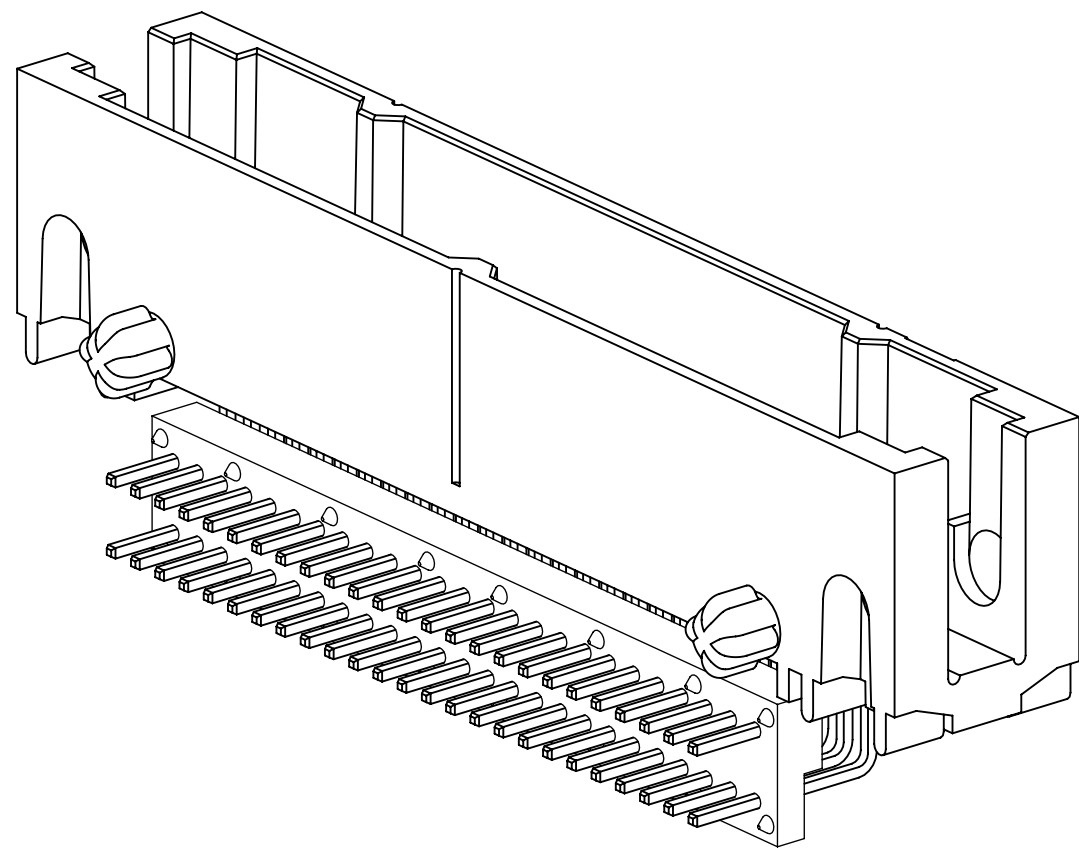
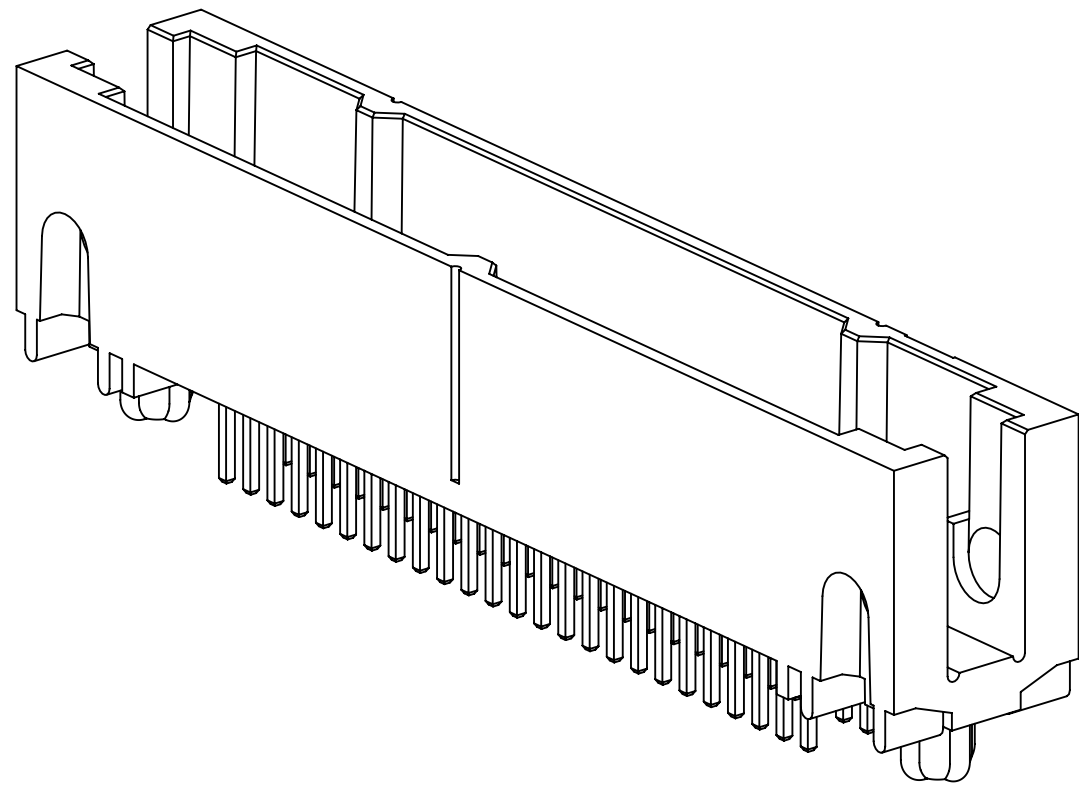


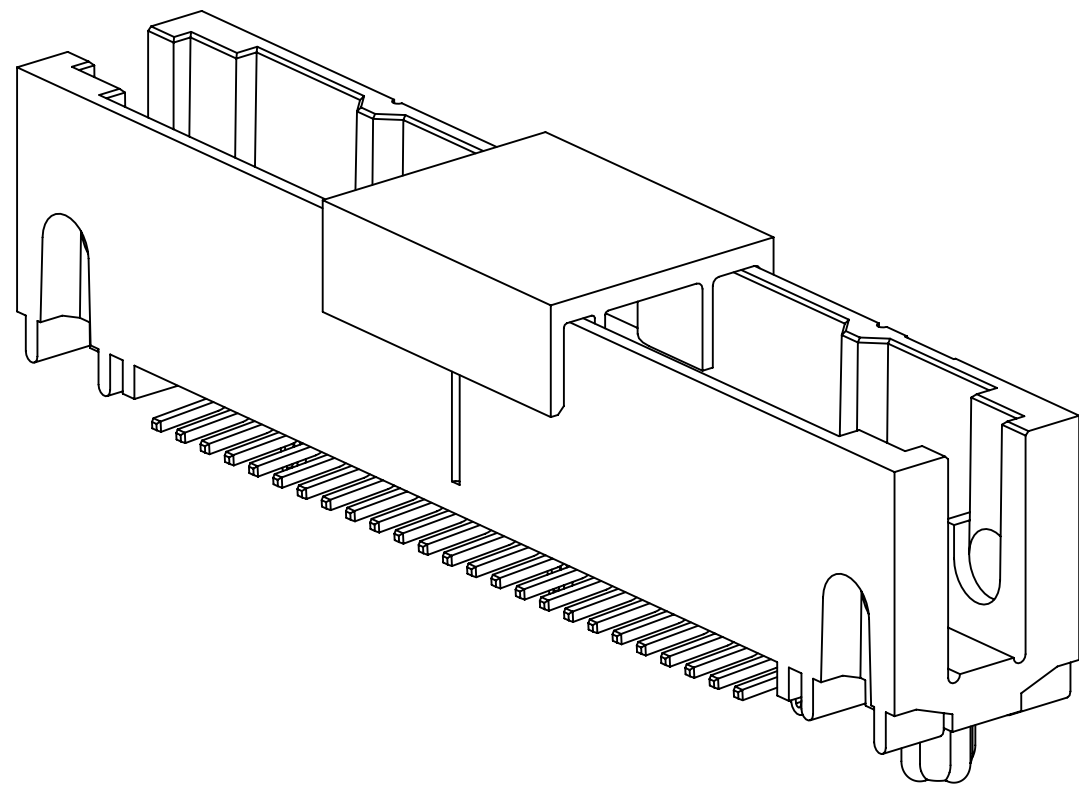
3M™ 4-WALL, TRIPOLARIZED HEADER, 810 SERIES
.050" X .100" LATCH/EJECTOR, PTH AND SMT STRAIGHT, PTH RIGHT ANGLE



RIGHT ANGLE
VERSION
81XXX-5X0X03



STRAIGHT
VERSION
81XXX-6X0X0X



SURFACEMOUNT
VERSION
81XXX-6X0C0X

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

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

- * TRIPOLARIZED FOR ROBUST ALIGNMENT WHEN MATING TO 3M™ 820 SERIES SOCKET.
- * .050" X .100" HALVES THE CONNECTOR LENGTH VS. TRADITIONAL .100" X .100" PRODUCTS.
- * LATCHING EJECTOR FOR RUGGED HIGH PERFORMANCE APPLICATIONS.
- * AVAILABLE FOR THROUGH HOLE OR SURFACEMOUNT ATTACHMENT.
- * HIGH TEMPERATURE PLASTIC FOR LEAD FREE SURFACEMOUNT OR PASTE-IN-HOLE SOLDERING METHODS.
- * FOUR-WALL SHROUD PROVIDES CONTACT PROTECTION.

