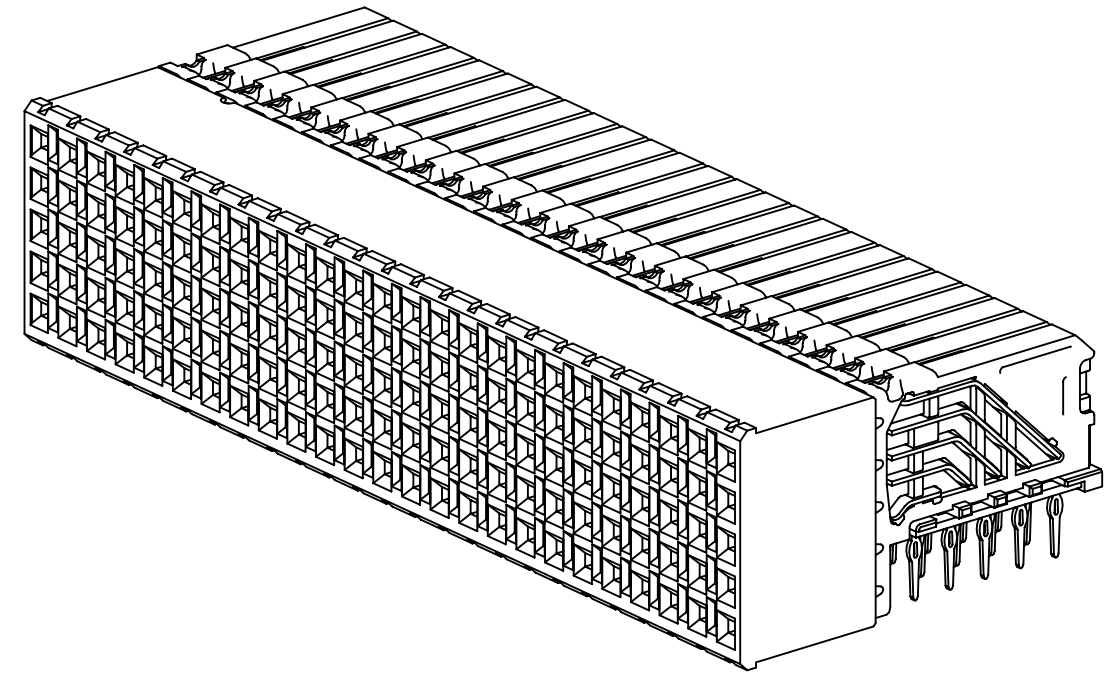


3M™ HSHM PRESS-FIT SOCKET CONNECTORS, 5-ROW
FOR 2MM HIGH SPEED HARD METRIC APPLICATIONS

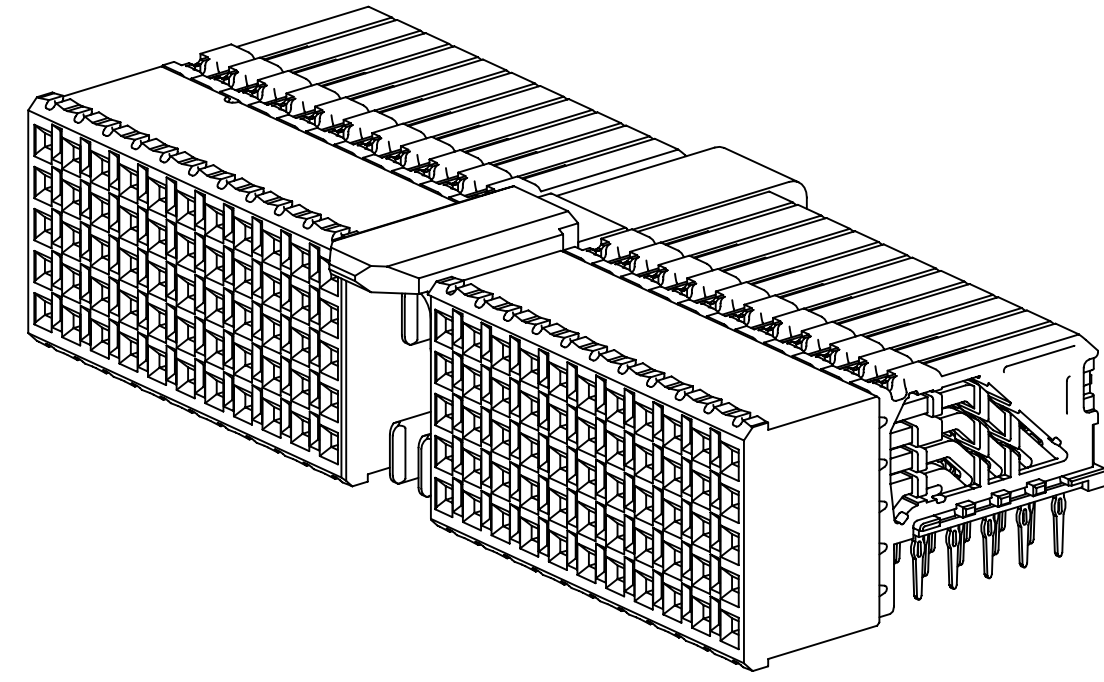


HSHM-S125BX-5AP1
TYPE B25, 125 SIGNAL CONTACTS

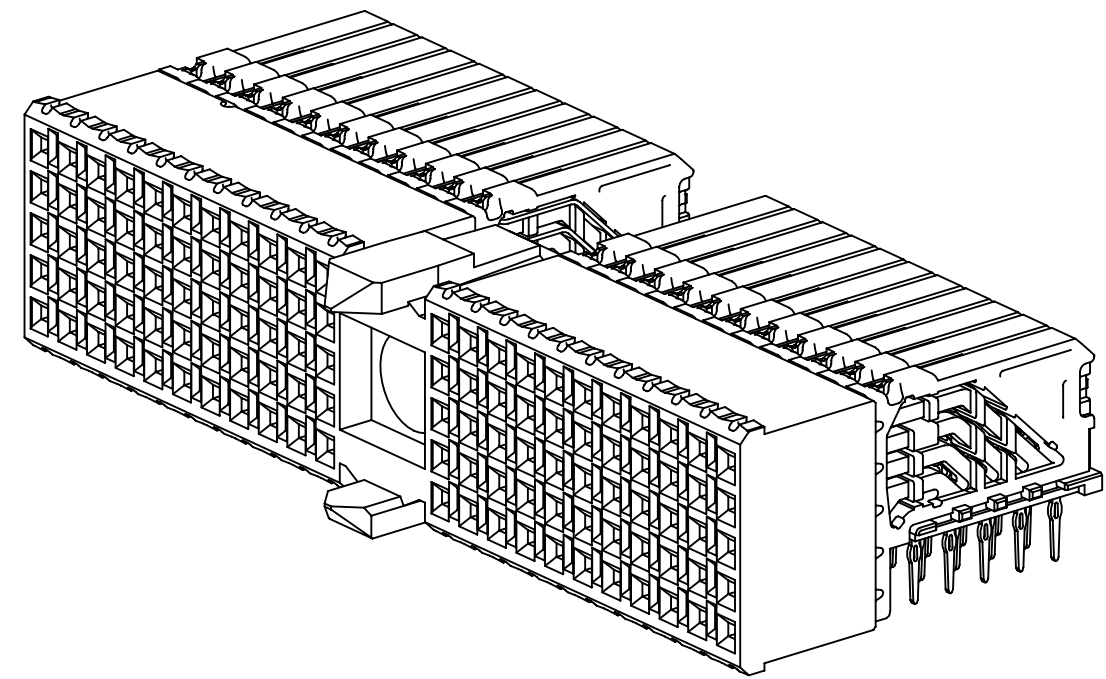
HSHM-S110BX-5AP1
TYPE B22, 110 SIGNAL CONTACTS

HSHM-S095BX-5AP1
TYPE B19, 95 SIGNAL CONTACTS

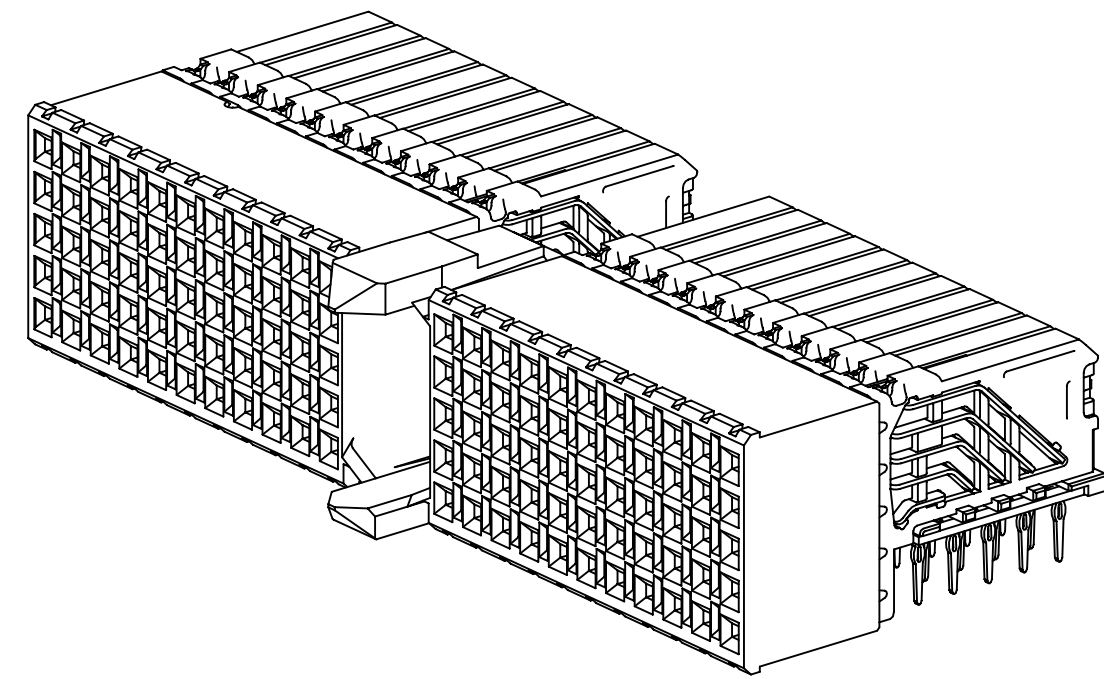
HSHM-S055BX-5AP1
TYPE B11, 55 SIGNAL CONTACTS



