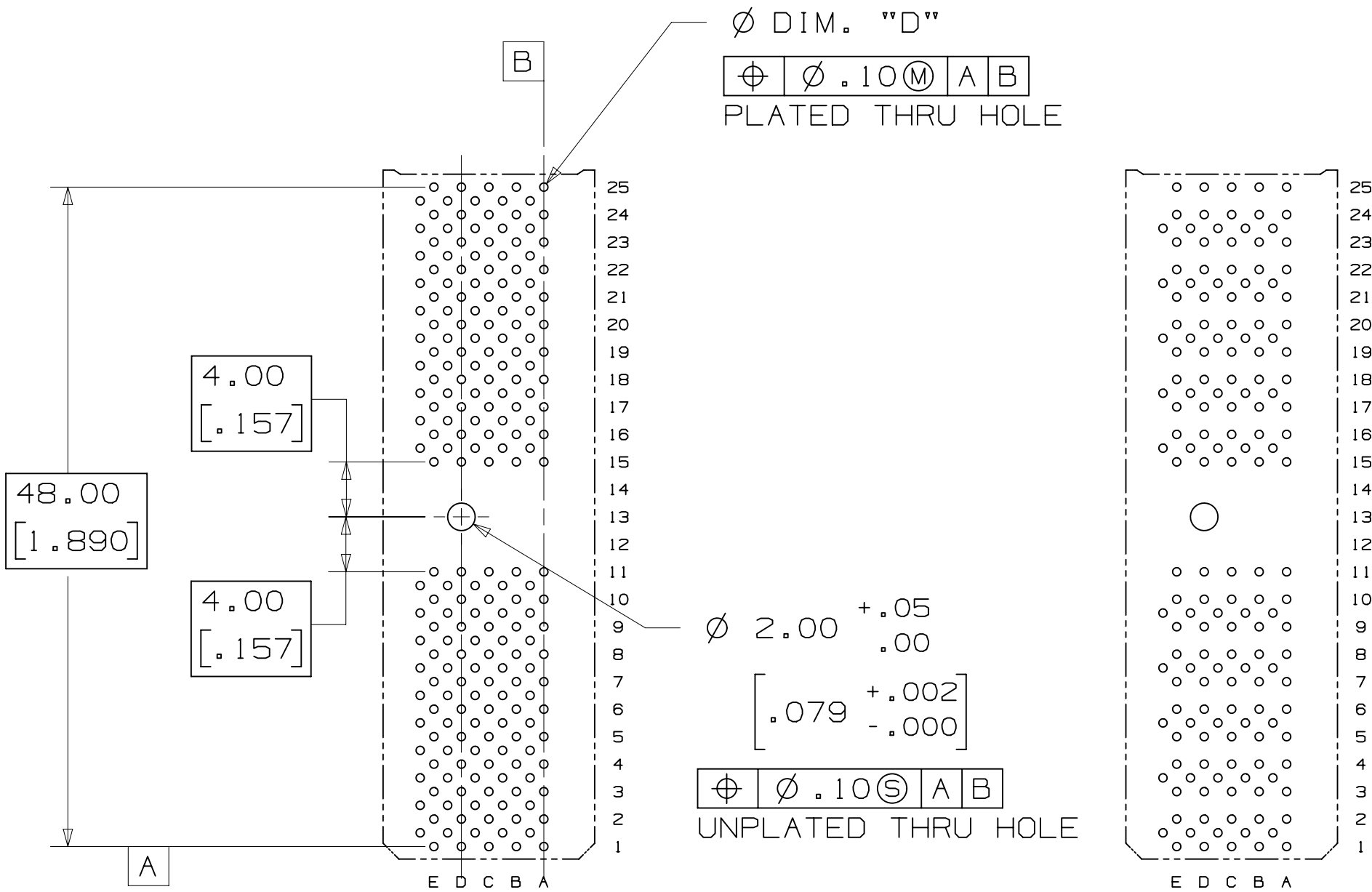
HSHM-H125B4-5CPX
COAXIAL, COLUMN DIFFERENTIAL
AND STRIPLINE APPLICATIONS

HSHM-H125B5-5CPX
ROW DIFFERENTIAL APPLICATIONS
(SAME GEOMETRY AS LEFT VIEW
WITHOUT THE GROUND VIAS)