2 PHYSICAL :

INSULATION: HIGH TEMPERATURE PLASTIC (LCP)
MATERIAL: UL94V-0
FLAMMABILITY: BLACK
COLOR: BLACK
CONTACT: COPPER ALLOY
PLATING: 50µ"-150µ" [1.27µm-3.81µm] NICKEL-OVERALL
UNDER PLATING: 30µ" [0.76µm] GOLD AVG.
WIPING AREA: 100µ"-300µ" [2.54µm-7.62µm] MATTE TIN
MARKINGS: 3M LOGO, PART No. AND ORIENTATION TRIANGLE

2 ELECTRICAL :

CURRENT RATING: 3.00 A, 1 CONTACT POWERED
2.00 A, 4CONTACTS POWERED
0.75 A, ALL CONTACTS POWERED

RATING CONDITIONS: EIA-364-070 METHOD 2, 30°C MAXIMUM
TEMPERATURE RISE, 20% DERATED. REFERENCE APPROPRIATE
3M PRODUCT SPECIFICATION FOR DETAILED CURRENT DERATING CURVES.

INSULATION RESISTANCE: >1 X 10⁹Ω AT 500 V_{DC}
WITHSTANDING VOLTAGE: 500V_{RMS} AT SEA LEVEL

2 ENVIRONMENTAL :

TEMPERATURE RATING: -55°C TO +105°C
PROCESS RATING: MAXIMUM 260°C
MOISTURE SENSITIVITY LEVEL: 1 (PER J-STD-020C)

- NOTES
1. REGULATORY INFORMATION:
VISIT 3M.com/regs
 2. UNLESS OTHERWISE NOTED, REFERENCES TO INDUSTRY SPECIFICATIONS ARE INTENDED TO INDICATE SUBSTANTIAL COMPLIANCE TO THE MATERIAL ELEMENTS OF THE SPECIFICATION. SUCH REFERENCES SHOULD NOT BE CONSTRUED AS A GUARANTEE OF COMPLIANCE TO ALL REQUIREMENTS IN A GIVEN SPECIFICATION.
 3. THIS POLARIZING SLOT DOES NOT EXIST ON THE 20 POSITION HEADER.
 4. RECOMMENDED TO BE MATED TO THE .050" X .100" 3M™ 820XX SERIES SOCKETS, TS-0254.
 5. SOLDER THIEF SOLDER PADS REQUIRED ONLY ON SOLDER SIDE OF PC BOARD.
 6. A DUMMY OR SOLDER THIEF SOLDER PAD AT THE END OF EACH ROW IS RECOMMENDED ON THE BOTTOM OR SOLDER SIDE OF THE PC BOARD IN ORDER TO HELP PREVENT SOLDER BRIDGING ON THE END SOLDER TAILS. THE SOLDER THIEFS ARE ONLY REQUIRED ON THE END OF THE ROWS WHICH THE SOLDER BATH LAST.
 7. RECOMMENDED TO PROCESS PC BOARDS THROUGH THE SOLDER BATH SUCH THAT THE CONNECTOR ENTERS END FIRST (TWO SOLDER TAILS AT A TIME). THIS WILL PREVENT SOLDER BRIDGING.
 8. IN ORDER TO FACILITATE SOLDERING IT IS RECOMMENDED THAT EJECTOR LATCHES BE INSTALLED AFTER THE SOLDERING PROCESS.

DIMENSIONS: INCHES [MM]
[MM] IS REF. ONLY

DESIGN REFERENCE		NEXT ASSEMBLY		REV	ECO	JAN 13, 2022		JNC	SAN
DO NOT SCALE DRAWING		SCALE		TOLERANCES EXCEPT AS NOTED		INCHES		TITLES	
THIRD ANGLE PROJECTION		INTERPRET PER ASME Y14.5 - 2018		MILLIMETERS		0.00 ± .01		TRIPOLARIZED HEADER, 4-WALL, LATCH/EJECT, .050" X .100"	
MAX SURFACE ROUGHNESS		SURFACES		0.00 ± .000		CAGE NUMBER		DRAWING NO.	
MARKED ONLY		ANGLES		0.00 ± .000		D		78-5100-0253-4	
MODEL		810		LISTS		YES		SHT 1 OF 5	

