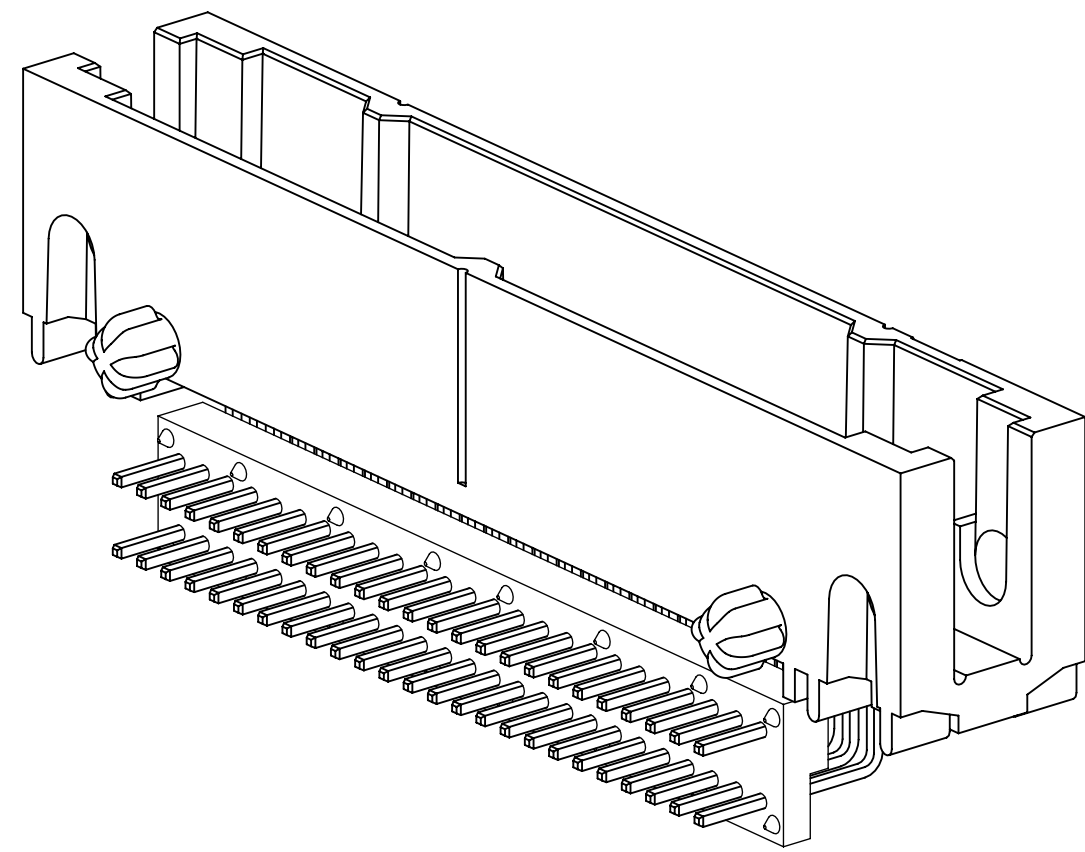
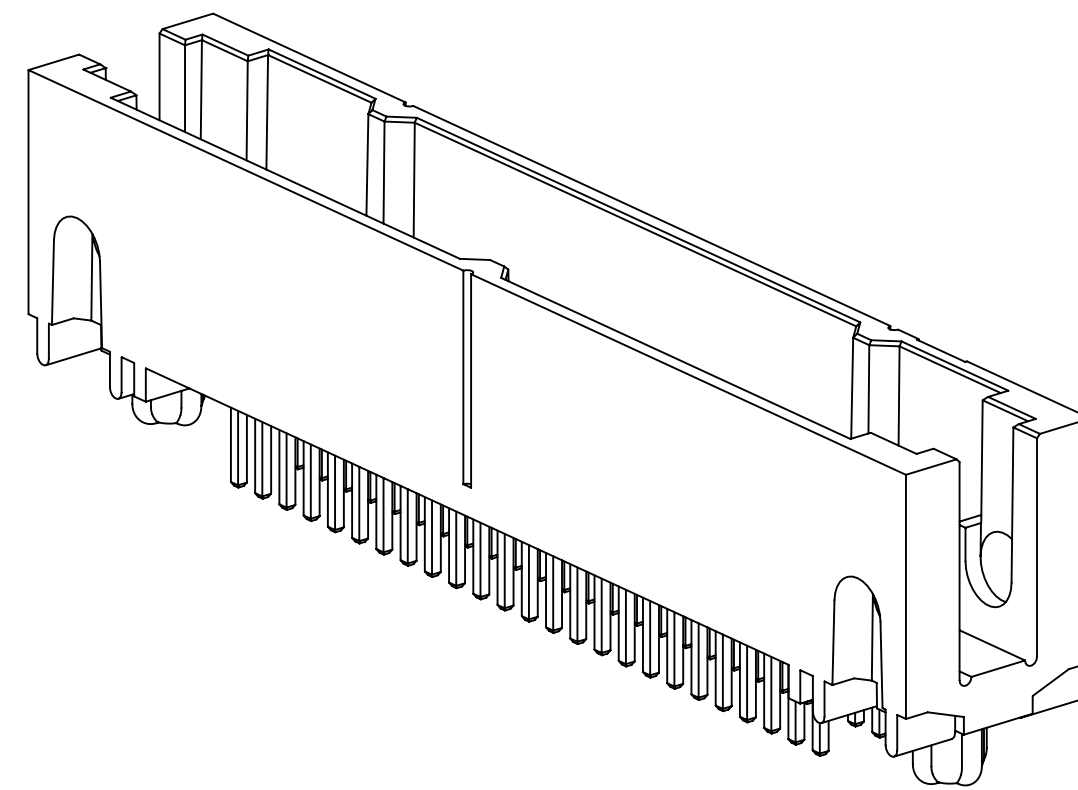