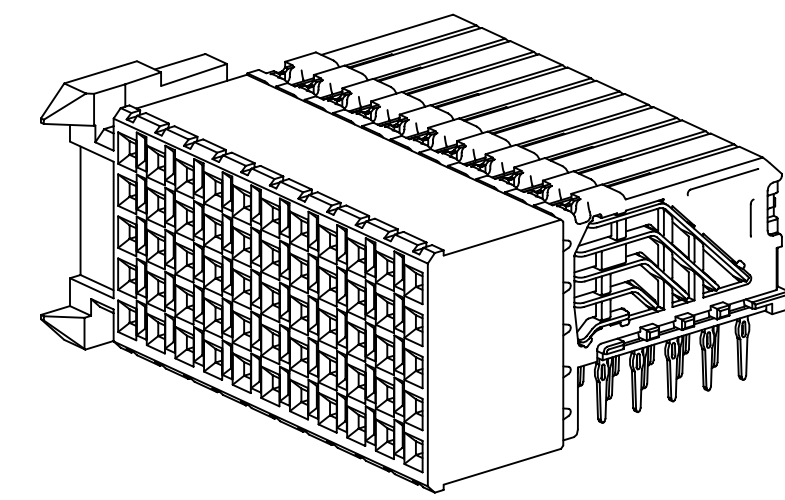
HSHM-S110APWRX-5AP1
TYPE APWR, 110 SIGNAL & 4 POWER CONTACTS



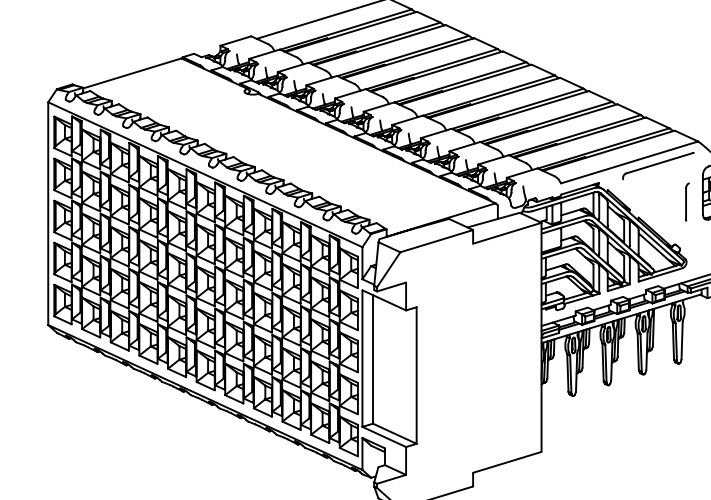
HSHM-S110AG4-5AP1
TYPE AG, 110 SIGNAL CONTACTS



HSHM-S110AX-5AP1
TYPE AX, 110 SIGNAL CONTACTS



HSHM-S055CL-5AP1
TYPE CL, 55 SIGNAL CONTACTS



HSHM-S055CR-5AP1
TYPE CR, 55 SIGNAL CONTACTS

- NOTES
- MATERIAL:
PLASTIC: HIGH TEMP LCP, UL94V-0
CONTACTS: COPPER ALLOY.
 - REGULATORY INFORMATION:
ROHS COMPLIANT. SEE THE REGULATORY INFORMATION APPENDIX (RIA) IN THE "ROHS COMPLIANCE" SECTION OF WWW.3MCONNECTORS.COM FOR COMPLIANCE INFORMATION.
 - 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: STAND-ALONE USE; REQUIRES ADDITIONAL GUIDANCE ALIGNMENT.
 (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: 625V_{RMS}

ENVIRONMENTAL :

TEMPERATURE RATING: -55° C TO 125° C

ORDERING INFORMATION
HSHM-SXXXXXX-5AP1-XXXXX

SOCKET POSITION AND TYPE
 PLATING:
 HIGH SPEED OPTION
 1 = ROW DIFFERENTIAL APPLICATIONS
 3 = 6th ROW AND +2 ROW GROUNDING APPLICATIONS
 4 = COAXIAL AND COLUMN DIFFERENTIAL APPLICATIONS

TG30L = .76μm [30μIN] MIN. GOLD ON CONTACT AREA, LUBRICATED
 2.54μm [100μIN] MIN. TIN/LEAD ON TERMINAL AREA (RIA C2 & E3 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 & E3 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 & E3 APPLY)
 1.27μm [50μIN] MIN. NICKEL ALL OVER.
 NON-STANDARD OPTION (AVAILABLE WITH LONGER LEAD TIMES AND HIGHER MAKE ORDER QUANTITIES, MOQ)

DIMENSIONS: MM [INCHES]

DESIGN REFERENCE	NEXT ASSEMBLY	REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD		
CHKD	DATE	DATE	DATE	DATE		
CASTIGLIONE	OCT 11, 2013	MFG				
		APPRV	T. SUNIGA	DATE	OCT 11, 2013	
DIVISION	Interconnect Solutions	DIVISION CODE	ISD			
DO NOT SCALE DRAWING	SCALE 3/1	TOLERANCES EXCEPT AS NOTED				
THIRD ANGLE PROJECTION	INTERPRET PER ASME Y14.5 - 2009	MILLIMETERS				
MAX SURFACE ROUGHNESS	SURFACES	INCHES				
MARKED ONLY	ANGLES					

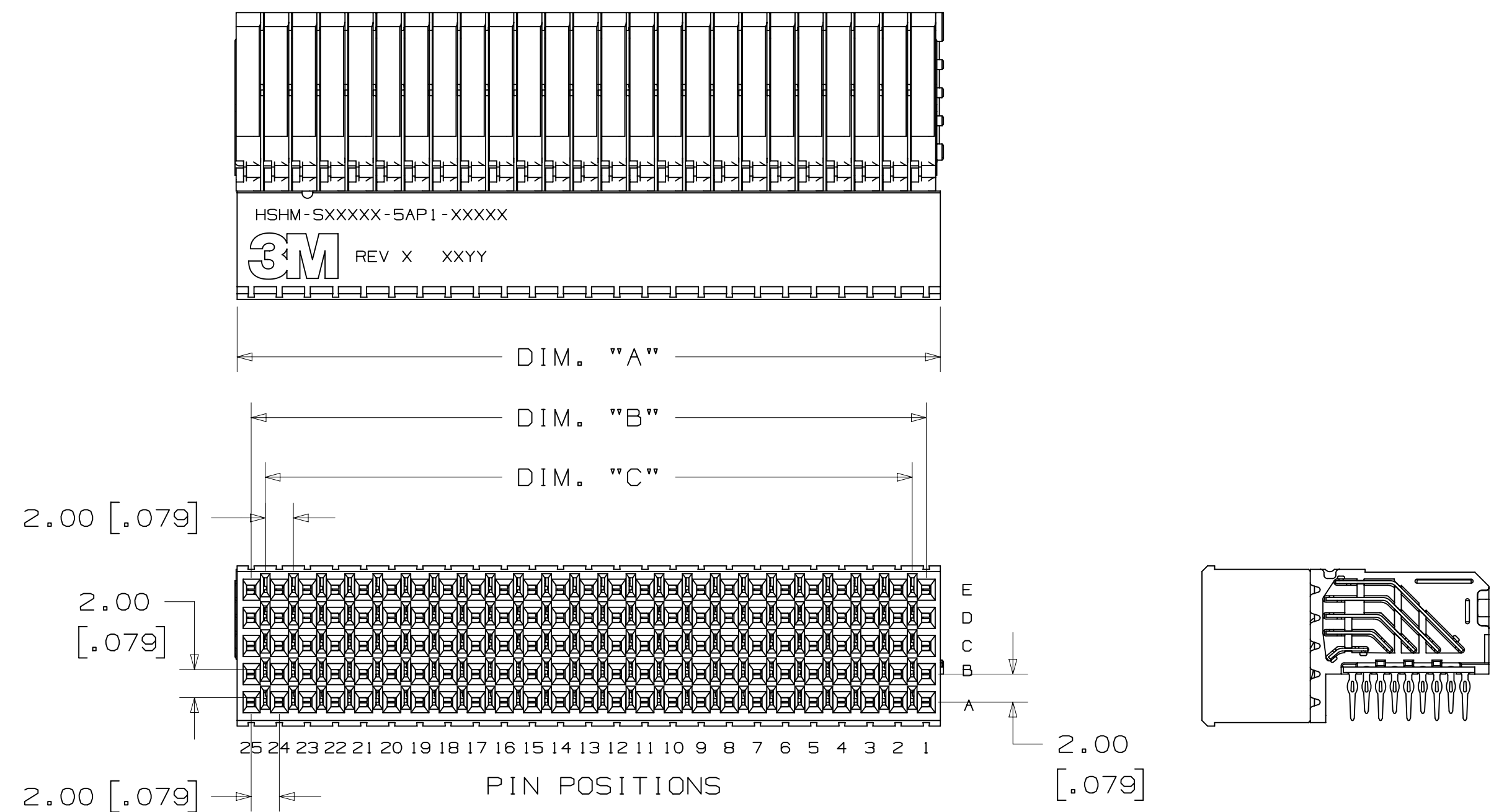
3M ELECTRONIC SOLUTIONS DIVISION
 INTERCONNECT SOLUTIONS
<http://www.3mconnectors.com>

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UL **us**
 UL FILE NO: E68080