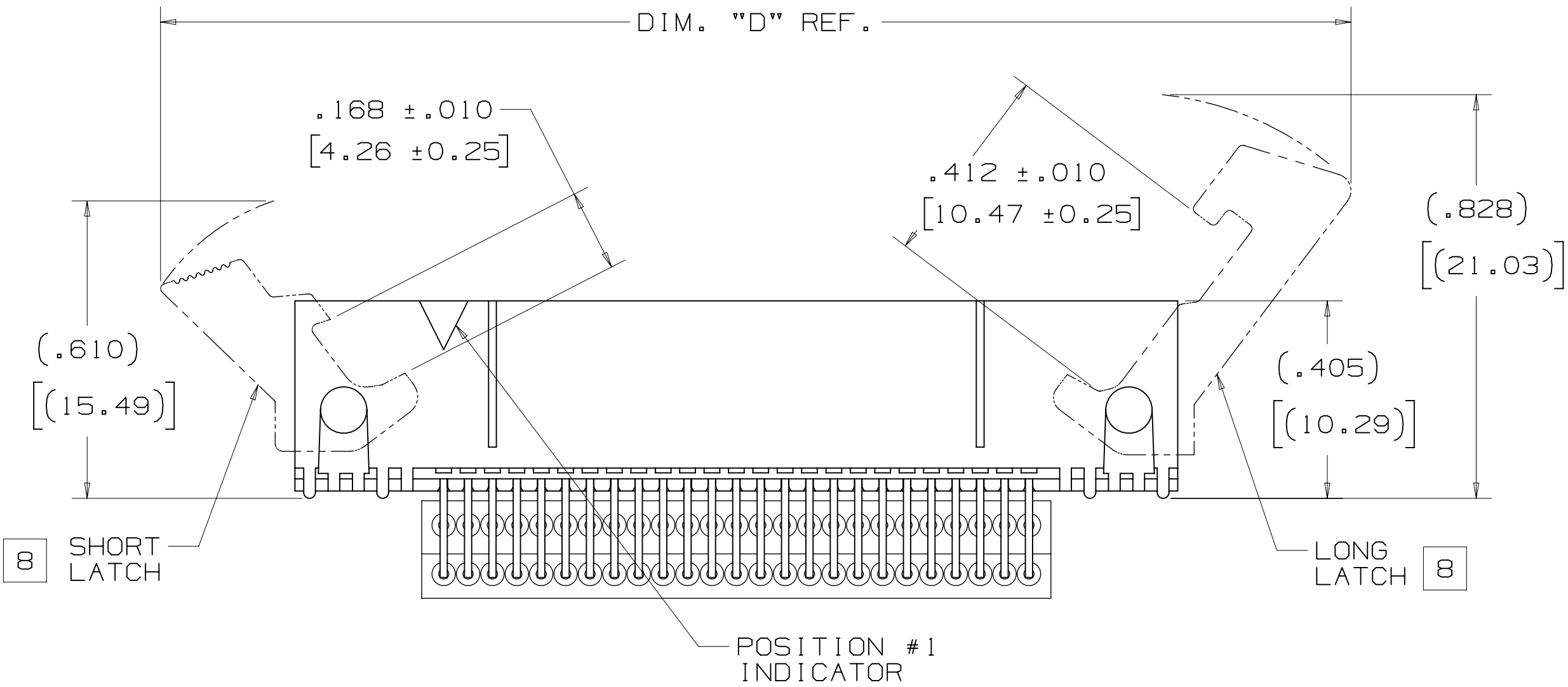
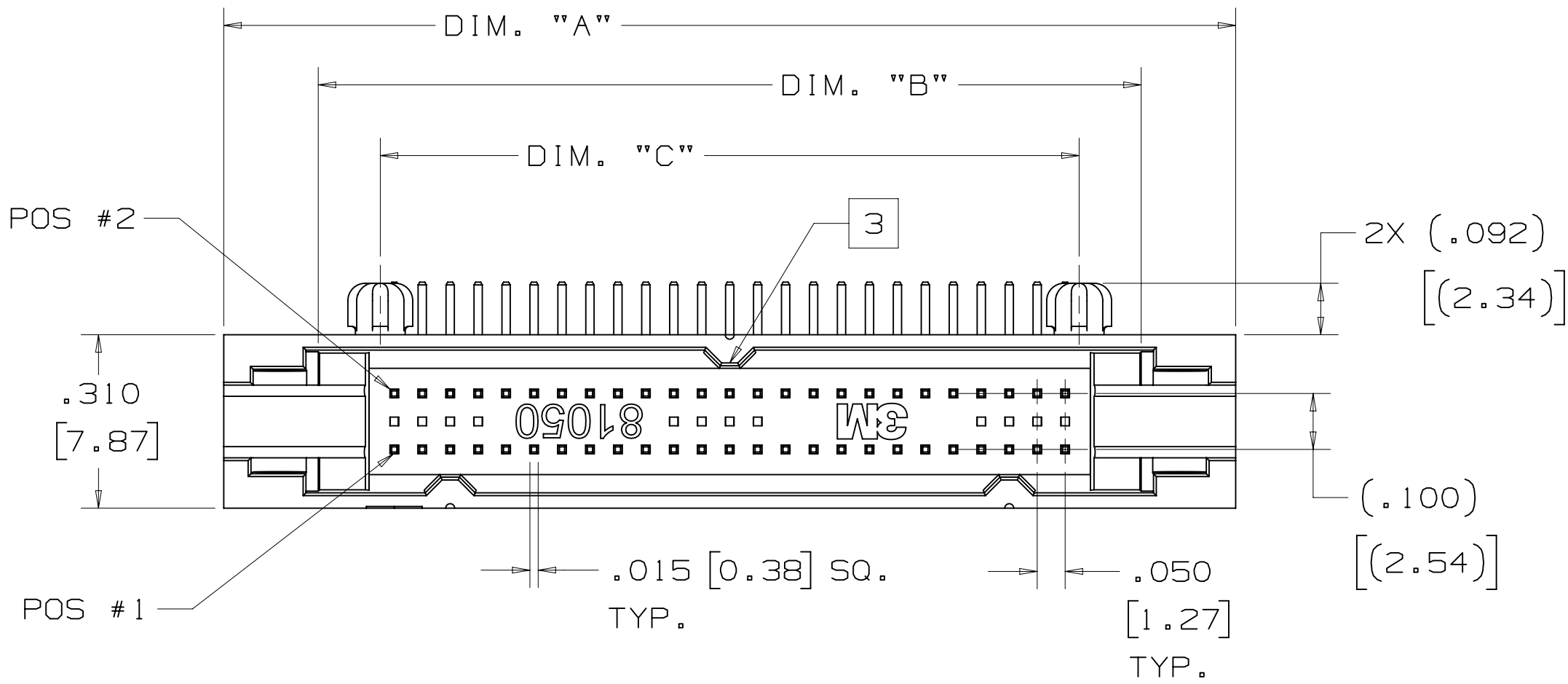
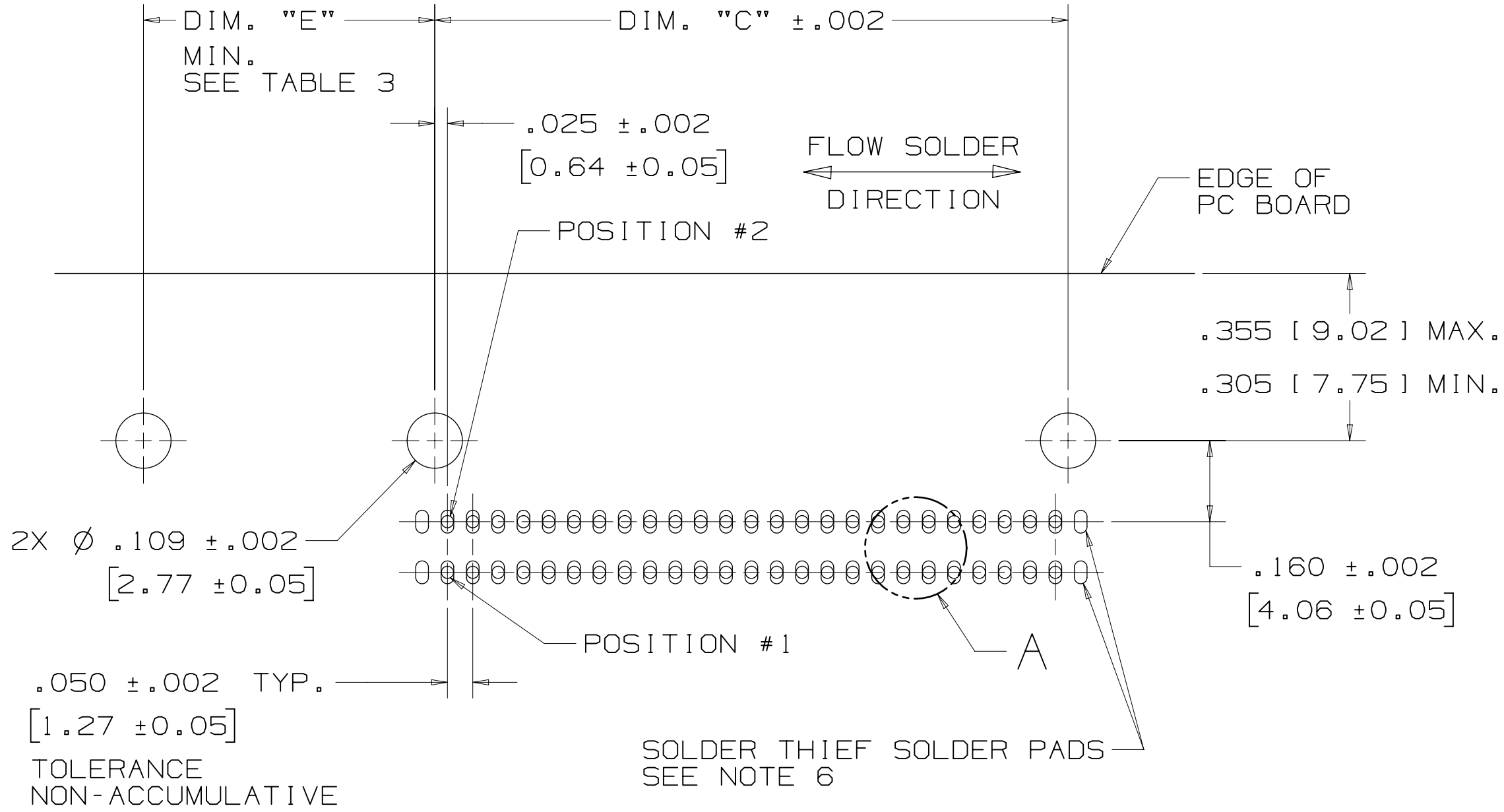
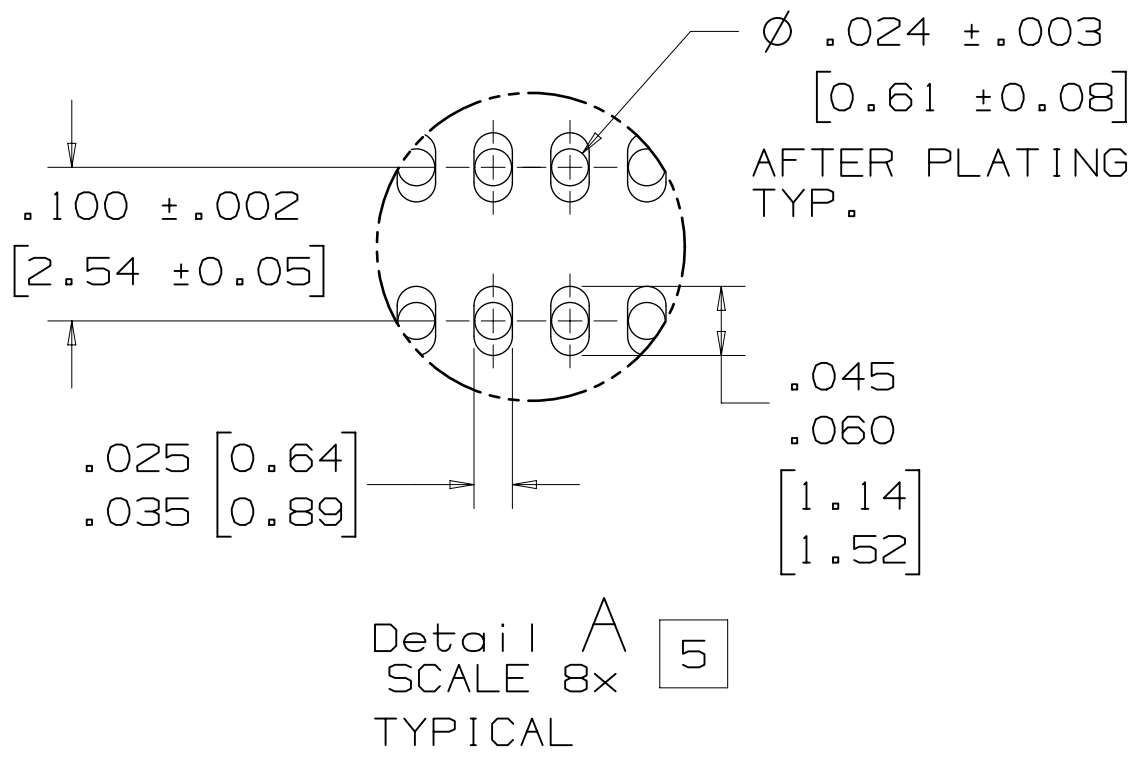
UL FILE NO: E68080

3M™ 4-WALL, TRIPOLARIZED HEADER, 810 SERIES
.050" X .100" LATCH/EJECTOR, PTH AND SMT STRAIGHT, PTH RIGHT ANGLE

TABLE 1					
CONTACT QTY.	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "D" SHORT	DIM. "D" LONG
020	1.060 [26.92]	.722 [18.34]	.500 [12.70]	1.671 [42.44]	1.842 [46.79]
026	1.210 [30.73]	.872 [22.15]	.650 [16.51]	1.821 [46.25]	1.992 [50.60]
036	1.460 [37.80]	1.122 [28.50]	.900 [22.86]	2.071 [52.60]	2.242 [56.95]
040	1.560 [39.62]	1.222 [31.04]	1.000 [25.40]	2.171 [55.14]	2.342 [59.49]
050	1.810 [45.97]	1.472 [37.39]	1.250 [31.75]	2.421 [61.49]	2.592 [65.84]
060	2.060 [52.32]	1.722 [43.74]	1.500 [38.10]	2.671 [67.84]	2.842 [72.19]
068	2.260 [57.40]	1.922 [48.82]	1.700 [43.18]	2.871 [72.92]	3.042 [77.27]
080	2.560 [65.02]	2.222 [56.44]	2.000 [50.80]	3.171 [80.54]	3.342 [84.89]
100	3.060 [77.72]	2.722 [69.14]	2.500 [63.50]	3.671 [93.24]	3.842 [97.59]