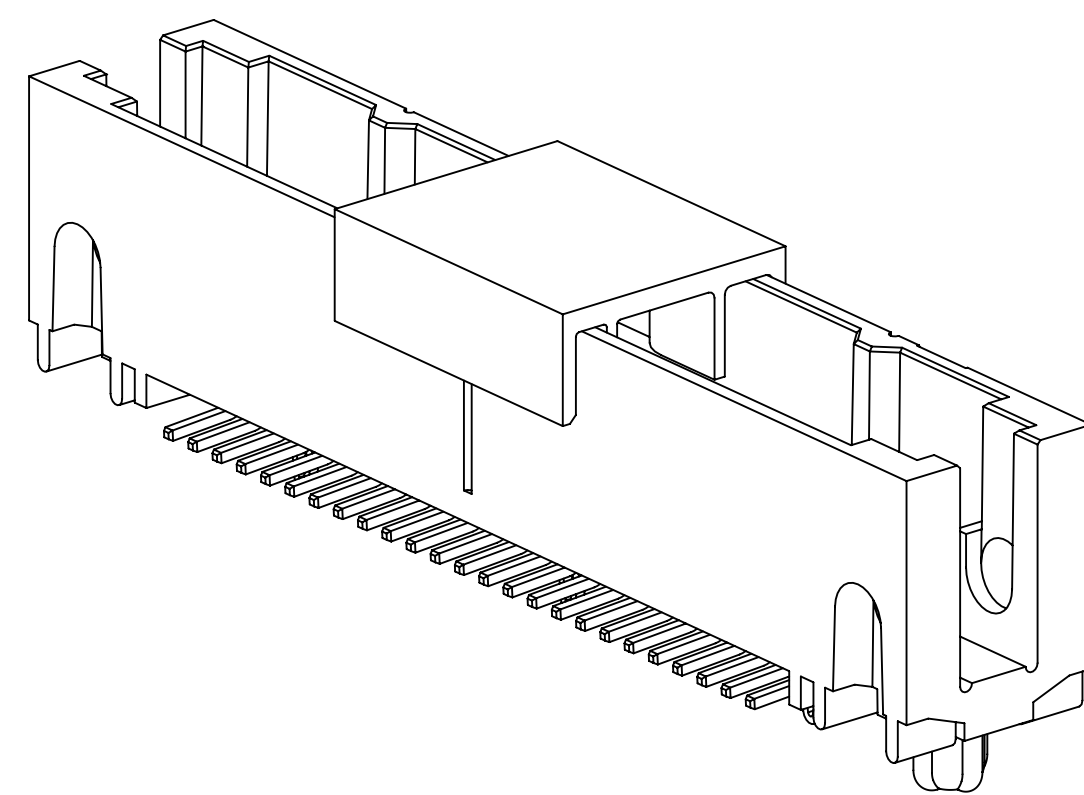
3M™ 4-WALL, TRIPOLARIZED HEADER, 810 SERIES  
 .050" X .100" LATCH/EJECTOR, PTH AND SMT STRAIGHT, PTH RIGHT ANGLE