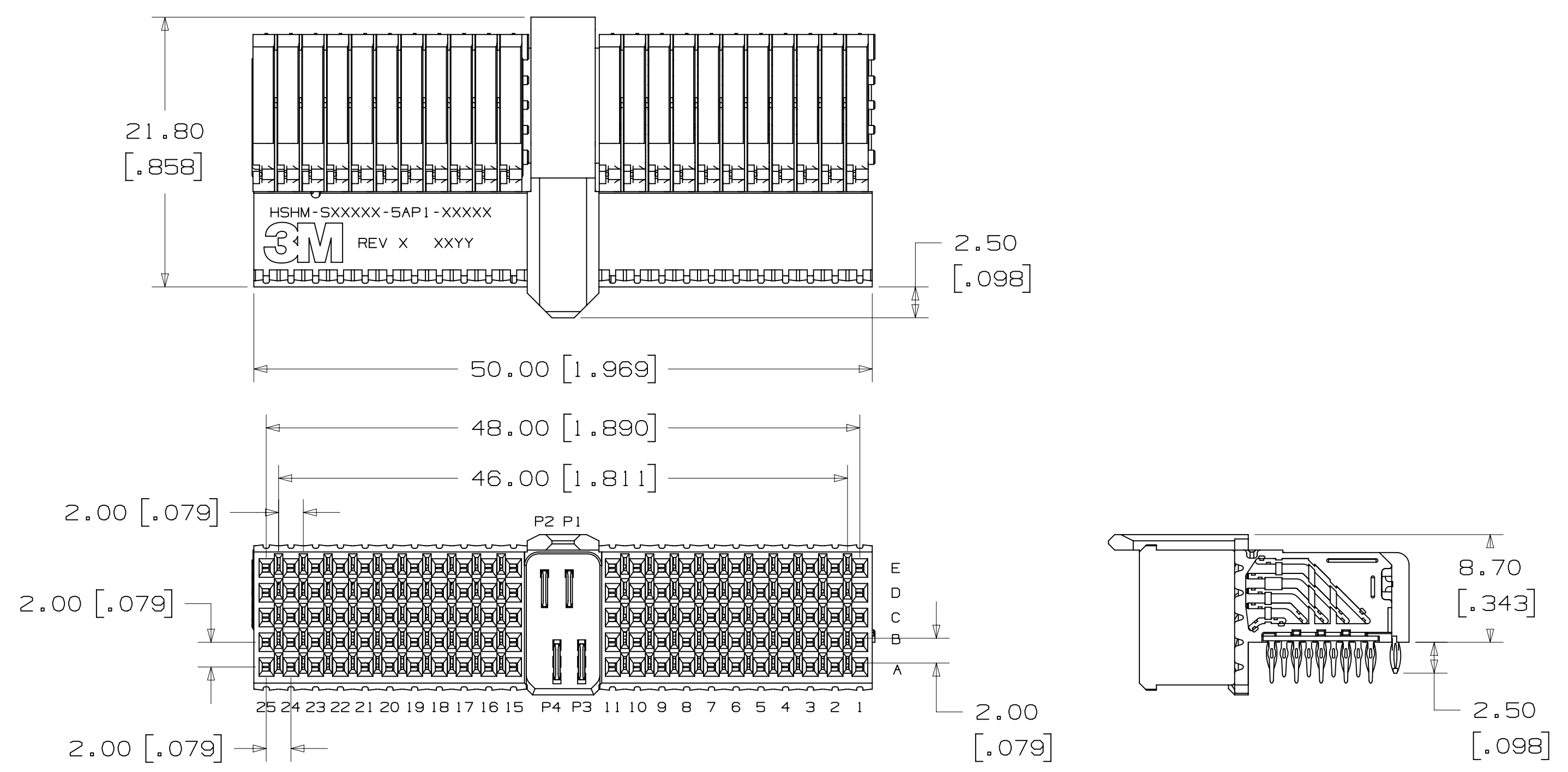
B	52659	NOV 12, 2014	WITSTANDING VOLTAGE WAS 750	JNC	TS
A	50580	OCT 11, 2013	PRODUCTION RELEASE	JNC	TS
© 3M COPYR[IGHT] 2013 This document and the information it contains are 3M property and may not be reproduced or further distributed without 3M permission, or used or disclosed other than for 3M authorized purposes. All rights reserved.					
TITLE HSHM PRESS-FIT SOCKET, 2MM, 5-ROW, HSHM SERIES					
CAGE NUMBER	SIZE	DRAWING NO.	REV.		
D		78-5100-2635-0	B		
MODEL	HSHM	DET	ISTS	YES	NO
SHT 1 OF 5					

3M™ HSHM PRESS-FIT SOCKET CONNECTORS, 5-ROW
FOR 2MM HIGH SPEED HARD METRIC APPLICATIONS

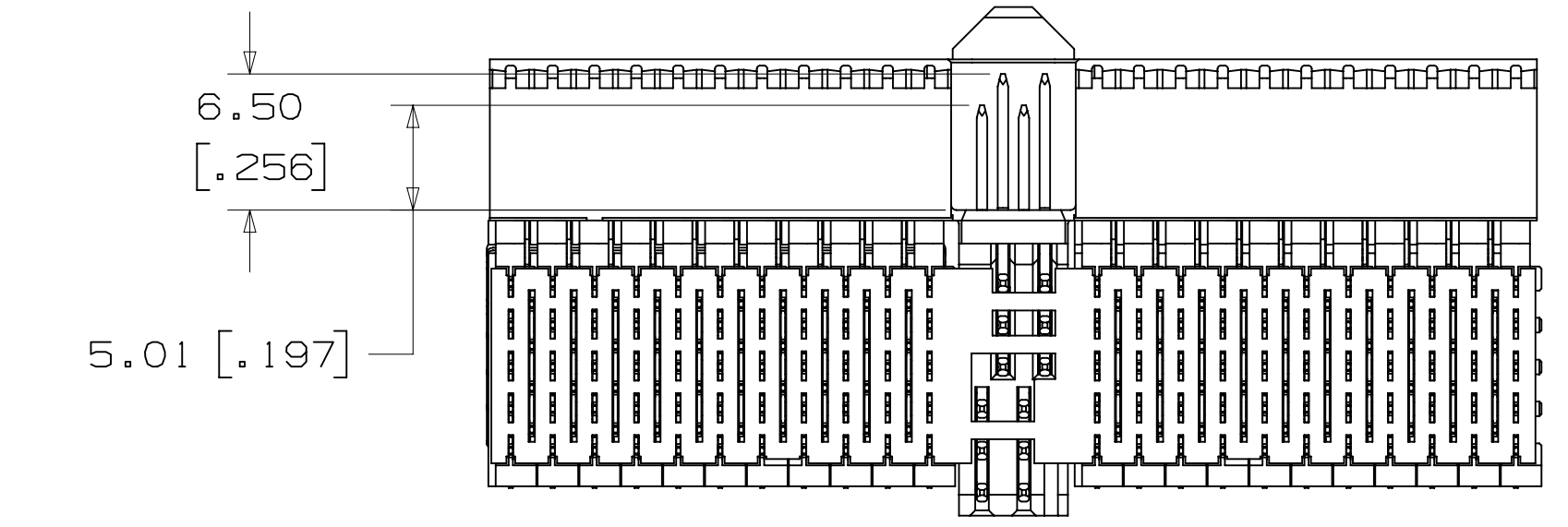


SIGNAL CONTACT QTY.	DIM. "A"	DIM. "B"	DIM. "C"	PIN POSITIONS
055	22.00 [.866]	20.00 [.787]	18.00 [.709]	11
095	38.00 [1.496]	36.00 [1.417]	34.00 [1.339]	19
110	44.00 [1.732]	42.00 [1.654]	40.00 [1.575]	22
125	50.00 [1.969]	48.00 [1.890]	46.00 [1.811]	25