TABLE 2	
PCB THICKNESS	DIM. "F"
.062 [1.57]	.090 [2.29]
.094 [2.39]	.112 [2.84]
.125 [3.18]	.143 [3.63]

TABLE 3	
ADJACENT CONNECTOR	
EJECTOR LATCHES	DIM. "E"
NONE	.575 [14.61]
LONG	1.010 [25.65]
SHORT	.885 [22.48]



ORDERING INFORMATION

PTH RIGHT ANGLE HEADER

81XXX-5X0X03-RB

CONTACT QTY:
(SEE TABLE 1)

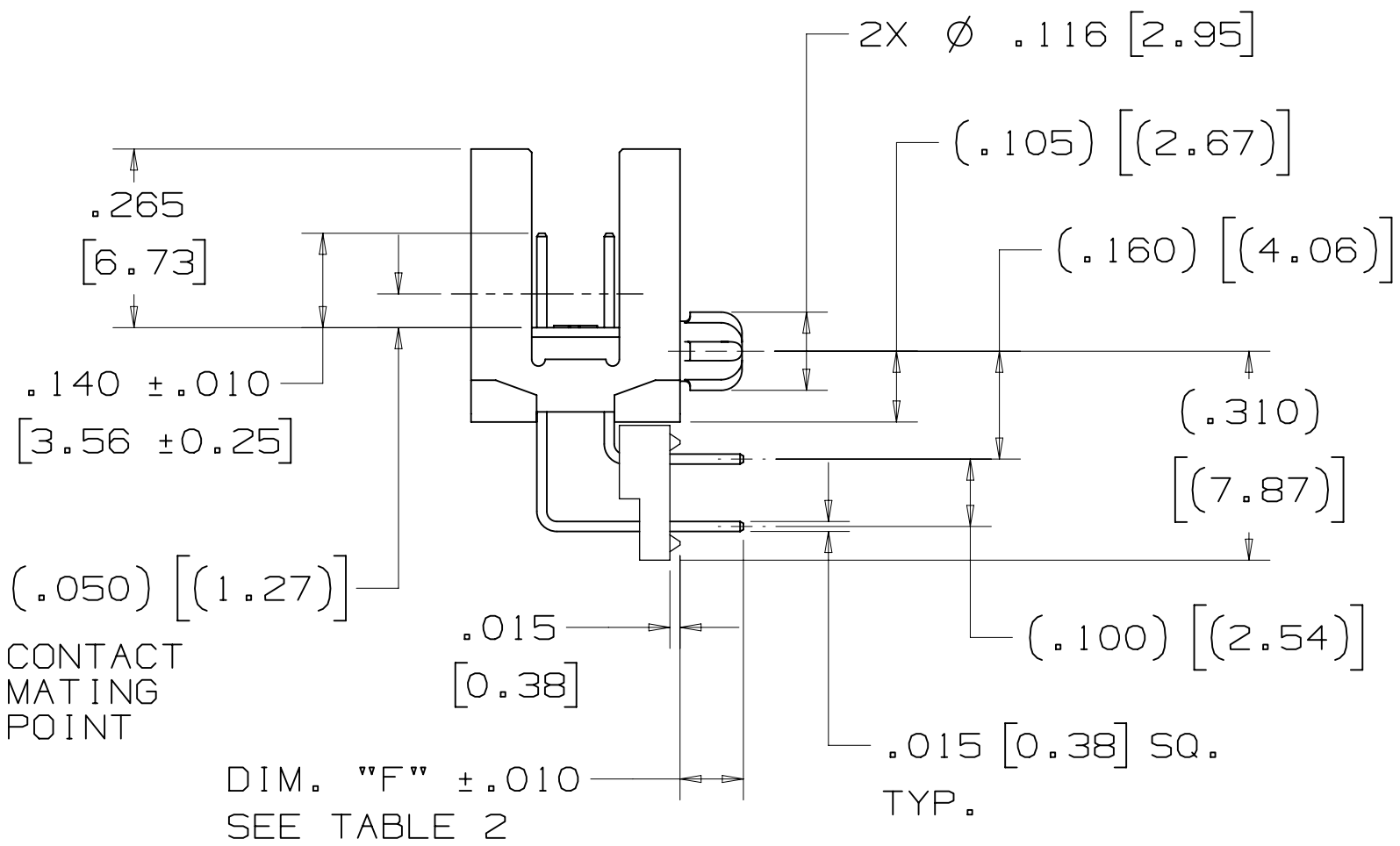
CONTACT SOLDER TAIL:
2 = FOR .062 [1.75] PC BOARD (STANDARD)
3 = FOR .094 [2.39] PC BOARD (SPECIAL ORDER)
4 = FOR .125 [3.18] PC BORAD (SPECIAL ORDER)

EJECTOR/LATCH SYSTEM:
0 = NONE (SPECIAL ORDER)
5 = WITH SHORT EJECTORS INSTALLED (SPECIAL ORDER)
6 = WITH LONG EJECTORS INSTALLED (STANDARD)

EJECTOR LATCHES

(IF ORDERED SEPARATELY)