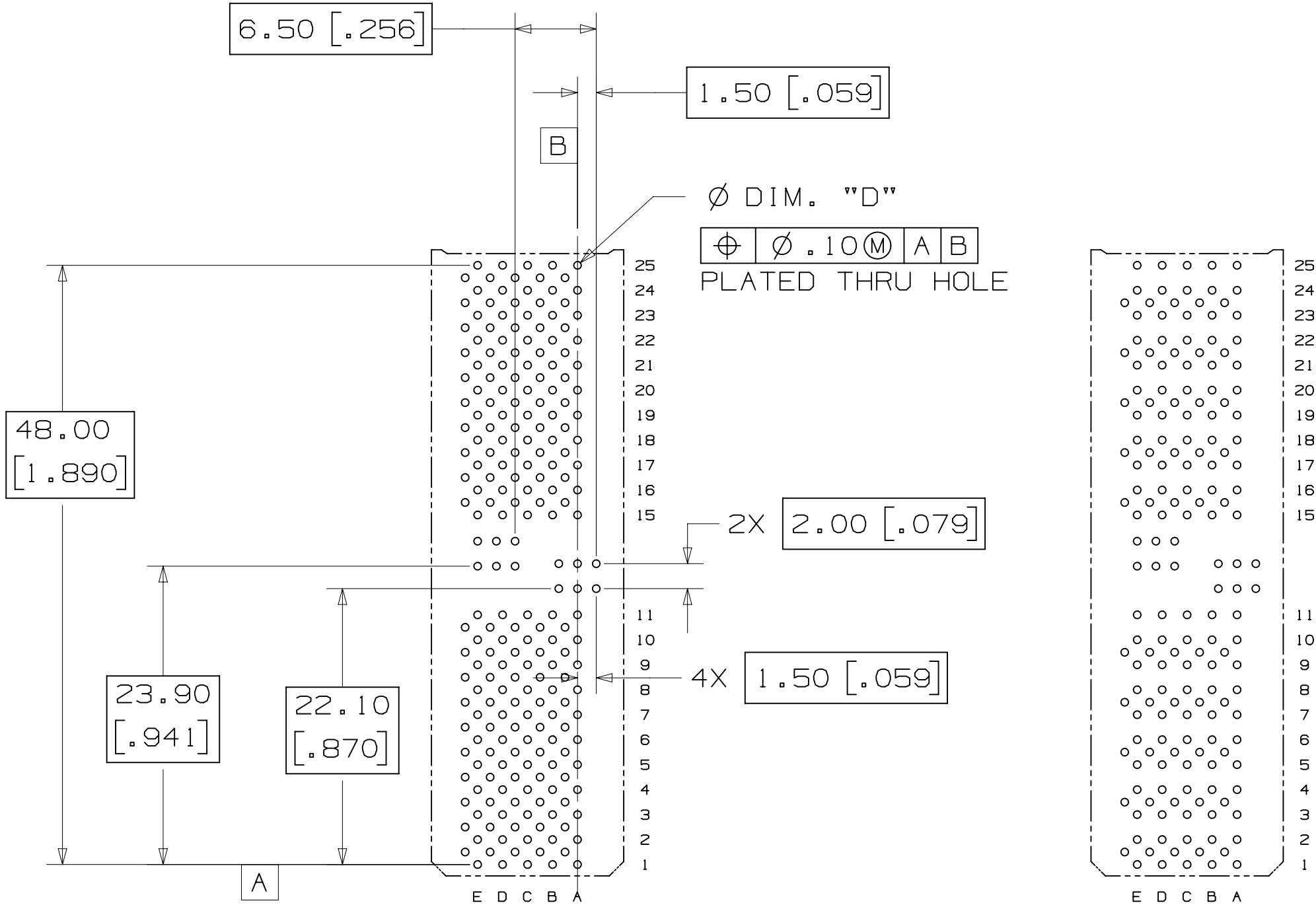
HSHM-H115B4-5CPX
COAXIAL, COLUMN DIFFERENTIAL
AND STRIPLINE APPLICATIONS

HSHM-H115B5-5CPX
ROW DIFFERENTIAL APPLICATIONS
(SAME GEOMETRY AS LEFT VIEW
WITHOUT THE GROUND VIAS)