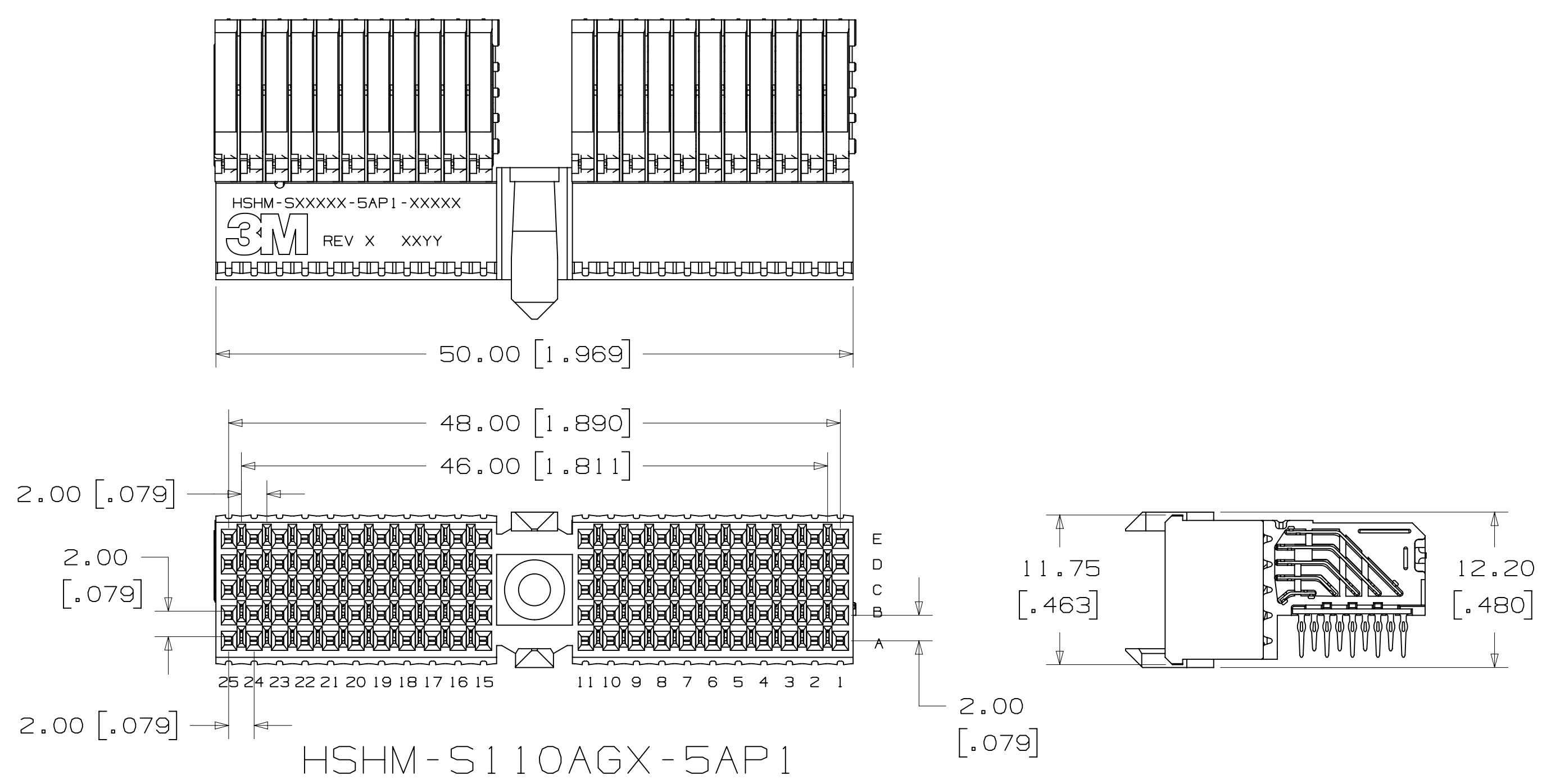
- HSHM-S125BX-5AP1
- HSHM-S110BX-5AP1
- HSHM-S095BX-5AP1
- HSHM-S055BX-5AP1



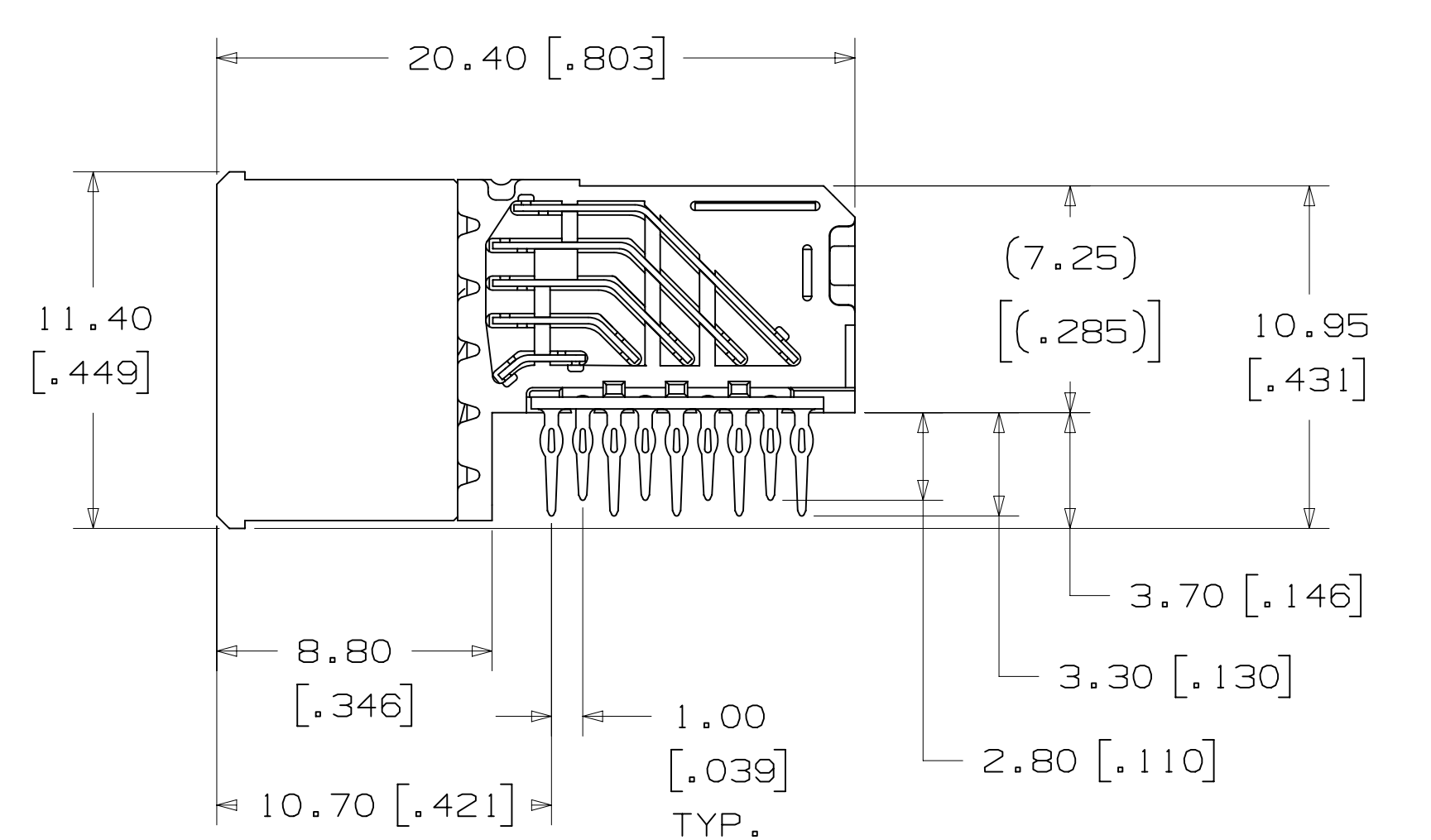
HSHM-S110APWRX-5AP1



TYPICAL SIDE VIEW DIMENSIONS FOR THE SOCKETS ON THIS DRAWING (EXCEPT AS NOTED IN VIEWS)



HSHM-S110AGX-5AP1



DESIGN REFERENCE	NEXT ASSEMBLY	REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
		CASTIGLIONE		OCT 11, 2013		
DIVISION		DIVISION CODE		DATE		
Interconnect Solutions		ISD		OCT 11, 2013		
DO NOT SCALE DRAWING	SCALE 3/1	TOLERANCES EXCEPT AS NOTED		DATE		
THIRD ANGLE PROJECTION		INCHES		DATE		
INTERPRET PER ASME Y14.5 - 2009		MILLIMETERS		DATE		
MAX SURFACE ROUGHNESS		0		DATE		
SURFACES		0 ± .01		DATE		
MARKED ONLY		.000 ± .005		DATE		
		.000 ± .0000		DATE		
		0 ± .3		DATE		
		.00 ± .13		DATE		
		.000 ±		DATE		
		ANGLES		DATE		

B	52659	NOV 12, 2014	JNC	TS
WITHSTANDING VOLTAGE WAS 750				
FEB 17 2014 INITIAL CHANGE, REVISE NOTES, REMOVE MKRT CLAIMS				
A	50580	OCT 11, 2013	JNC	TS
PRODUCTION RELEASE				

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3M Center St. Paul, MN 55144