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>

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 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: HIGH TEMPERATURE PLASTIC (LCP)  
 FLAMMABILITY: UL94V-0  
 COLOR: BLACK  
 CONTACT: COPPER ALLOY  
 MATERIAL: COPPER ALLOY  
 PLATING:  
 UNDER PLATING: 50μ"-150μ" [ 1.27μm-3.81μm ] NICKEL-OVERALL  
 WIPING AREA: 30μ" [ 0.76μm ] GOLD AVG.  
 SOLDER TAILS: 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 10<sup>9</sup>Ω AT 500 V<sub>DC</sub>  
 WITHSTANDING VOLTAGE: 500V<sub>RMS</sub> 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/regis
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	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
				JAN 13,2022	JNC	SAN
				REVISED AND REDRAWN		
				DATE	DATE	DATE
				JAN 13,2022		
				MFG		
				DATE		
				JAN 13,2022		
				APPRV		
				S. NEU		
				DATE		
				JAN 13,2022		
DIVISION		EMSD				
DO NOT SCALE DRAWING	SCALE	TOLERANCES EXCEPT AS NOTED				
		INCHES .0 ± .1 .00 ± .01 .000 ± .005 .0000 ± .0002				
		MILLIMETERS 0 ± .1 .0 ± .05 .00 ± .005 .000 ± .0002				
		INTERPRET PER ASME Y14.5 - 2018 SURFACES MAX SURFACE ROUGHNESS SURFACES .400 ± .000 ±				
<input checked="checked" type="checkbox"/> THIRD ANGLE PROJECTION <input type="checkbox"/> MARKED ONLY		© 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.				
CAGE NUMBER MODEL		SIZE B10		DRAWING NO. D 78-5100-0253-4		REV. L
				DATE JAN 13,2022		SHT 1 OF 5