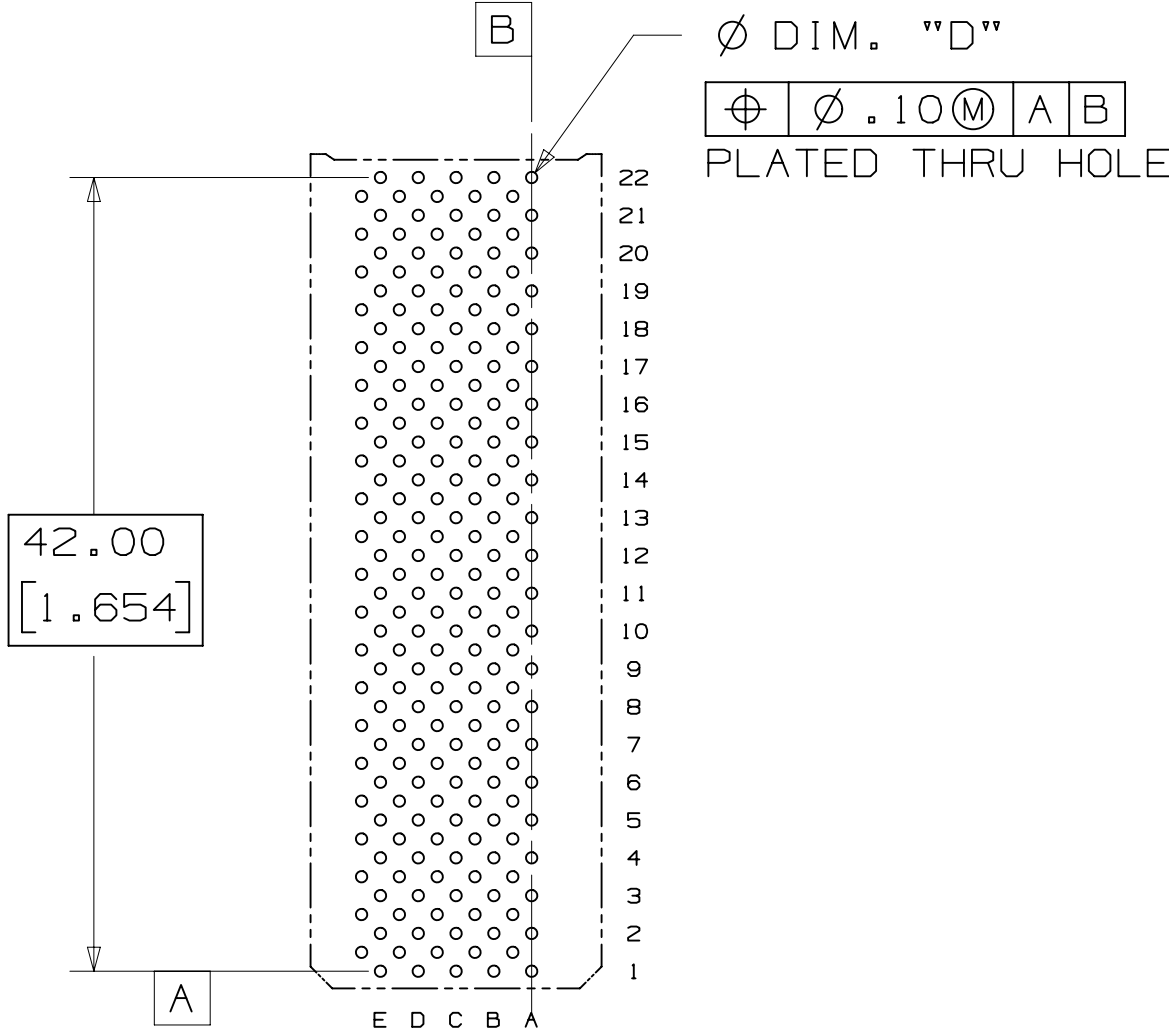
HSHM-H110A4-5CPX
COAXIAL, COLUMN DIFFERENTIAL
AND STRIPLINE APPLICATIONS

HSHM-H110A5-5CPX
ROW DIFFERENTIAL APPLICATIONS
(SAME GEOMETRY AS LEFT VIEW
WITHOUT THE GROUND VIAS)



HSHM-H110APWR4-5CPX
COAXIAL, COLUMN DIFFERENTIAL
AND STRIPLINE APPLICATIONS

HSHM-H110APWR5-5CPX
ROW DIFFERENTIAL APPLICATIONS
(SAME GEOMETRY AS LEFT VIEW
WITHOUT THE GROUND VIAS)