LONG LATCHES: 3505-28
SHORT LATCHES: 3505-29



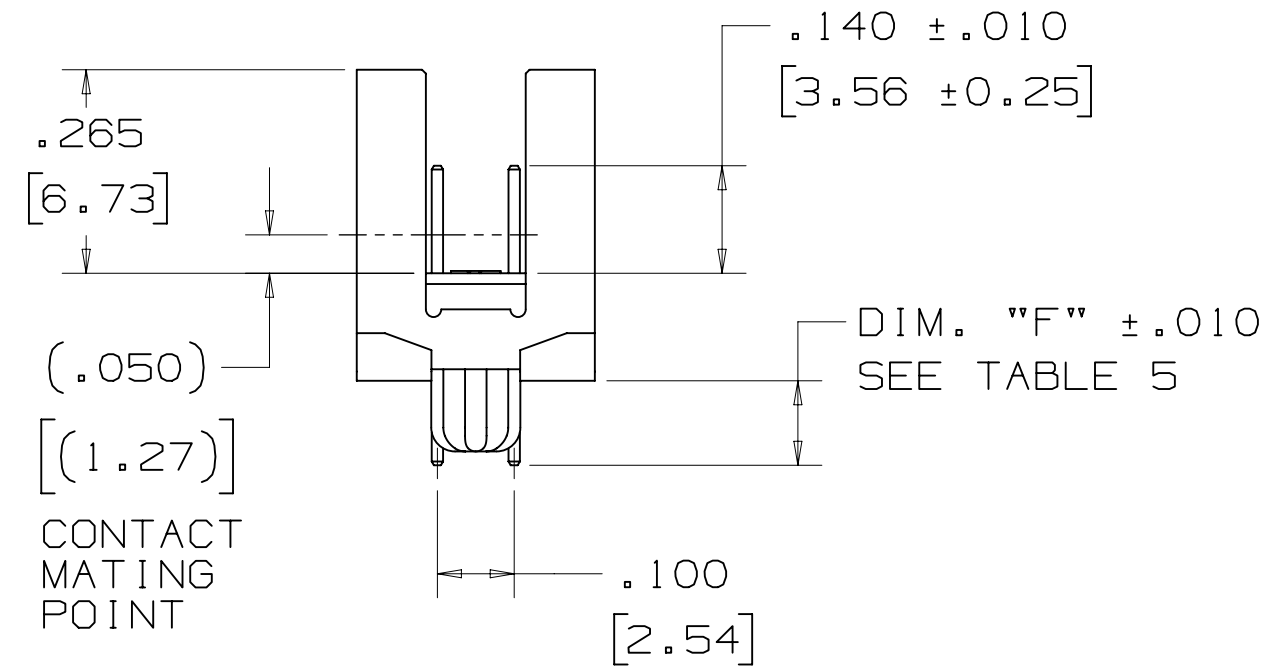
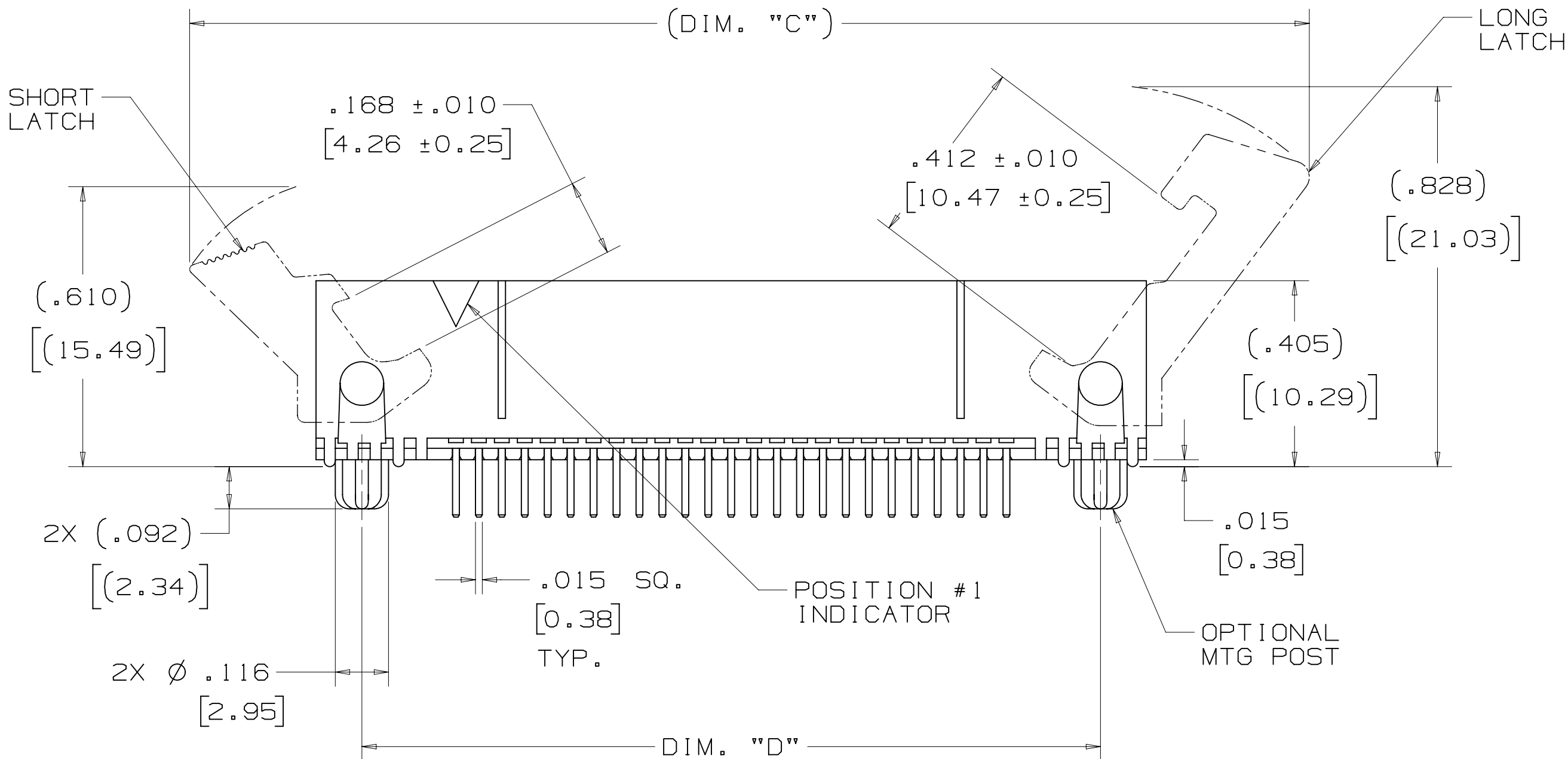
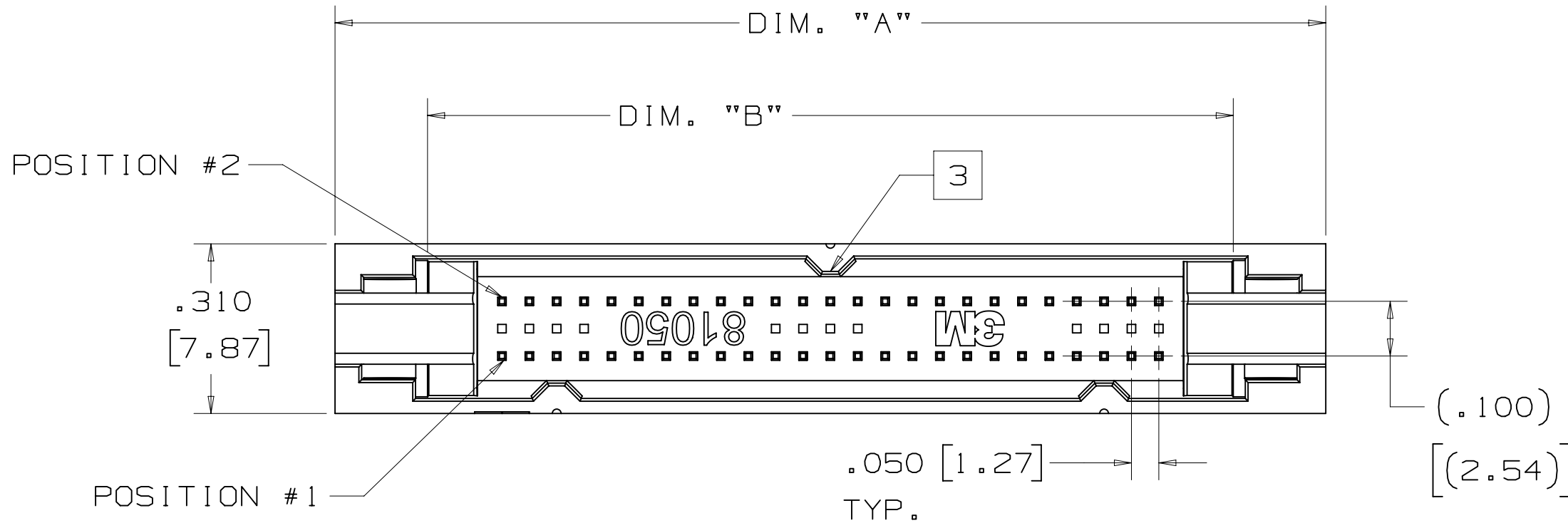
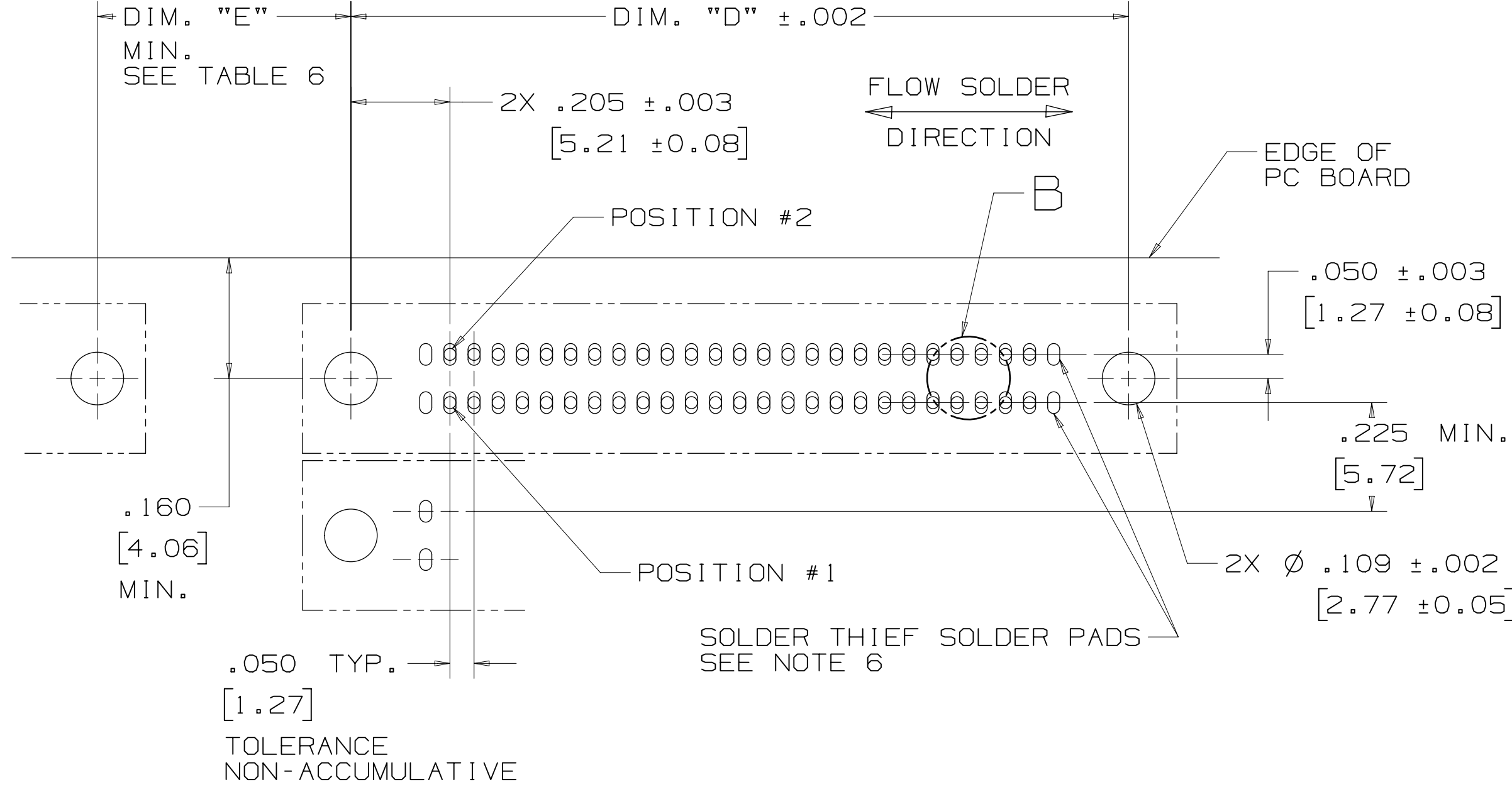
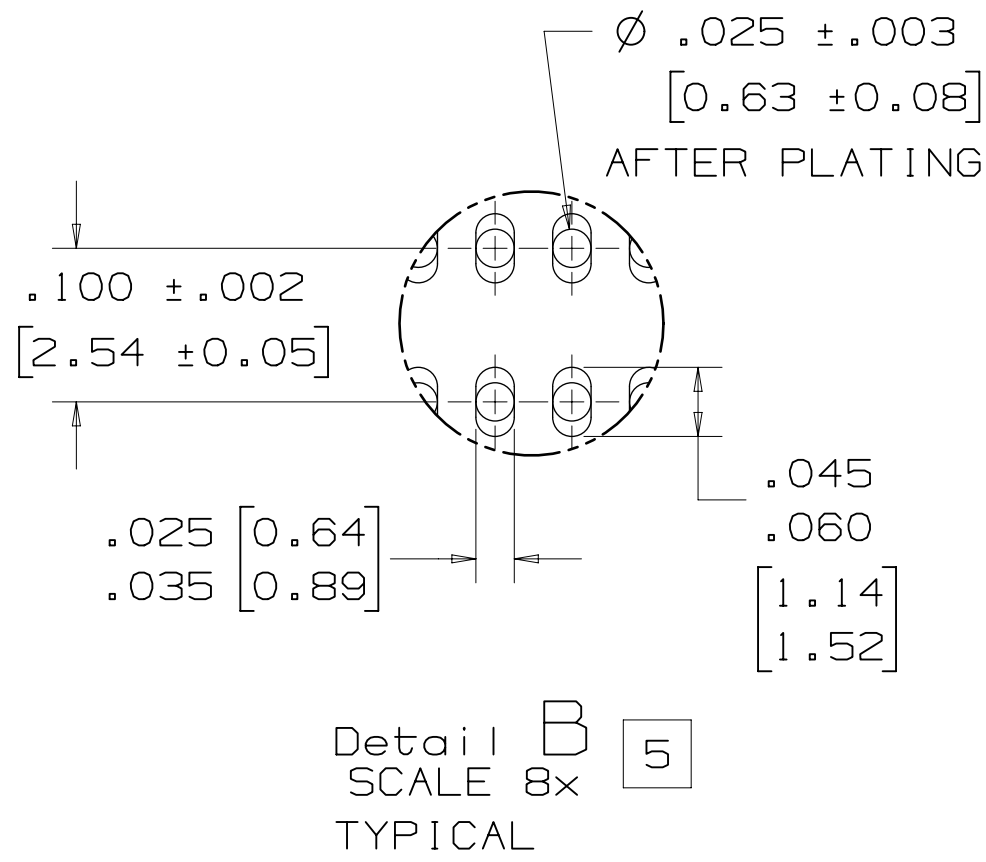
DESIGN REFERENCE	NEXT ASSEMBLY	L 101674	JAN 13,2022	JNC	SAN
REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD	
DRP	CASTIGLIONE	DATE	JAN 13,2022	MFG	DATE
CHKD		DATE		APPR	DATE
				S. NEU	JAN 13,2022
DIVISION	DIVISION CODE	EMSD			
DO NOT SCALE DRAWING	SCALE	TOLERANCES EXCEPT AS NOTED			
THIRD ANGLE PROJECTION	INTERPRET PER ASME Y14.5 - 2018	INCHES 0.0 ±.1 0.00 ±.01 0.000 ±.005 0.0000 ±.0002			
MAX SURFACE ROUGHNESS	MARKED SURFACES	MILLIMETERS 0 ±.1 0.00 ±.01 0.000 ±.005 0.0000 ±.0002			
MODEL	810	CAGE NUMBER			
SIZE	D	DRAWING NO.			
REV.	L	78-5100-0253-4			
DET	LISTS	YES NO SHT 2 OF 5			