TITLE: HSHM PRESS-FIT SOCKET, 2MM, 5-ROW, HSHM SERIES

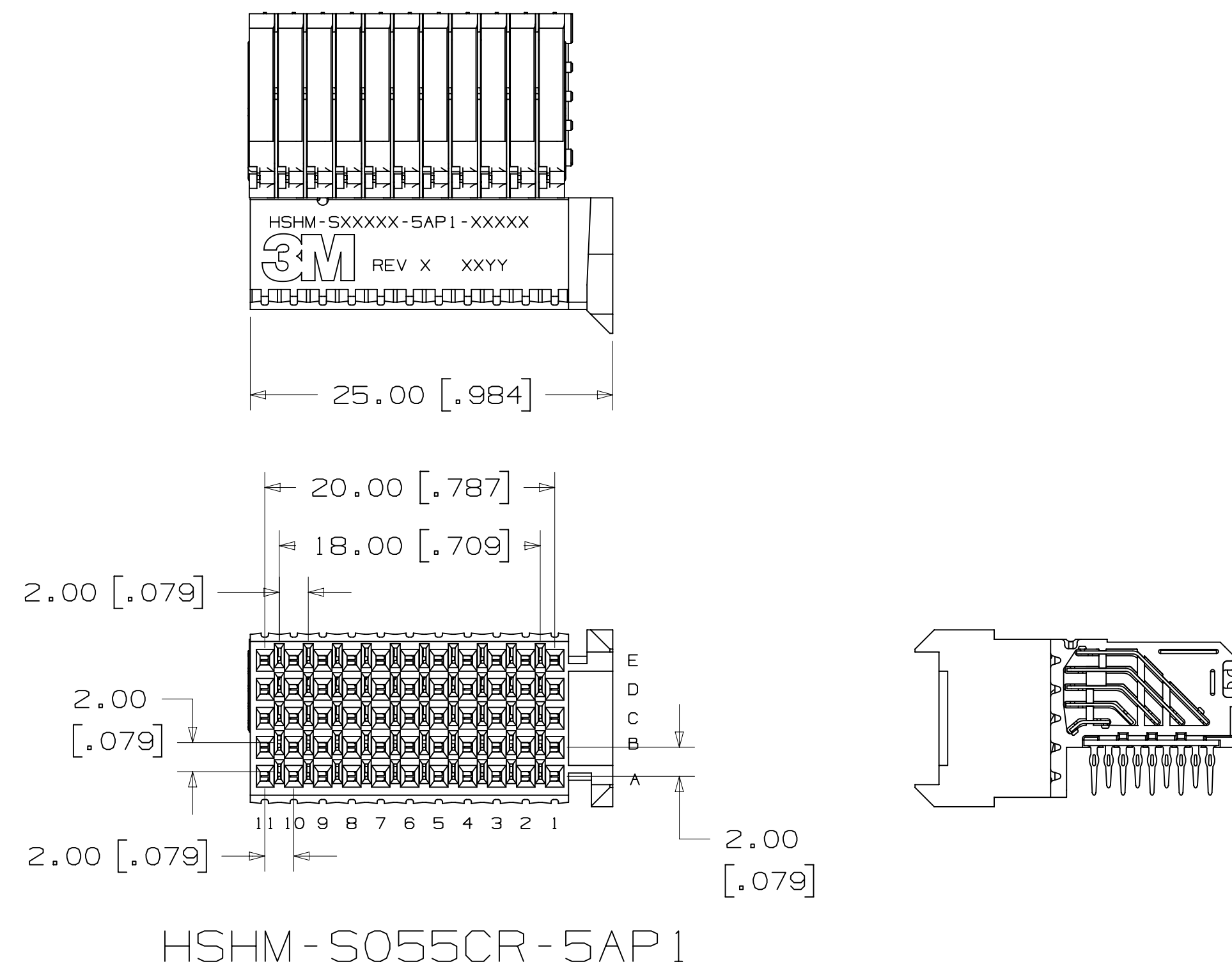
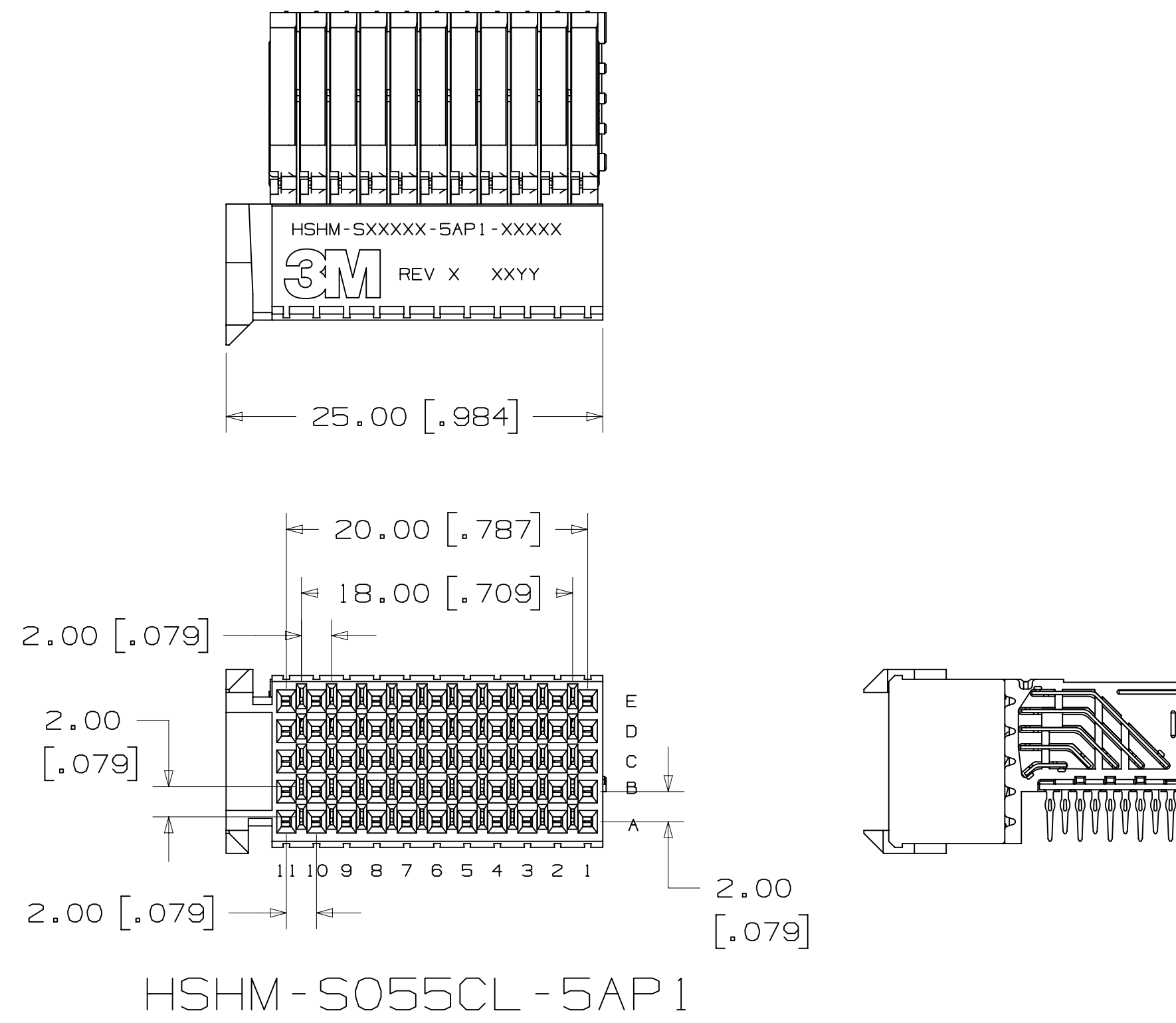
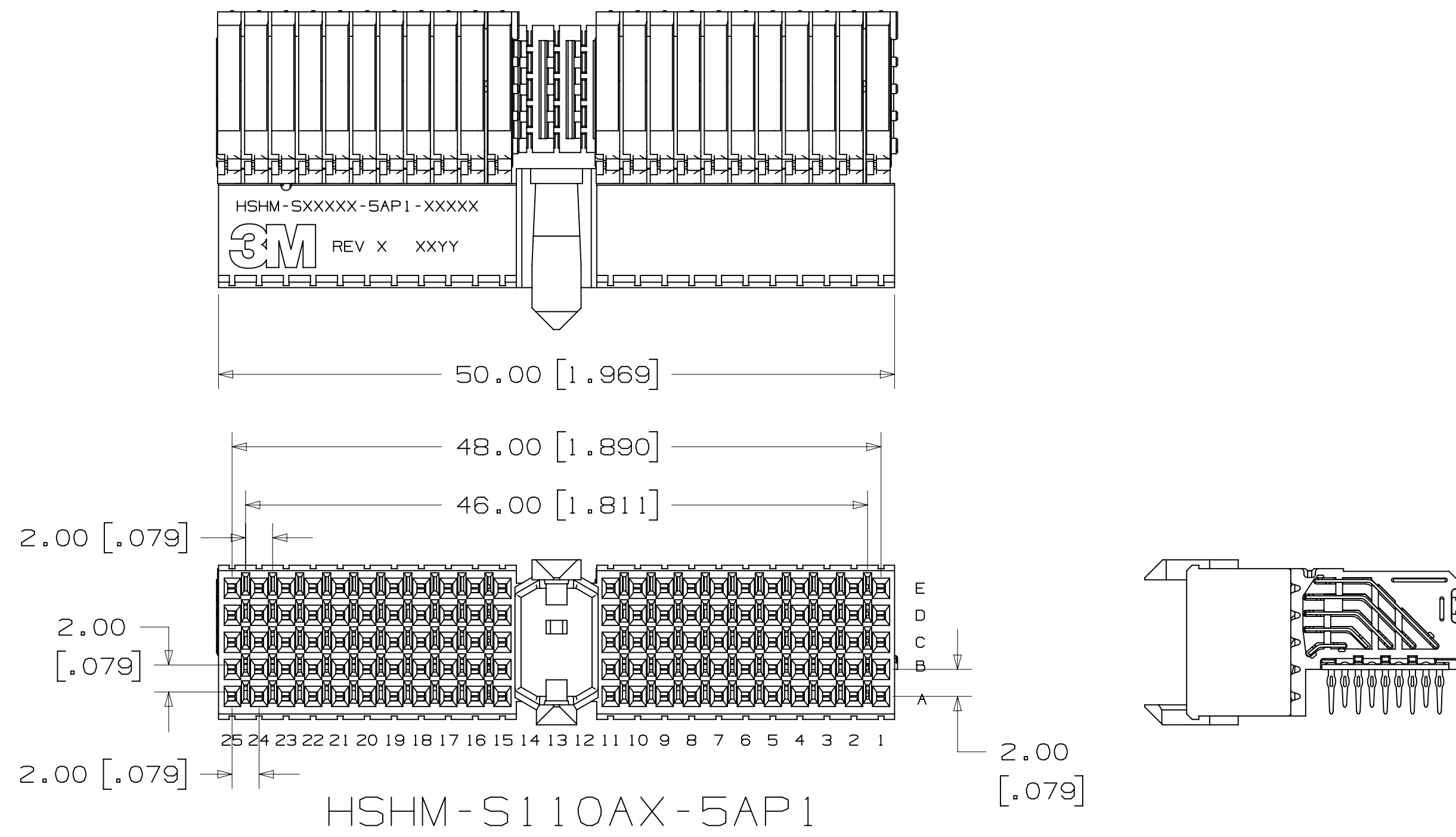
CAGE NUMBER: D78-5100-2635-0

REV. B

MODEL: HSHM

DET: Lists YES NO SHT 2 OF 5

3M™ HSHM PRESS-FIT SOCKET CONNECTORS, 5-ROW
 FOR 2MM HIGH SPEED HARD METRIC APPLICATIONS



REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
B	52659	NOV 12, 2014 WITHSTANDING VOLTAGE WAS 750	JNC	TS
A	50580	FEB 17 2014 INITIAL CHANGE, REVISE NOTES, REMOVE MKRT CLAIMS	JNC	TS
		OCT 11, 2013 PRODUCTION RELEASE		