**3M**  
 UL FILE NO: E68080

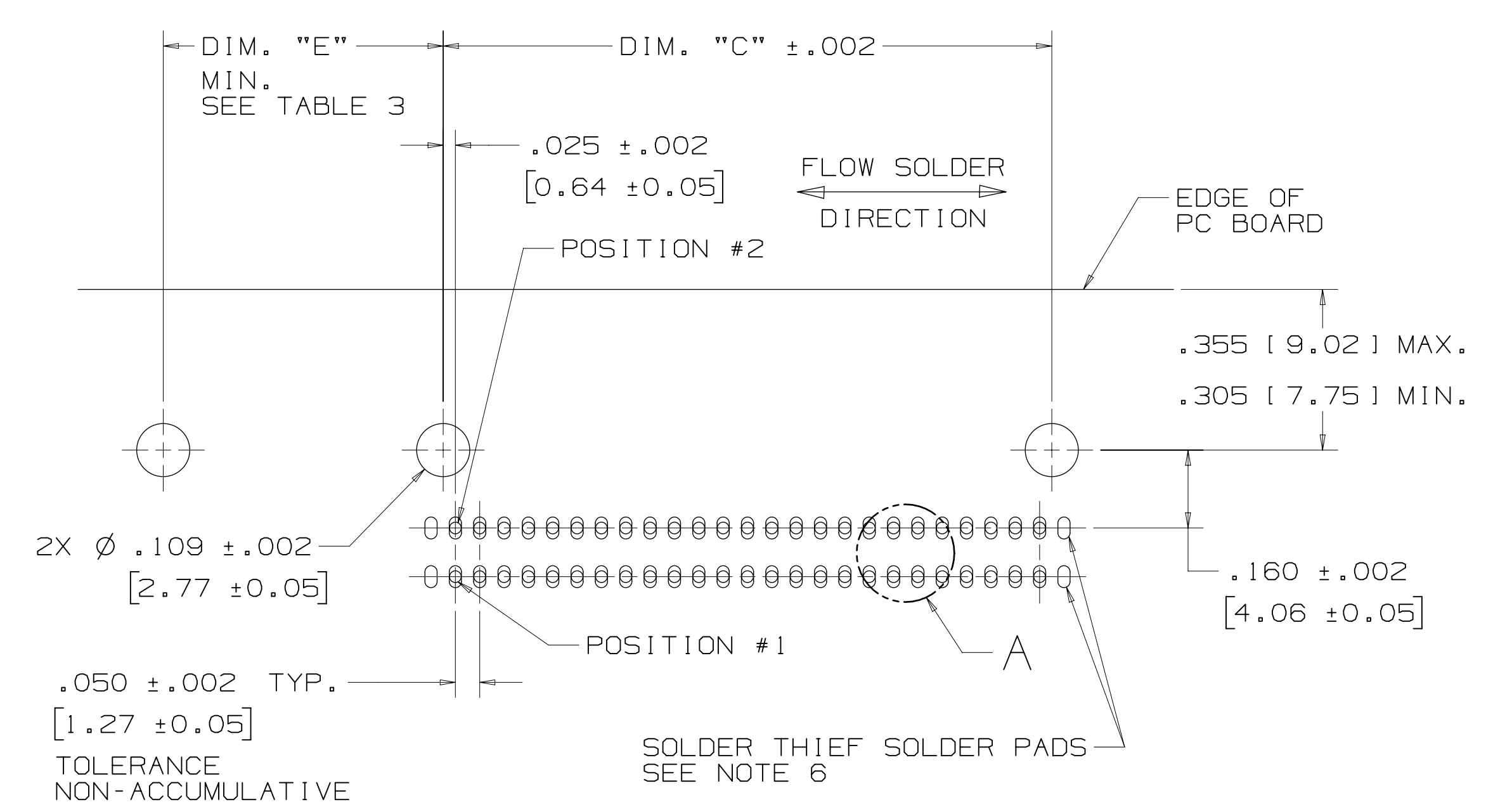
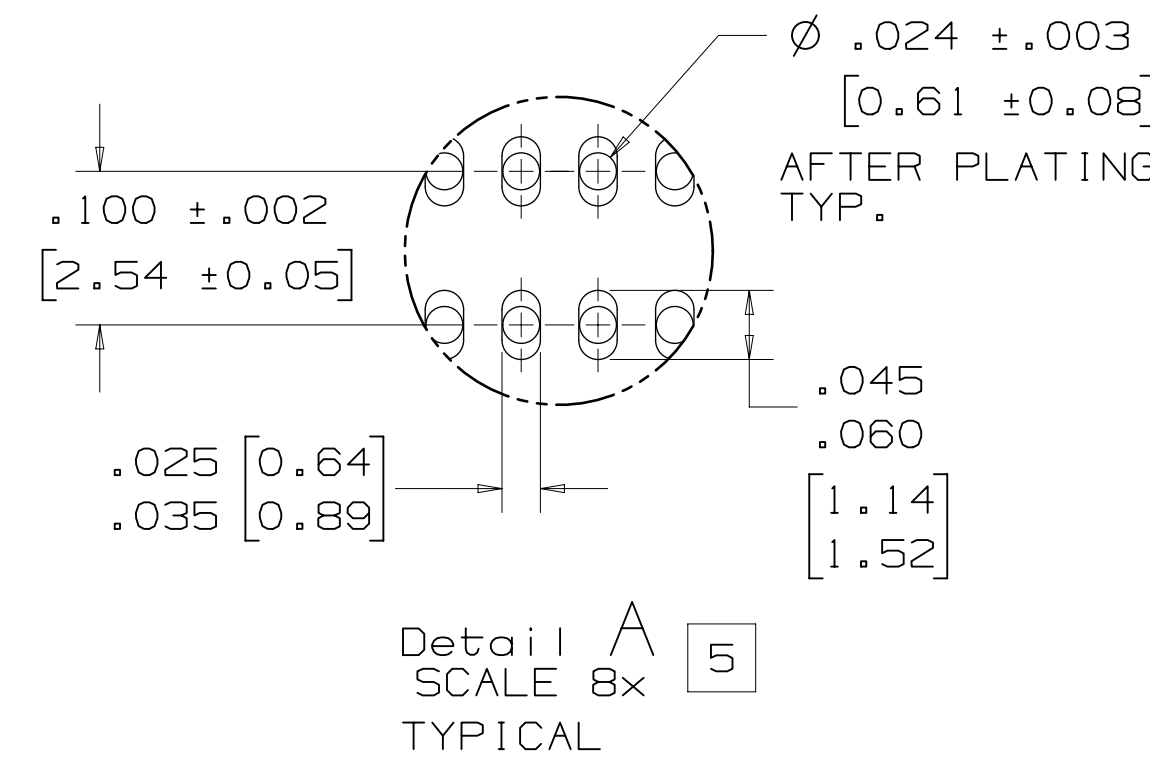
78-5100-0253-4  
 DRAWING NUMBER  
 TIME 1/25/2022 -- UTC  
 FILED SET