3M™ 4-WALL, TRIPOLARIZED HEADER, 810 SERIES
.050" X .100" LATCH/EJECTOR, PTH AND SMT STRAIGHT, PTH RIGHT ANGLE

TABLE 4					
CONTACT QTY.	DIM. "A"	DIM. "B"	DIM. "C" SHORT	DIM. "C" LONG	DIM. "D"
020	1.060 [26.92]	.722 [18.34]	1.671 [42.44]	1.842 [46.79]	.860 [21.84]
026	1.210 [30.73]	.872 [22.15]	1.821 [46.25]	1.992 [50.60]	1.010 [25.65]
036	1.460 [37.80]	1.122 [28.50]	2.071 [52.60]	2.242 [56.95]	1.260 [32.00]
040	1.560 [39.62]	1.222 [31.04]	2.171 [55.14]	2.342 [59.49]	1.360 [34.54]
050	1.810 [45.97]	1.472 [37.39]	2.421 [61.49]	2.592 [65.84]	1.610 [40.89]
060	2.060 [52.32]	1.722 [43.74]	2.671 [67.84]	2.842 [72.19]	1.860 [47.24]
068	2.260 [57.40]	1.922 [48.82]	2.871 [72.92]	3.042 [77.27]	2.060 [52.32]
080	2.560 [65.02]	2.222 [56.44]	3.171 [80.54]	3.342 [84.89]	2.360 [59.94]
100	3.060 [77.72]	2.722 [69.14]	3.671 [93.24]	3.842 [97.59]	2.860 [72.64]

TABLE 5	
PCB THICKNESS	DIM. "F"
.062 [1.57]	.092 [2.34]
.094 [2.39]	.110 [2.79]

TABLE 6	
ADJACENT CONNECTOR	
EJECTOR LATCHES	DIM. "E"
NONE	.215 [5.46]
LONG	.650 [16.51]
SHORT	.525 [13.34]



ORDERING INFORMATION
PTH STRAIGHT HEADER

81XXX-6XOXOX-RB

CONTACT QTY:
(SEE TABLE 4)

BOARD MOUNTING OPTIONS:
1 = NONE (SPECIAL ORDER)
3 = PRESS FIT POSTS BOTH ENDS (STANDARD)

EJECTOR/LATCH SYSTEM:
0 = NONE (SPECIAL ORDER)
5 = WITH SHORT EJECTORS INSTALLED (SPECIAL ORDER)
6 = WITH LONG EJECTORS INSTALLED (STANDARD)

CONTACT SOLDER TAIL:
2 = FOR .062 [1.75] PC BOARD (STANDARD)
3 = FOR .094 [2.39] PC BOARD (SPECIAL ORDER)
4 = FOR .125 [3.18] PC BOARD (SPECIAL ORDER)

EJECTOR LATCHES

(IF ORDERED SEPARATELY)