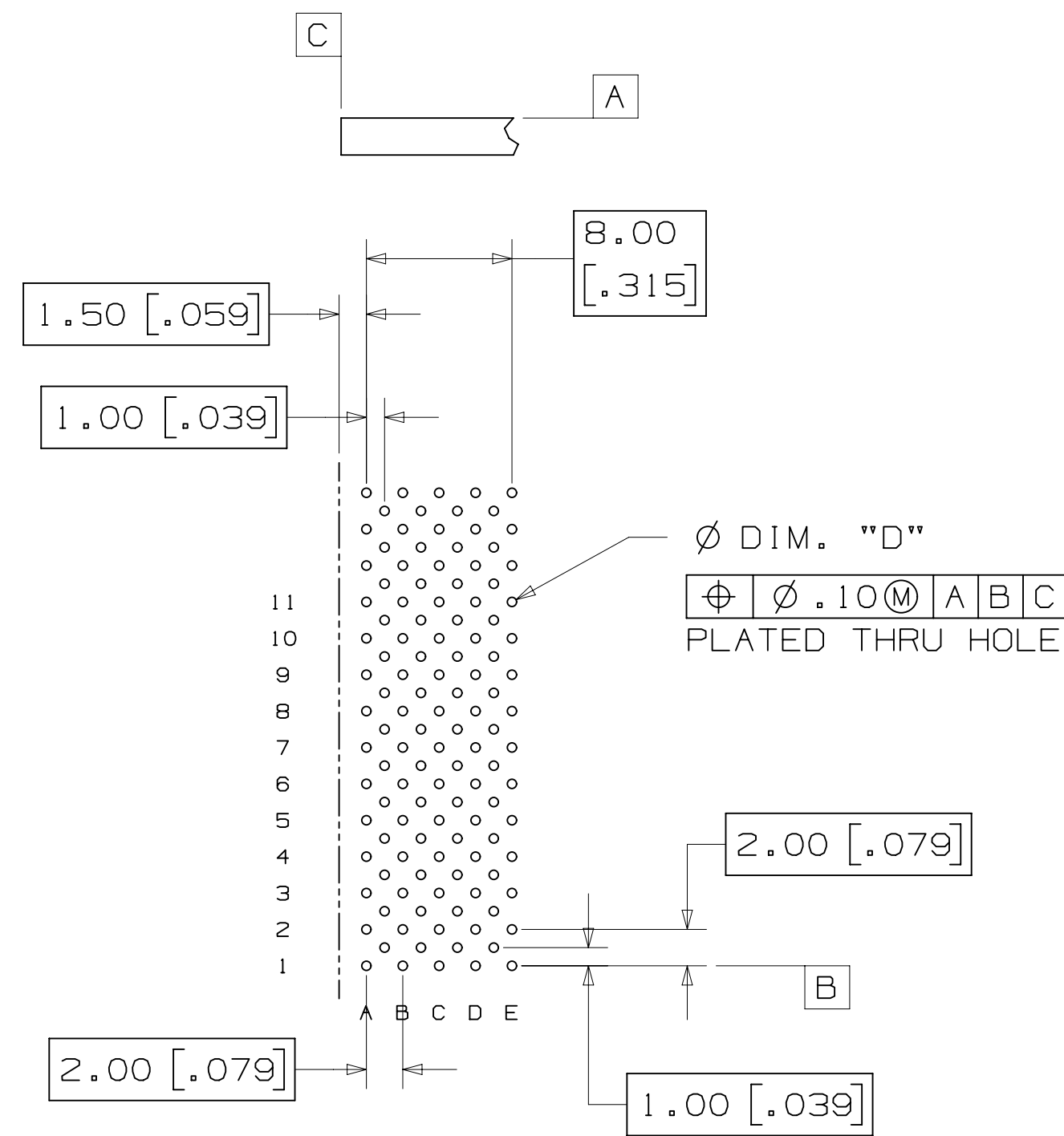
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				OCT 11, 2013		
DIVISION		DIVISION CODE		DATE		
Interconnect Solutions		ISD		OCT 11, 2013		
DO NOT SCALE DRAWING	SCALE 3/1	TOLERANCES EXCEPT AS NOTED		DATE		
		INCHES		DATE		
		.00 ± .01		OCT 11, 2013		
		.000 ± .005				
		.0000 ±				
THIRD ANGLE PROJECTION		MILLIMETERS				
		0 ±				
INTERPRET PER ASME Y14.5 - 2009		.0 ± .3				
		.00 ± .13				
MAX SURFACE ROUGHNESS		.000 ±				
DT SURFACES		ANGLES				
MARKED ONLY						

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TITLE HSHM PRESS-FIT SOCKET, 2MM, 5-ROW, HSHM SERIES			
CAGE NUMBER	SIZE	DRAWING NO.	REV.
D		78-5100-2635-0	B
MODEL	HSHM		REV.
			3 OF 5

78-5100-2635-0
 DRAWING NUMBER
 B
 REVISION
 B.4 11/14/2014 3:14 PM UTC-06:00
 A

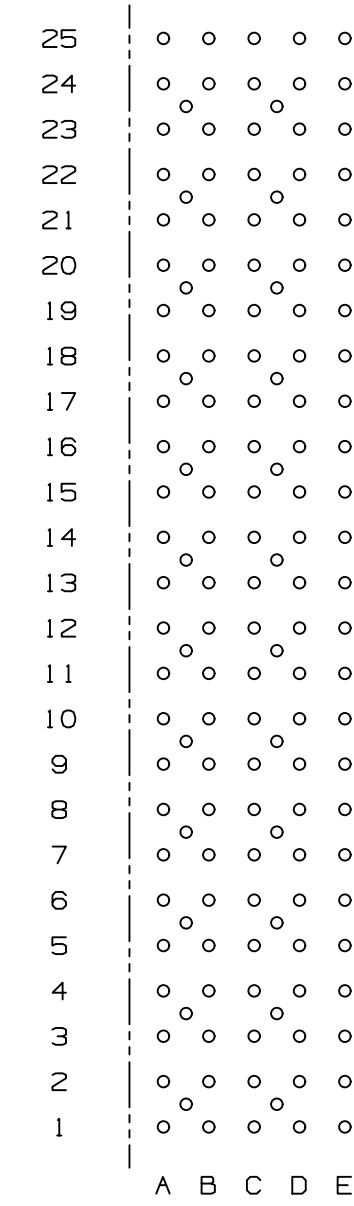
3M™ HSHM PRESS-FIT SOCKET CONNECTORS, 5-ROW

FOR 2MM HIGH SPEED HARD METRIC APPLICATIONS

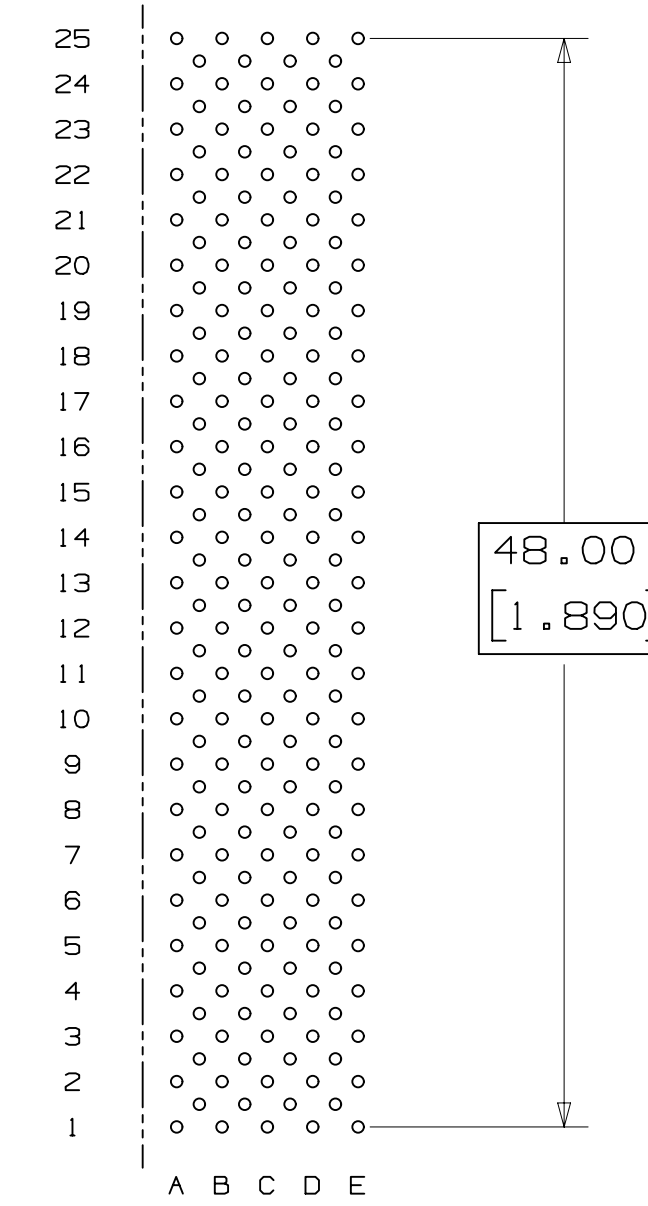


TYPICAL HOLE PATTERN DIMENSIONS FOR THE CONNECTORS ON THIS DRAWING (EXCEPT AS NOTED IN VIEWS)

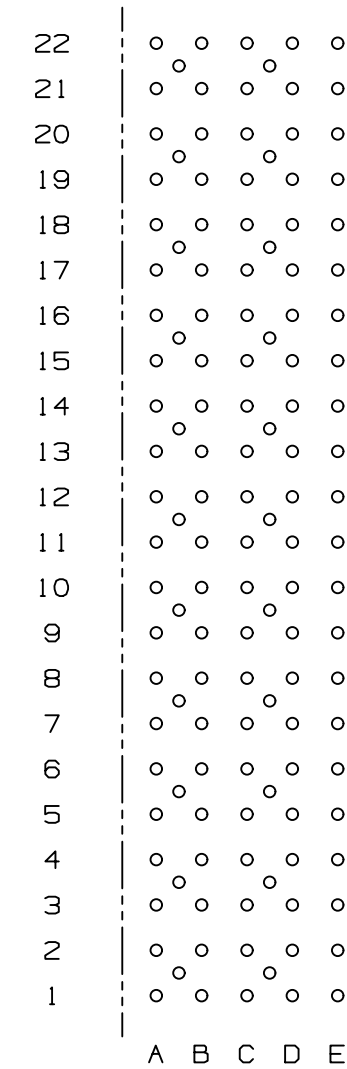
HOLE PLATING TABLE			
HOLE	(FINISHED HOLE)	Cu THICKNESS	SnPb THICKNESS
DIM. "D"	.457-.559 [.0180-.0220]	.025-.045 [.0010-.0018]	.008-.018 [.0003-.0007]
DIM. "F"	.690-.790 [.0270-.0310]	.025-.045 [.0010-.0018]	.008-.018 [.0003-.0007]
			DRILLED HOLE DIA.
			.584-.625 [.0230-.0246]
			.810-.860 [.0320-.0340]



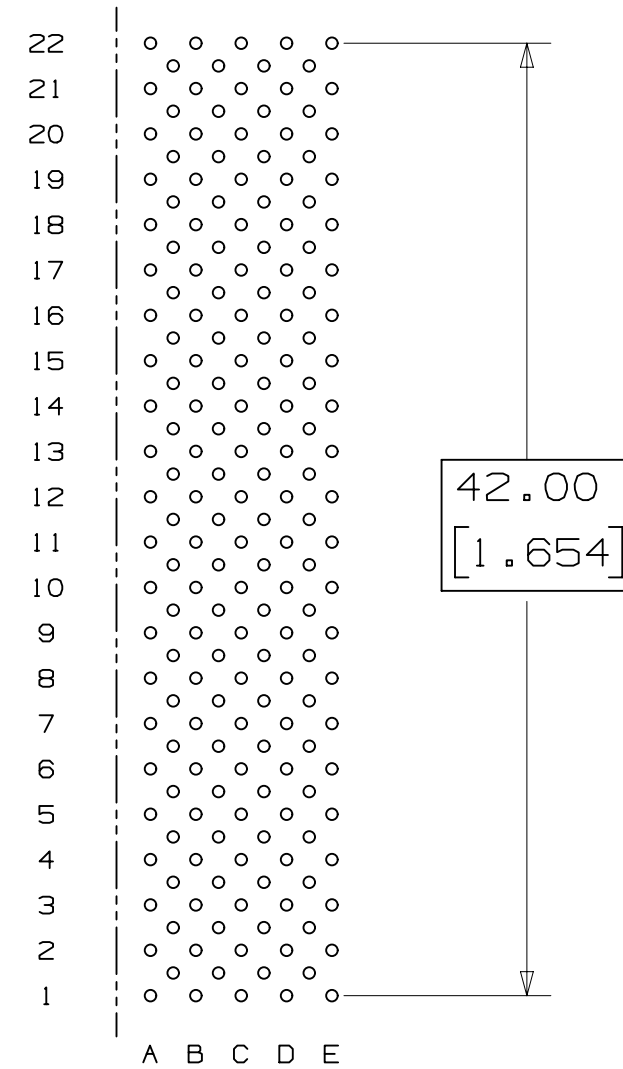
HSHM-S125B1-5AP1
ROW DIFFERENTIAL APPLICATIONS
(FEWER GROUND VIAS)