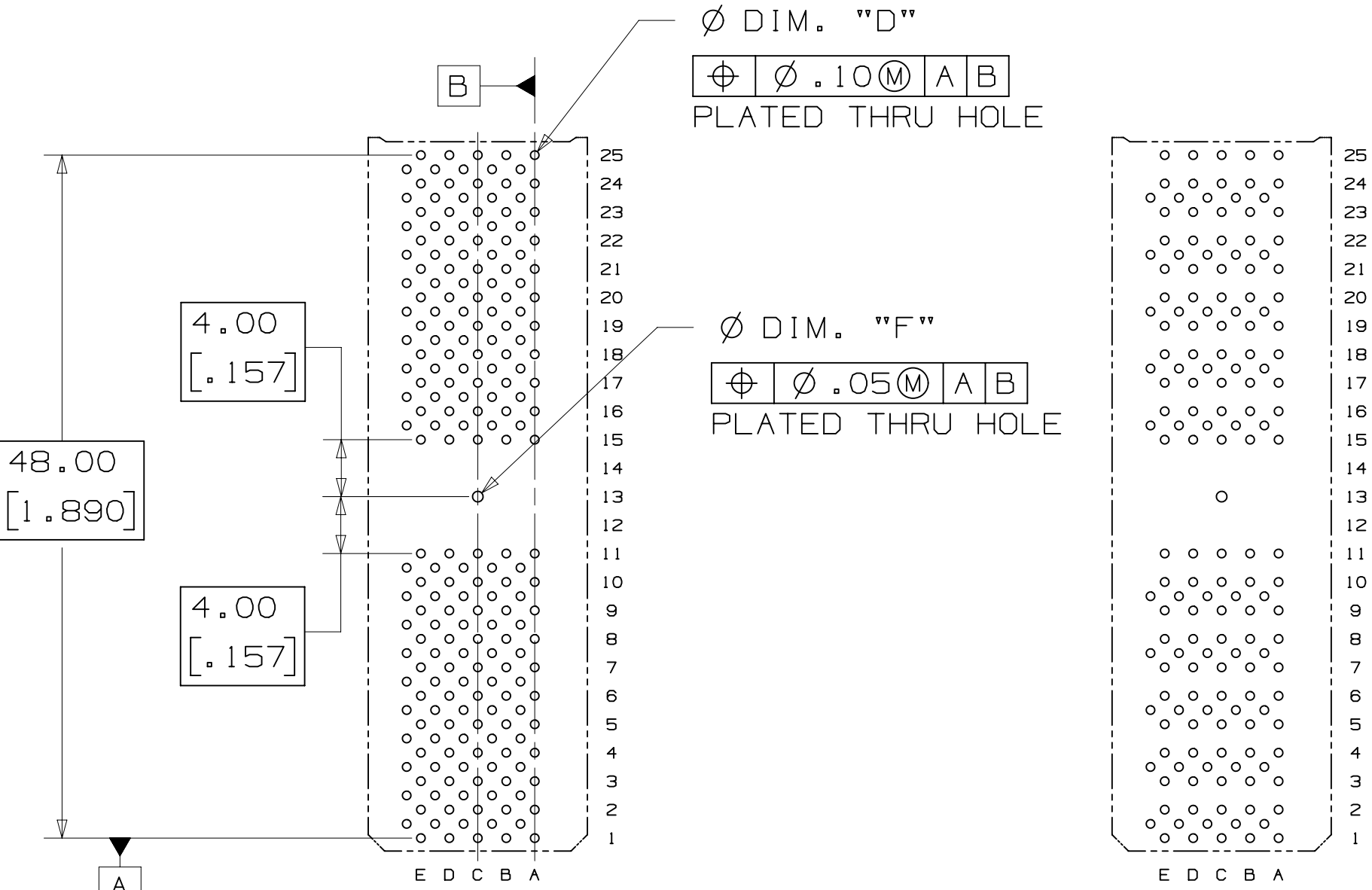
HSHM-H110B4-5CPX
COAXIAL, COLUMN DIFFERENTIAL
AND STRIPLINE APPLICATIONS

HSHM-H110B5-5CPX
ROW DIFFERENTIAL APPLICATIONS
(SAME GEOMETRY AS LEFT VIEW
WITHOUT THE GROUND VIAS)

RECOMMENDED PCB MOUNTING HOLE PATTERN
(VIEWED FROM COMPONENT SIDE)

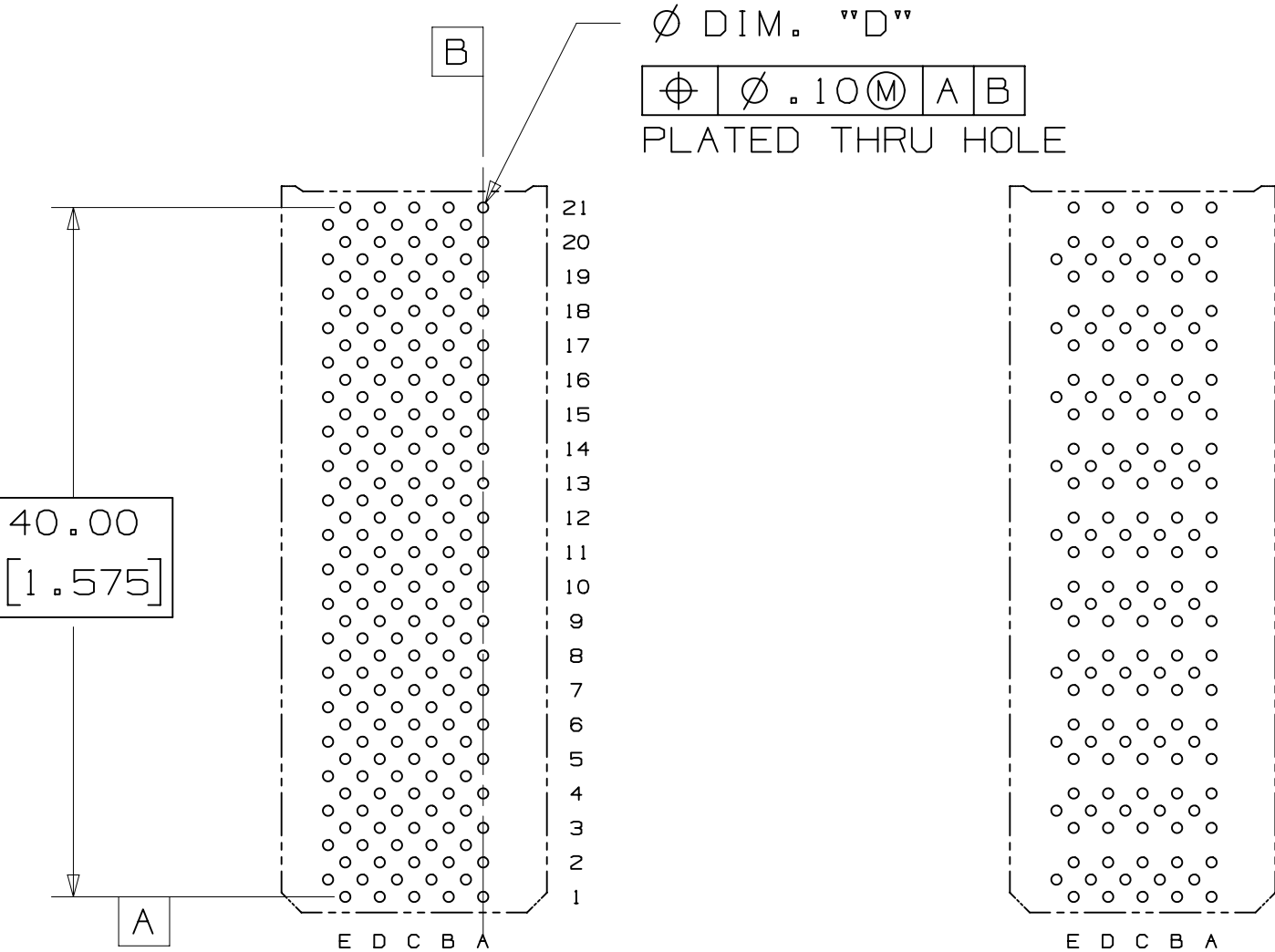
DESIGN REFERENCE	NEXT ASSEMBLY	REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
INTERCONNECT SOLUTIONS	ISD	5	2	SEP 17, 2013	JNC	TS
DO NOT SCALE DRAWING	SCALE	5	2	SEP 17, 2013	JNC	TS
THIRD ANGLE PROJECTION	INTERPRET PER ASME Y14.5 - 2009	5	2	SEP 17, 2013	JNC	TS
MAX SURFACE ROUGHNESS	0.00 ± 0.005	5	2	SEP 17, 2013	JNC	TS
MARKED ONLY	0.00 ± 0.002	5	2	SEP 17, 2013	JNC	TS
MODEL	HSHM	5	2	SEP 17, 2013	JNC	TS
CAGE NUMBER	78-5100-2633-5	5	2	SEP 17, 2013	JNC	TS
REV	B	5	2	SEP 17, 2013	JNC	TS