LONG LATCHES: 3505-28
SHORT LATCHES: 3505-29

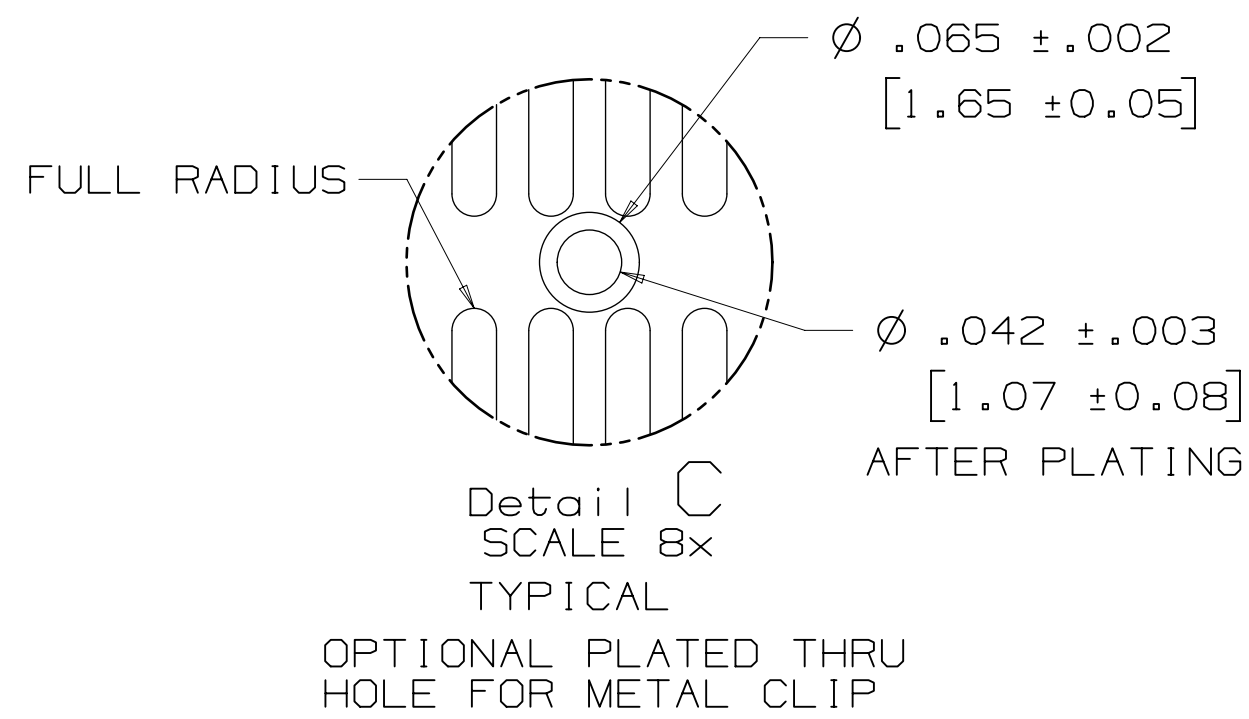
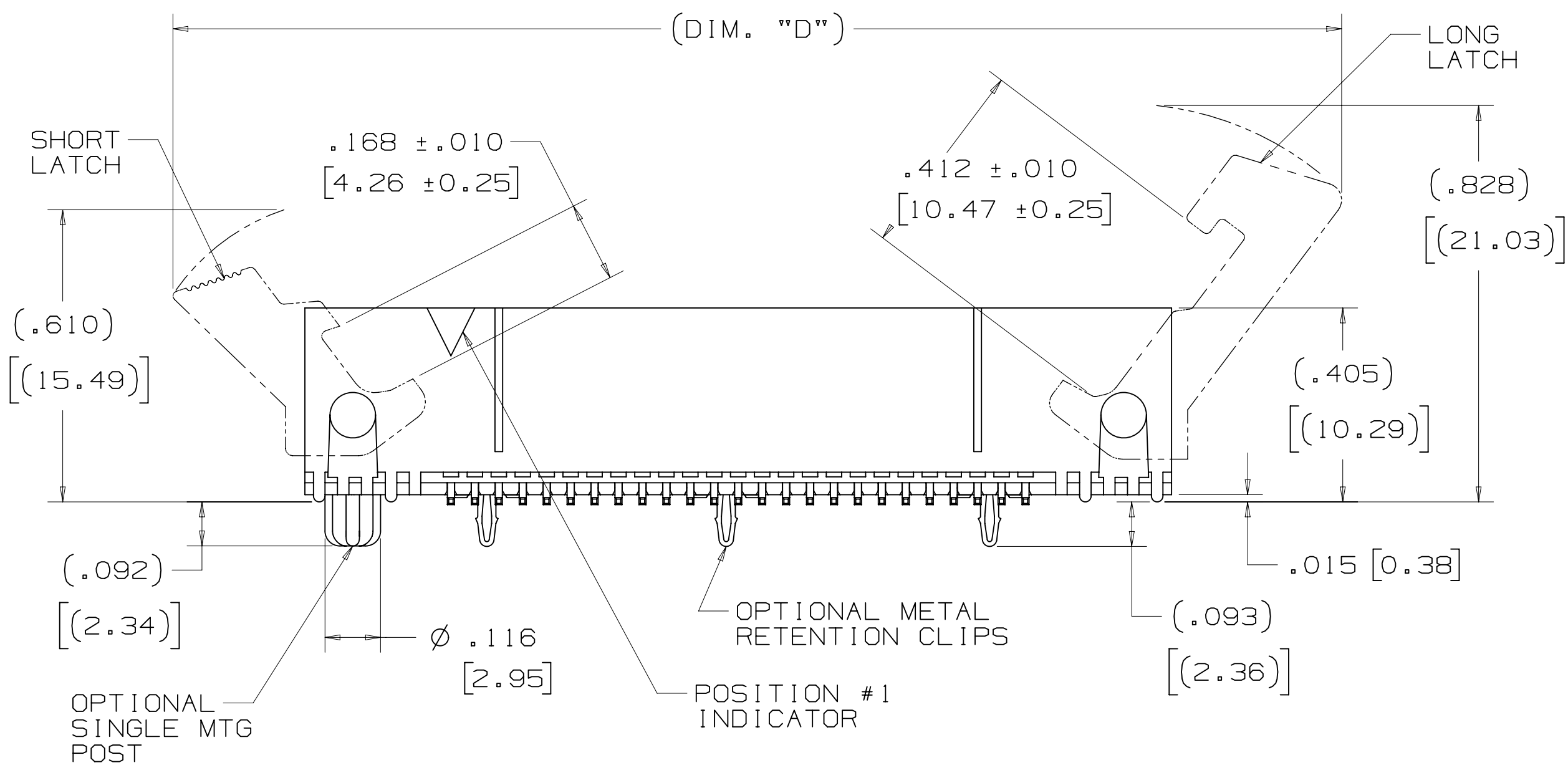
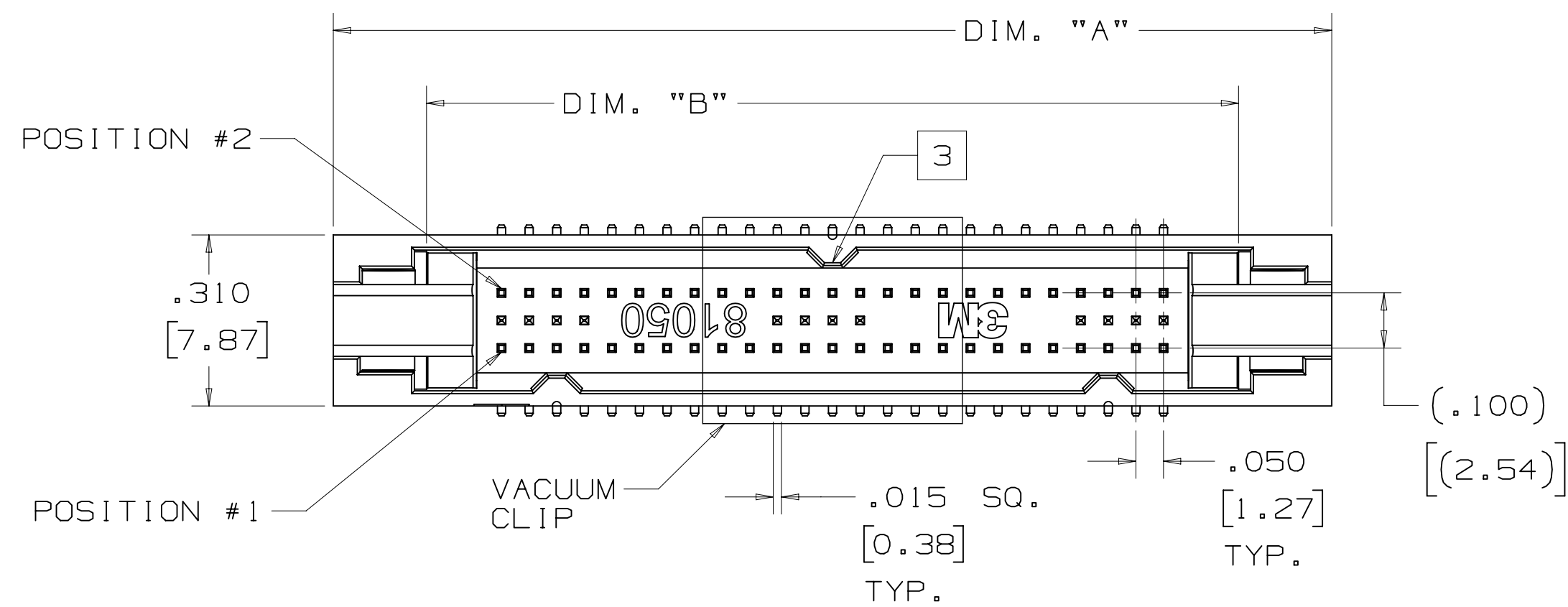
DESIGN REFERENCE	NEXT ASSEMBLY	L 101674	JAN 13, 2022	JNC	SAN
REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD	
DATE	DATE	DATE	DATE	DATE	DATE
JAN 13, 2022	JAN 13, 2022	JAN 13, 2022	JAN 13, 2022	JAN 13, 2022	JAN 13, 2022
3M	3M Center St. Paul, MN 55144	© 3M COPYRIGHT 2022 This document and the information 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		TRIPOLARIZED HEADER, 4-WALL, LATCH/EJECT, .050" X .100"			
CAGE NUMBER	SIZE	DRAWING NO.	REV.		
D 78-5100-0253-4	L	810	3 OF 5		

3M™ 4-WALL, TRIPOLARIZED HEADER, 810 SERIES
.050" X .100" LATCH/EJECTOR, PTH AND SMT STRAIGHT, PTH RIGHT ANGLE

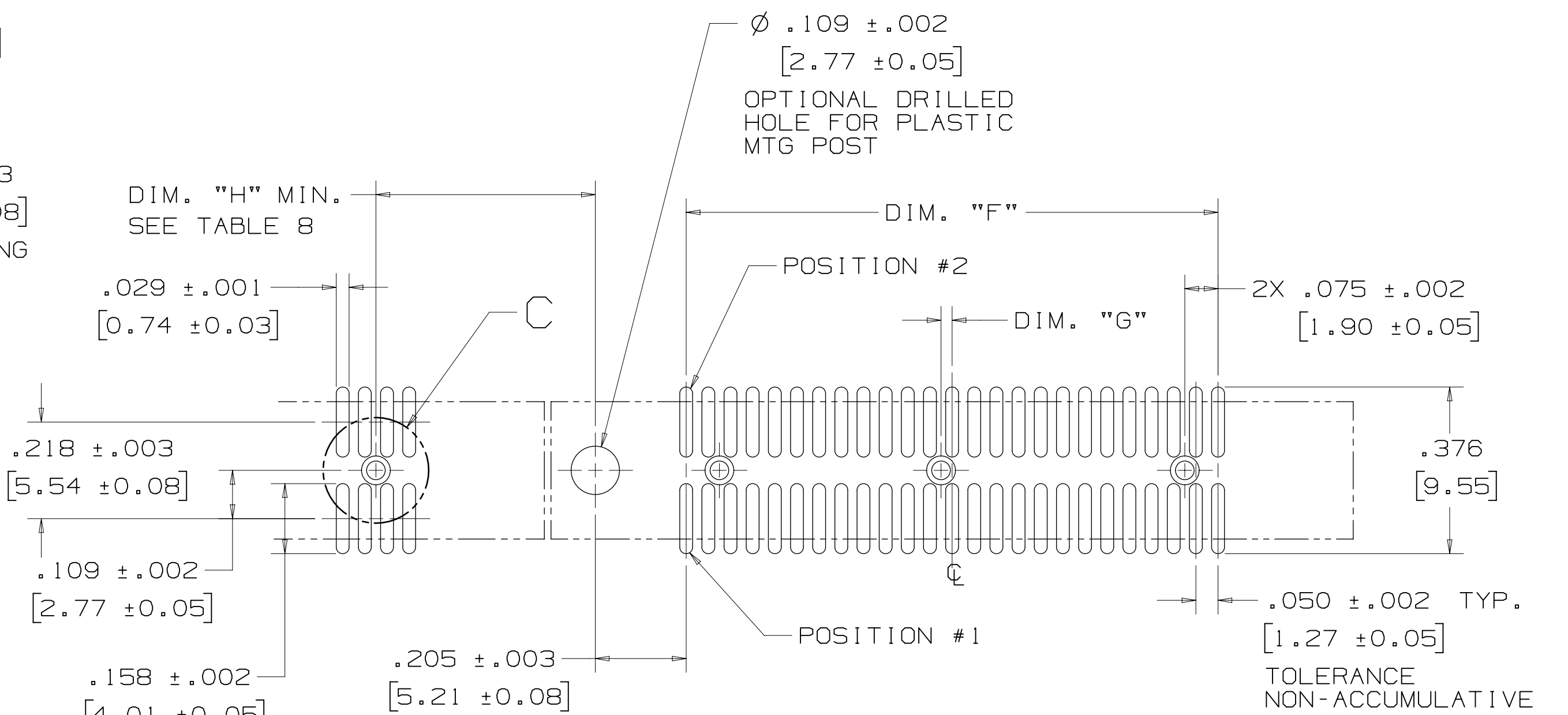
CONTACT QTY.	DIM. "A"	DIM. "B"	DIM. "D" SHORT	DIM. "D" LONG	DIM. "F"	DIM. "G"	TAPE AND REEL SUFFIX
020	1.060 [26.92]	.722 [18.34]	1.671 [42.44]	1.842 [46.79]	.450 [11.43]	N/A	WF
026	1.210 [30.73]	.872 [22.15]	1.821 [46.25]	1.992 [50.60]	.600 [15.24]	.025 [0.64]	WF
036	1.460 [37.80]	1.122 [28.50]	2.071 [52.60]	2.242 [56.95]	.850 [21.59]	N/A	WG
040	1.560 [39.62]	1.222 [31.04]	2.171 [55.14]	2.342 [59.49]	.950 [24.13]	N/A	WG
050	1.810 [45.97]	1.472 [37.39]	2.421 [61.49]	2.592 [65.84]	1.200 [30.48]	.025 [0.64]	WG
060	2.060 [52.32]	1.722 [43.74]	2.671 [67.84]	2.842 [72.19]	1.450 [36.83]	0.000	WG
068	2.260 [57.40]	1.922 [48.82]	2.871 [72.92]	3.042 [77.27]	1.650 [41.91]	0.000	WH
080	2.560 [65.02]	2.222 [56.44]	3.171 [80.54]	3.342 [84.89]	1.950 [49.53]	0.000	WH
100	3.060 [77.72]	2.722 [69.14]	3.671 [93.24]	3.842 [97.59]	2.450 [62.23]	0.000	WH