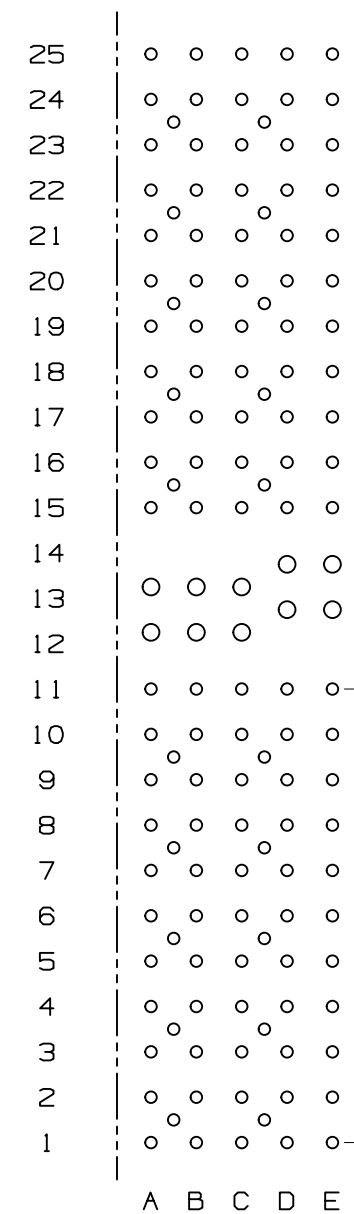
HSHM-S125B4-5AP1
COAXIAL, COLUMN DIFFERENTIAL
AND STRIPLINE APPLICATIONS



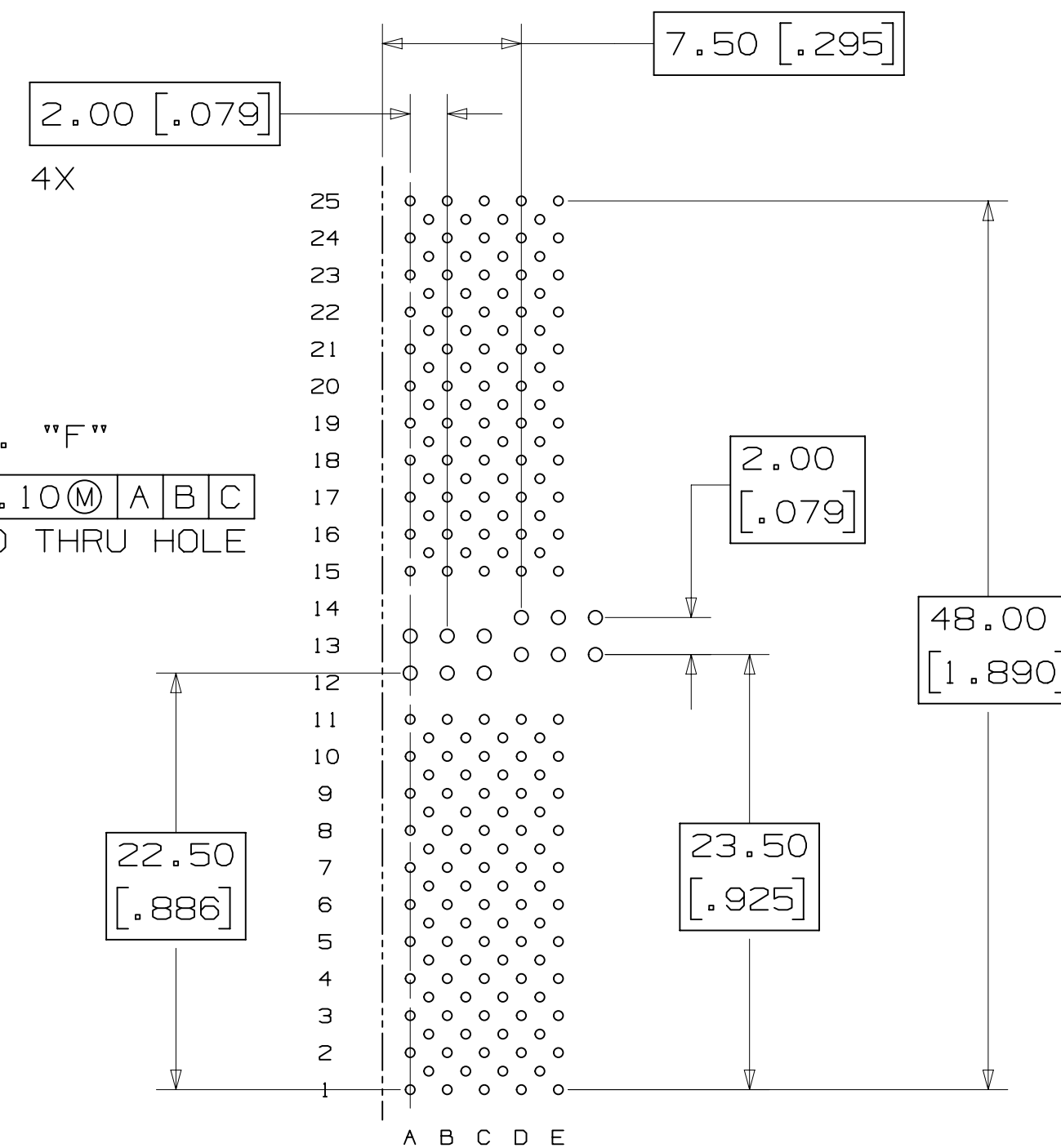
HSHM-S110B1-5AP1
ROW DIFFERENTIAL APPLICATIONS
(FEWER GROUND VIAS)



HSHM-S110B4-5AP1
COAXIAL, COLUMN DIFFERENTIAL
AND STRIPLINE APPLICATIONS



HSHM-S110APWR1-5AP1
ROW DIFFERENTIAL APPLICATIONS
(FEWER GROUND VIAS)



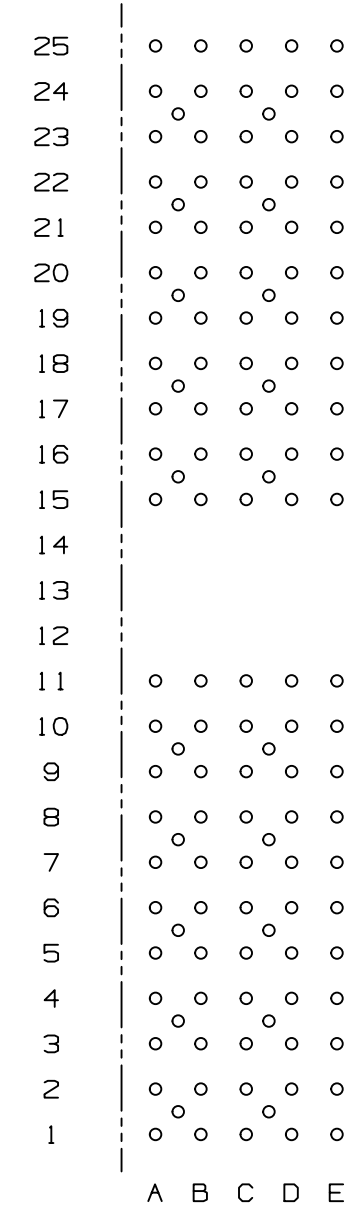
HSHM-S110APWR4-5AP1
COAXIAL, COLUMN DIFFERENTIAL
AND STRIPLINE APPLICATIONS

RECOMMENDED PCB MOUNTING HOLE PATTERN
(VIEWED FROM COMPONENT SIDE)