3M™ HSHM PRESS-FIT HEADER, 5-ROW, HSHM SERIES
FOR HIGH SPEED HARD METRIC APPLICATIONS



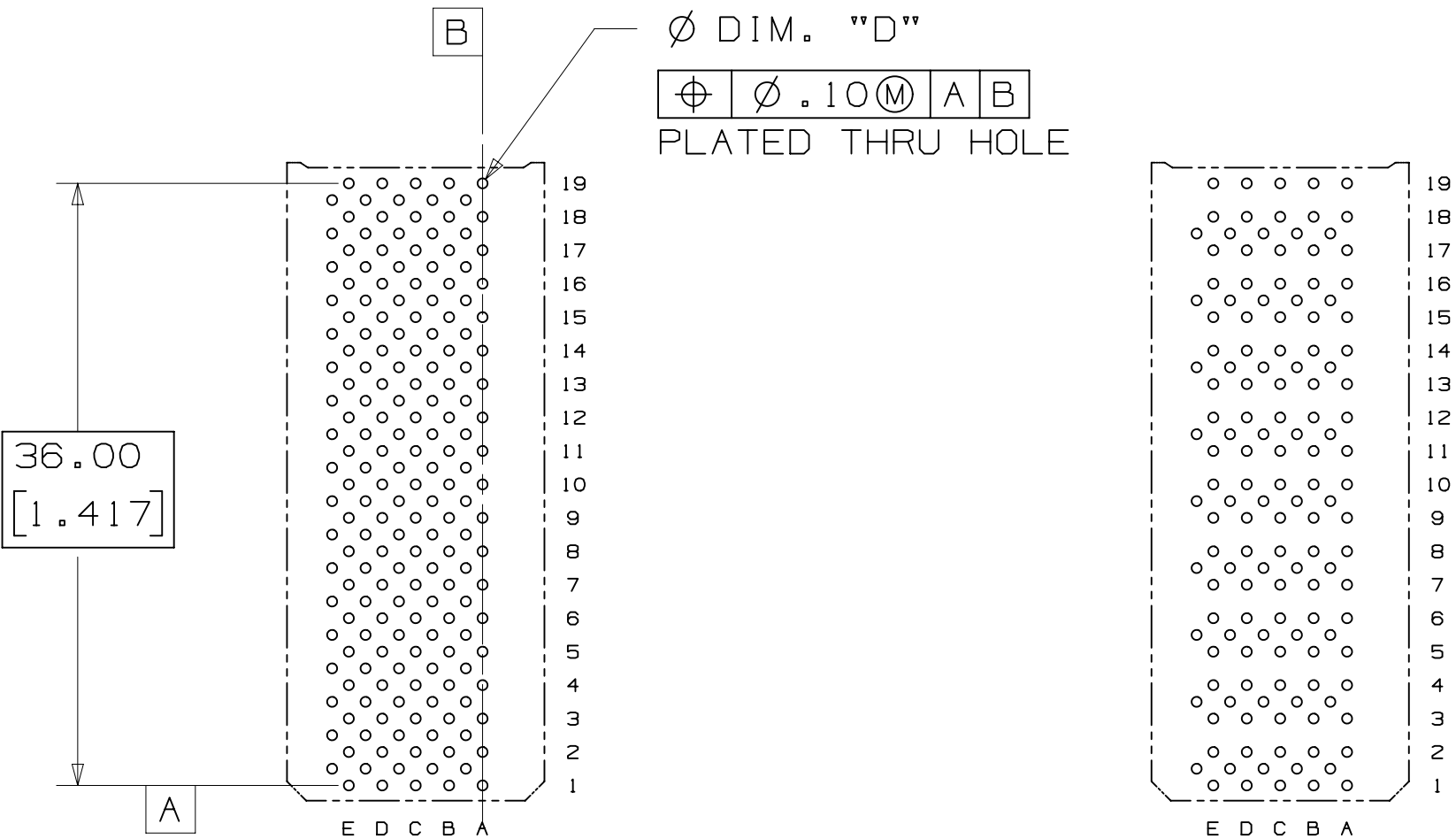
HSHM-H110AG4-5CPX
COAXIAL, COLUMN DIFFERENTIAL
AND STRIPLINE APPLICATIONS

HSHM-H110AG4-5CPX
(SAME GEOMETRY AS LEFT VIEW
WITHOUT THE GROUND VIAS)



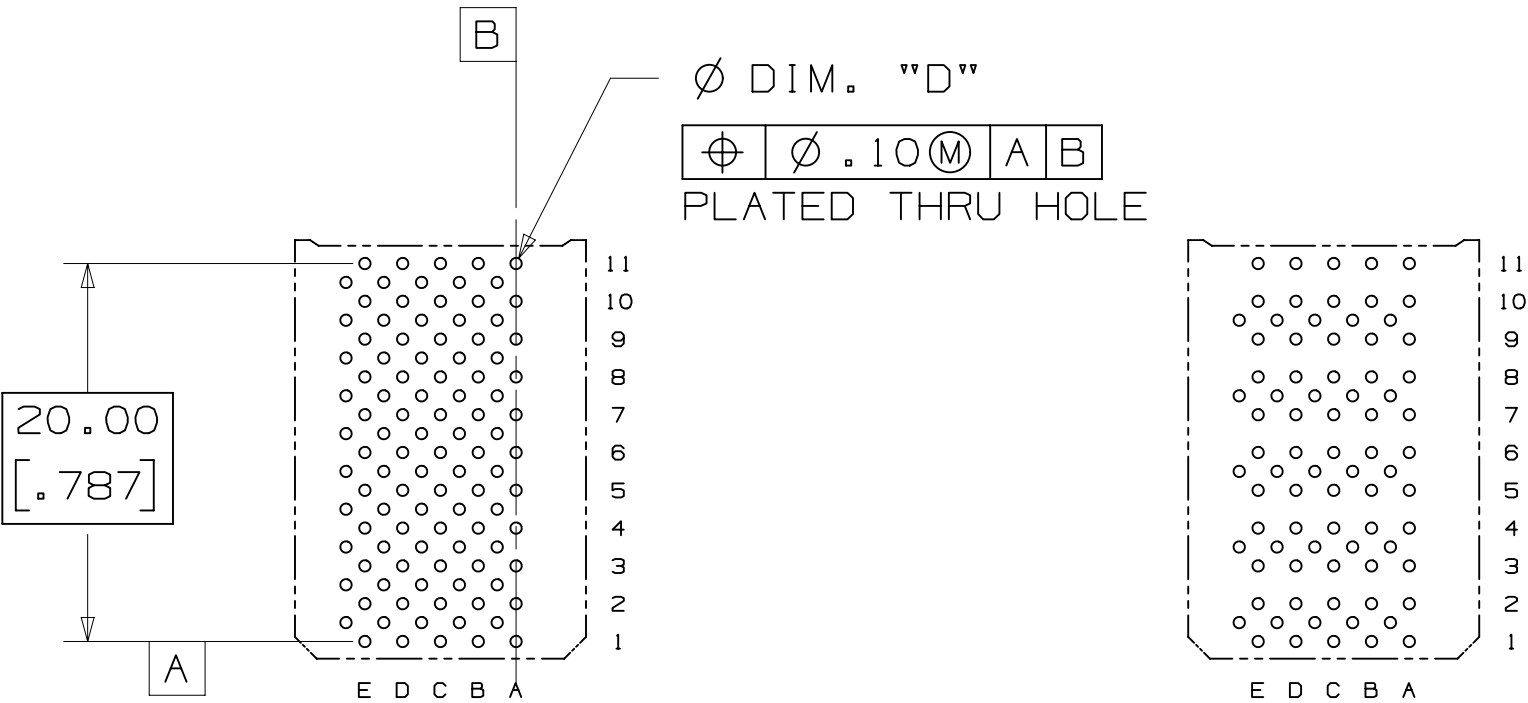
HSHM-H105B4-5CPX
COAXIAL, COLUMN DIFFERENTIAL
AND STRIPLINE APPLICATIONS

HSHM-H105B5-5CPX
ROW DIFFERENTIAL APPLICATIONS
(SAME GEOMETRY AS LEFT VIEW
WITHOUT THE GROUND VIAS)