NOTE:

1. LATCHES SUPPLIED IN THE "OPEN" POSITION UNLESS SPECIFIED OTHERWISE
2. SUFFIX DETERMINED WITH NO POSTS OR CLIPS.
3. ADDITION OF POSTS OR CLIPS MAY INCREASE SUFFIX.
4. 120MM (WH) IS THE MAXIMUM WIDTH OF POCKET TAPE.



EJECTOR LATCHES	DIM. "H"
NONE	.775 [19.69]
LONG	1.085 [27.56]
SHORT	1.21 [30.73]



RECOMMENDED MOUNTING PAD PATTERN

SURFACE MOUNT HEADER

(SHOWN FOR MOUNTING SIDE OF PC BOARD)

7

ORDERING INFORMATION

SURFACE MOUNT STRAIGHT HEADER

81 XXX - 6X0C0X - RB - XX

CONTACT QTY: -
(SEE TABLE 7)

— PACKAGING OPTIONS:
BLANK = TRAYS
WX = TAPE AND REEL PACKAGE
SEE TABLE 7

```

- BOARD MOUNTING OPTIONS:
  1 = NONE
  4 = PRESS FIT POST AT POSITION 1 END
  7 = METAL RETENTION CLIPS
  8 = POS #1 END POST AND METAL RETENTION CLIPS
    (SPECIAL ORDER)

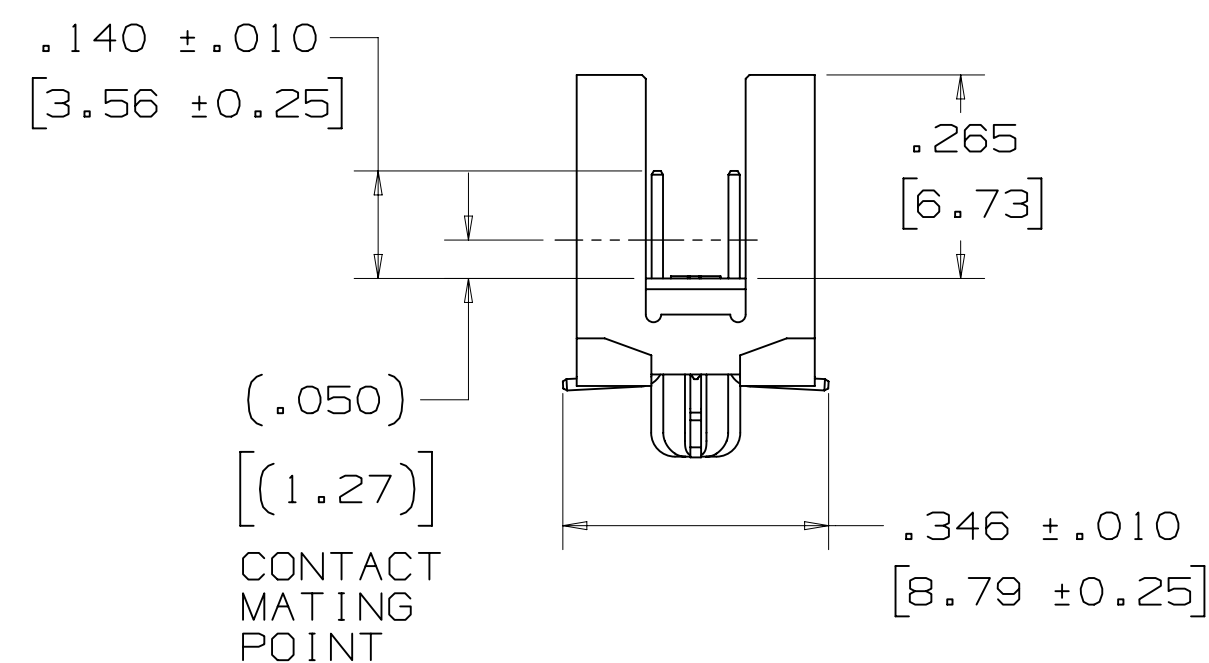
```

EJECTOR LATCHES

(IF ORDERED SEPARATELY)

LONG LATCHES: 3505-28

SHORT LATCHES: 3505-29



		L 101674		JAN 13, 2022		JNC		SKD	
		REVISED AND REDRAWN							
ISSUE DATE AND DESCRIPTION		DATE		DATE		DATE		DATE	
REV ECO		JAN 13, 2022		MFG		DATE		DATE	
CHD		S. NEU		DATE		DATE		DATE	
DIVISION		DIVISION CODE		APPL		DATE		DATE	
EMSD		3M Center		© 3M COPYRIGHT 2022					
DO NOT SCALE DRAWING		TOLERANCES EXCEPT AS NOTED		3M		St. Paul, MN 55114		This document and the information it contains are 3M property and may not be reproduced or further distributed without the prior written permission of 3M. All rights reserved.	
THIRD ANGLE PROJECTION		INCHES		TITLE		TRIPOLARIZED HEADER ,		4 - WALL , LATCH/EJECT ,	
INTERPRET PER ASME Y14.5 - 2018		.00 ± .01		.0000 ± .0005		.0000 ± .0002		.050" X .100"	
MAX SURFACE ROUGHNESS		MILLIMETERS		CASE NUMBER		SIZE DRAWING NO.		REV.	
FLAT SURFACES		.00 ±		D		78-5100-0253-4		L	
MARKED ONLY		.000 ±		MODEL		BIO		DET. LISTS ☐ YES ☒ NO ☐ SHT 4 OF 5	
		ANGLE							

3M™ 4-WALL, TRIPOLARIZED HEADER, 810 SERIES

.050" X .100" LATCH/EJECTOR, PTH AND SMT STRAIGHT, PTH RIGHT ANGLE

Regulatory: For regulatory information about this product, visit 3M.com/regs or contact your 3M representative.

Technical Information: The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

Product Use: Many factors beyond 3M's control and uniquely within user's control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

Warranty, Limited Remedy, and Disclaimer: Unless an additional warranty is specifically stated on the applicable 3M product packaging or product literature, 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OR TRADE. If the 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

Limitation of Liability: Except where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.

3M Company
Electronics Materials Solutions Division
13011 McCallen Pass, Bldg. C
Austin, TX 78753-5380
1-800-225-5373
www.3M.com/interconnect

DESIGN REFERENCE ACROSS CODES		NEXT ASSEMBLY		L 101674		JAN 13, 2022		JNC		SAN	
REV ECO				ISSUE DATE AND DESCRIPTION				DRFT		CHKD	
DRFT CASTIGLIONE				DATE JAN 13, 2022				MFG		DATE	
CRD				DATE				APPRVL S. NEU		DATE JAN 13, 2022	
DIVISION		DIVISION CODE ENSD		TOLERANCES EXCEPT AS NOTED		© 3M COPYRIGHT 2022 This document contains information that is the property of 3M and may not be reproduced or further disseminated without the prior written permission of 3M. All rights reserved.					
DO NOT SCALE DRAWING		SCALE		INCHES .01 .001 .0005 .00002		TITLE TRIPOLARIZED HEADER , 4 - WALL , LATCH/EJECT , .050" X .100"					
THIRD ANGLE PROJECTION		MILLIMETERS 0 .001 .0005 .00002		INTERPRET PER ASME Y14.5 - 2018		CASE NUMBER 78-5100-0253-4					
MAX SURFACE ROUGHNESS 0.001		0.001		0.001		SIZE 1					
ALL SURFACES MARKED ONLY		0.001		0.001		DRAWING NO. 78-5100-0253-4					
0.001		0.001		0.001		REV. 1					
0.001		0.001		0.001		MODEL 810					
0.001		0.001		0.001		DET. YES X NO SH 5 OF 5					