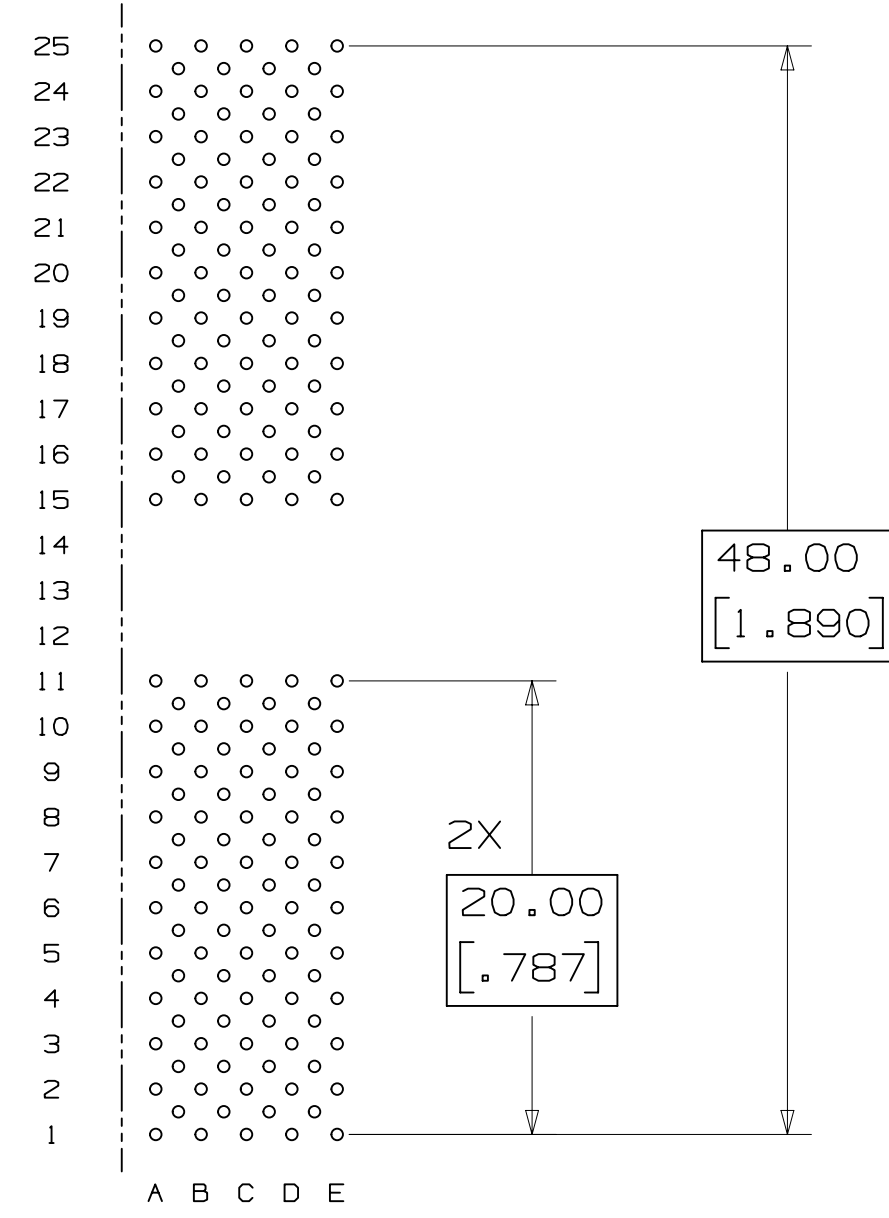
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				OCT 11, 2013		
DIVISION		DIVISION CODE		DATE		
Interconnect Solutions		ISD		OCT 11, 2013		
DO NOT SCALE DRAWING	SCALE 3/1	TOLERANCES EXCEPT AS NOTED		DATE		
THIRD ANGLE PROJECTION		INCHES		DATE		
INTERPRET PER ASME Y14.5 - 2009		MILLIMETERS		DATE		
MAX SURFACE ROUGHNESS		.00 ± .13		DATE		
SURFACES MARKED ONLY		ANGLES		DATE		
CAGE NUMBER		SIZE	DRAWING NO.	REV.		
D			78-5100-2635-0	B		
MODEL		HSHM		SHT 4 OF 5		

78-5100-2635-0 DRAWING NUMBER
B REVISION
A 11/14/2014 3:14 PM UTC-06:00

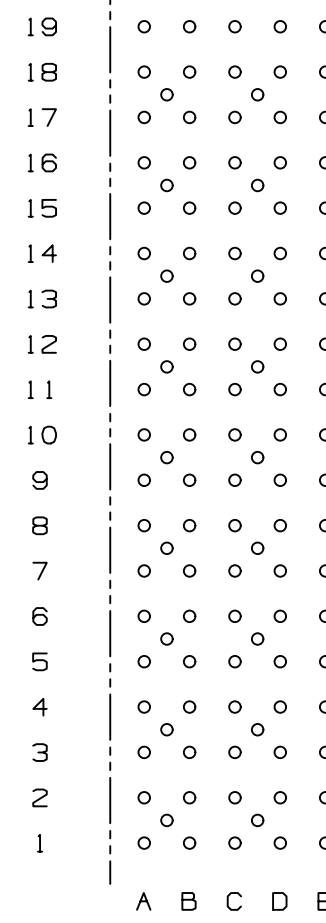
3M™ HSHM PRESS-FIT SOCKET CONNECTORS, 5-ROW
 FOR 2MM HIGH SPEED HARD METRIC APPLICATIONS



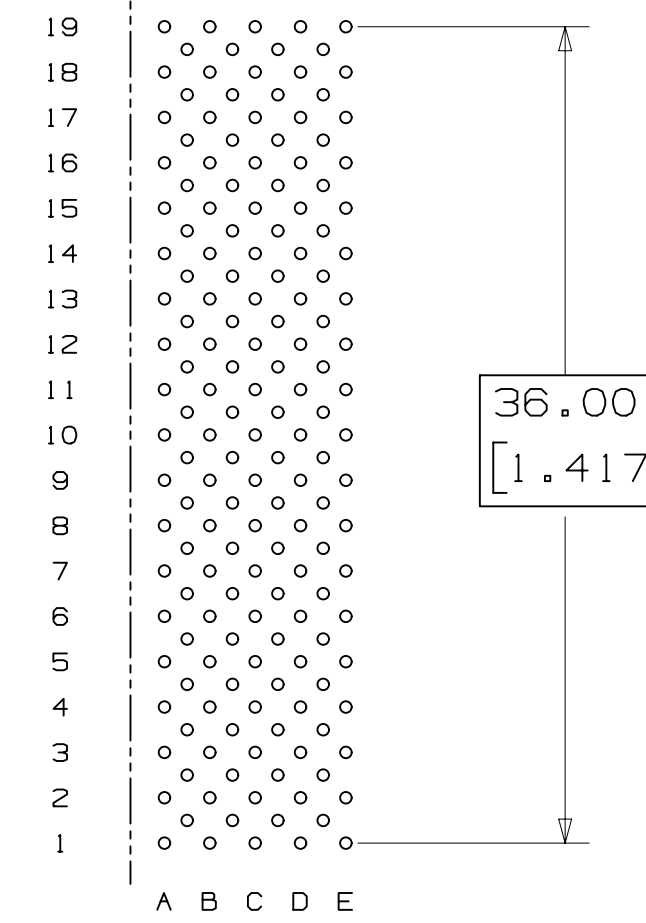
HSHM-S110AG1-5AP1
 HSHM-S110A1-5AP1
 ROW DIFFERENTIAL APPLICATIONS
 (FEWER GROUND VIAS)



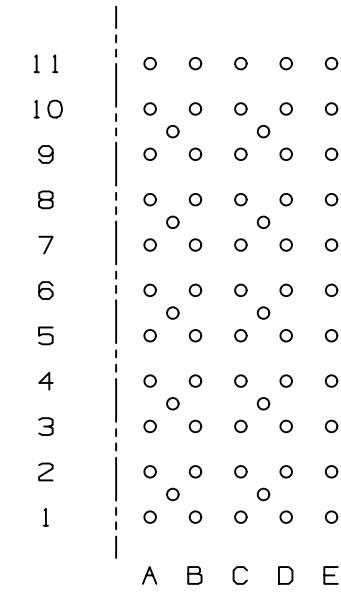
HSHM-S110AG4-5AP1
 HSHM-S110A4-5AP1
 COAXIAL, COLUMN DIFFERENTIAL
 AND STRIPLINE APPLICATIONS



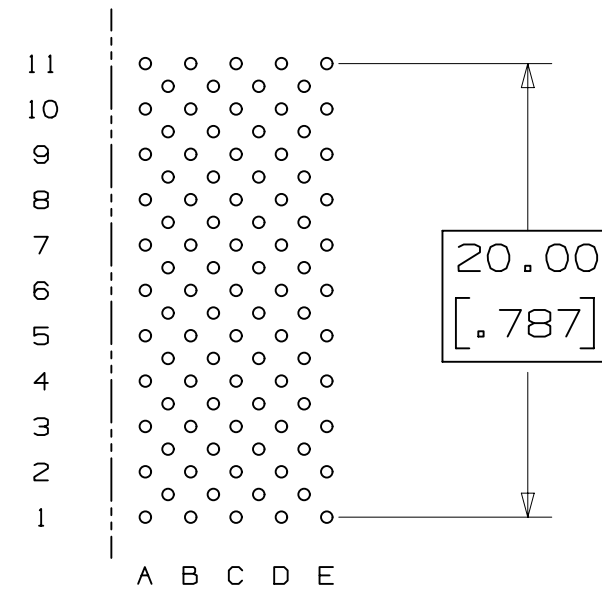
HSHM-S095B1-5AP1
 ROW DIFFERENTIAL APPLICATIONS
 (FEWER GROUND VIAS)



HSHM-S095B4-5AP1
 COAXIAL, COLUMN DIFFERENTIAL
 AND STRIPLINE APPLICATIONS



HSHM-S055B1-5AP1
 HSHM-S055CL1-5AP1
 HSHM-S055CR1-5AP1
 ROW DIFFERENTIAL APPLICATIONS
 (FEWER GROUND VIAS)



HSHM-S055B4-5AP1
 HSHM-S055CL4-5AP1
 HSHM-S055CR4-5AP1
 COAXIAL, COLUMN DIFFERENTIAL
 AND STRIPLINE APPLICATIONS

REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
B	52659	NOV 12, 2014 WITHSTANDING VOLTAGE WAS 750	JNC	TS
A	50580	OCT 11, 2013 FEB 17 2014 INITIAL CHANGE, REVISE NOTES, REMOVE MKRT CLAIMS	JNC	TS
CHG	CASTIGLIONE	OCT 11, 2013	DATE	DATE
CHKD		DATE	APPRV	DATE
			T. SUNIGA	OCT 11, 2013

DESIGN REFERENCE	NEXT ASSEMBLY	DIVISION CODE
		ISD
DO NOT SCALE DRAWING	SCALE 3/1	TOLERANCES EXCEPT AS NOTED
		INCHES
		.00 ± .01
		.000 ± .005
		.0000 ±
THIRD ANGLE PROJECTION		MILLIMETERS
		0 ±
		.0 ± .3
		.00 ± .13
		.000 ±
MAX SURFACE ROUGHNESS		ANGLES
UNFINISHED SURFACES		
MARKED ONLY		

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TITLE HSHM PRESS-FIT SOCKET, 2MM, 5-ROW, HSHM SERIES		
CAGE NUMBER	SIZE	DRAWING NO.
D		78-5100-2635-0
MODEL	HSHM	
REV.	B	
DET. <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		SHT 5 OF 5

Image: B.4 11/14/2014 3:14 PM UTC-06:00

78-5100-2635-0
DRAWING NUMBER

B
REVISION