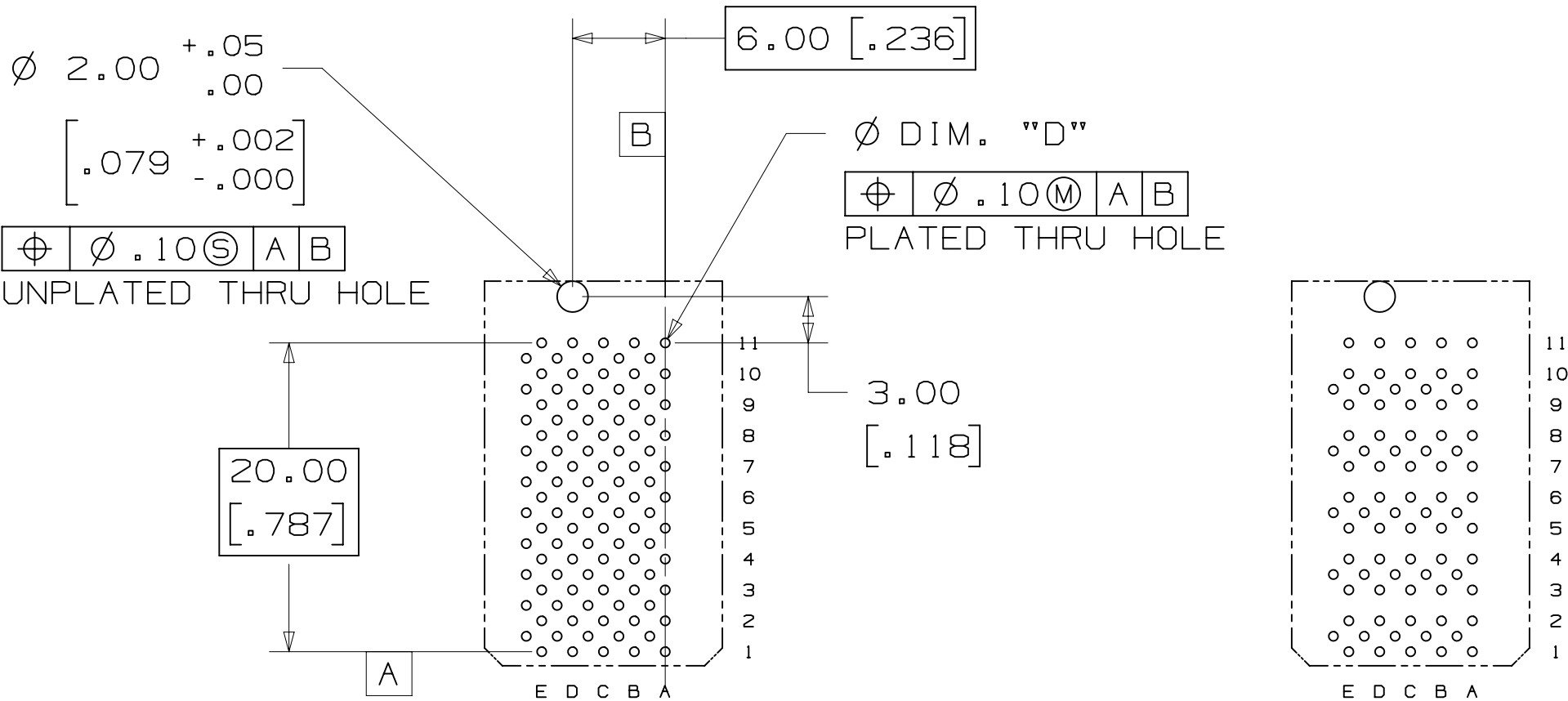
HSHM-H095B4-5CPX
COAXIAL, COLUMN DIFFERENTIAL
AND STRIPLINE APPLICATIONS

HSHM-H095B5-5CPX
ROW DIFFERENTIAL APPLICATIONS
(SAME GEOMETRY AS LEFT VIEW
WITHOUT THE GROUND VIAS)



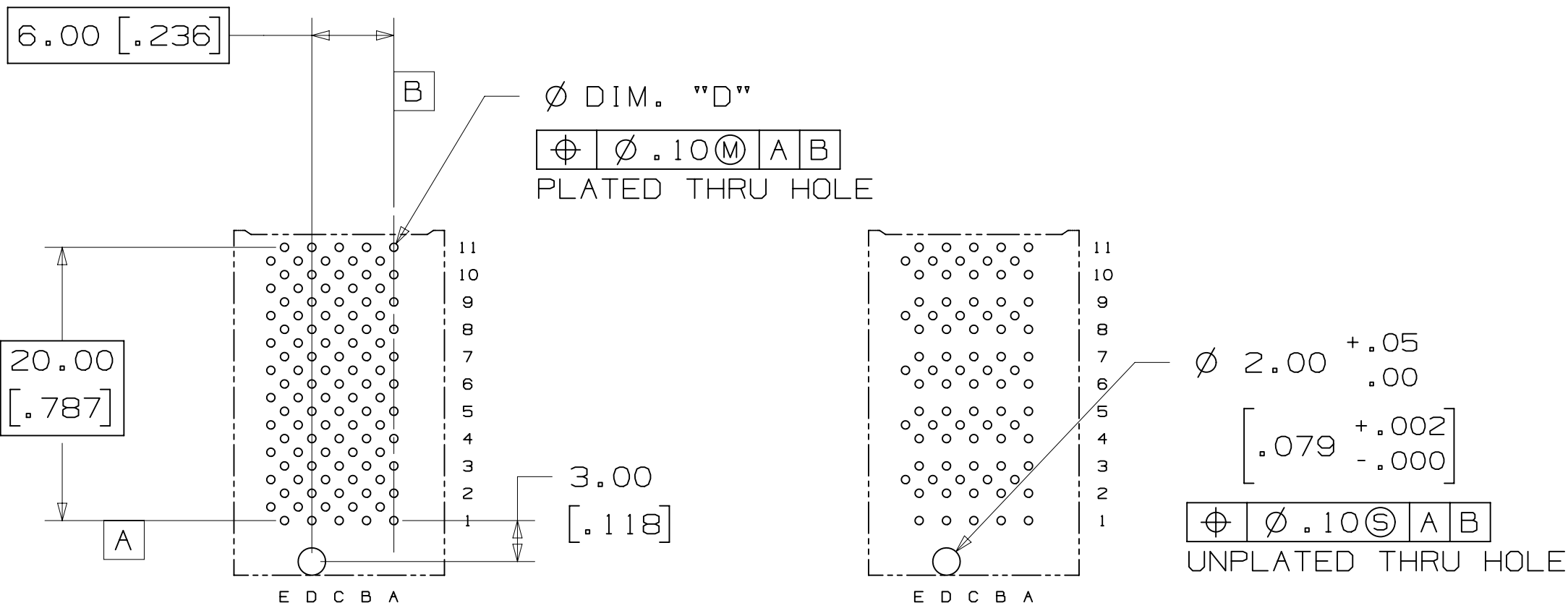
HSHM-H055B4-5CPX
COAXIAL, COLUMN DIFFERENTIAL
AND STRIPLINE APPLICATIONS

HSHM-H055B5-5CPX
ROW DIFFERENTIAL APPLICATIONS
(SAME GEOMETRY AS LEFT VIEW
WITHOUT THE GROUND VIAS)



HSHM-H055CL4-5CPX
COAXIAL, COLUMN DIFFERENTIAL
AND STRIPLINE APPLICATIONS

HSHM-H055CL5-5CPX
ROW DIFFERENTIAL APPLICATIONS
(SAME GEOMETRY AS LEFT VIEW
WITHOUT THE GROUND VIAS)



HSHM-H055CR4-5CPX
COAXIAL, COLUMN DIFFERENTIAL
AND STRIPLINE APPLICATIONS

HSHM-H055CR5-5CPX
ROW DIFFERENTIAL APPLICATIONS
(SAME GEOMETRY AS LEFT VIEW
WITHOUT THE GROUND VIAS)

RECOMMENDED PCB MOUNTING HOLE PATTERN
(VIEWED FROM COMPONENT SIDE)

B		67459		MAY 16, 2016		JNC		WL																																																																																							
A		50065		SEP 17, 2013		JNC		TS																																																																																							
DESIGN REFERENCE				NEXT ASSEMBLY				REV		ECO		ISSUE DATE AND DESCRIPTION				DRFT		CHKD																																																																													
ACCTG CODES								DRFT				CAST 1 G L O N E				DATE				SEP 17, 2013				MFG				DATE																																																																			
																DATE								APPR				T. SUNIGA				DATE				SEP 17, 2013																																																											
DIVISION				INTERCONNECT SOLUTIONS				DIVISION CODE				ISD				3M Center St. Paul, MN 55144				© 3M COPYRIGHT 2016 This document and the information it contains are 3M property and may not be reproduced or further distributed without 3M permission, or used or disclosed other than for 3M authorized purposes. All rights reserved.				TITLE				HSHM PRESS-FIT HEADER, 2MM, 5-ROW, HSHM SERIES				CAGE NUMBER				SIZE				DRAWING NO.				REV.				B																																															
DO NOT SCALE DRAWING				SCALE				5/2				TOLERANCES EXCEPT AS NOTED				INCHES				0.00 ±				0.005 ±				0.0000 ±				0.0002 ±				MILLIMETERS				0 ±				0.3 ±				0.13 ±				MAX SURFACE ROUGHNESS				0.4 μm				SURFACES				MARKED ONLY				MODEL				HSHM				DET. LISTS				YES				NO				SHT				6 OF			