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

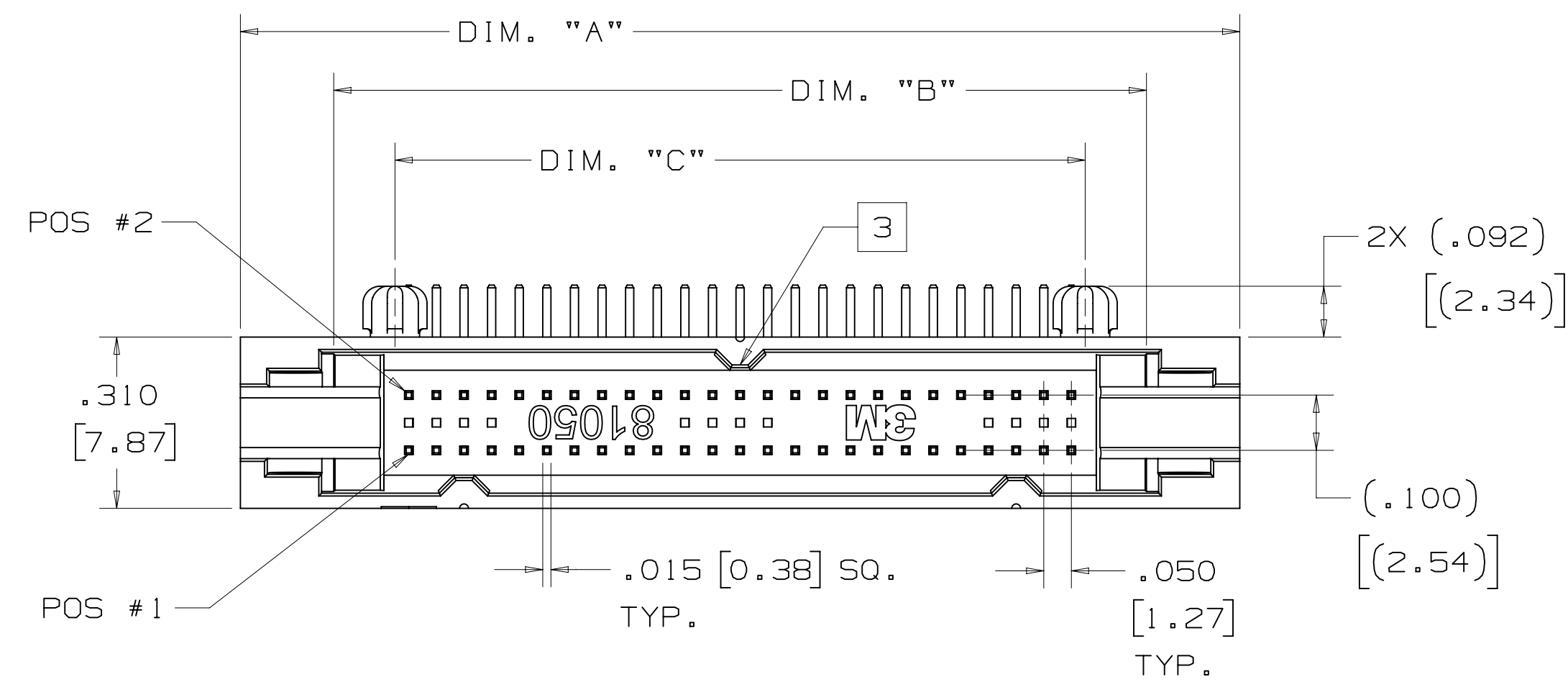
CONTACT QTY.	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "D" SHORT	DIM. "D" LONG
020	1.060 [26.92]	.722 [18.34]	.500 [12.70]	1.671 [42.44]	1.842 [46.79]
026	1.210 [30.73]	.872 [22.15]	.650 [16.51]	1.821 [46.25]	1.992 [50.60]
036	1.460 [37.80]	1.122 [28.50]	.900 [22.86]	2.071 [52.60]	2.242 [56.95]
040	1.560 [39.62]	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]

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

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



RECOMMENDED MOUNTING HOLE PATTERN [7]  
 PTH RIGHT ANGLE HEADER  
 (SHOWN FOR MOUNTING SIDE OF PC BOARD)



ORDERING INFORMATION

PTH RIGHT ANGLE HEADER  
 81XXX-5X0X03-RB

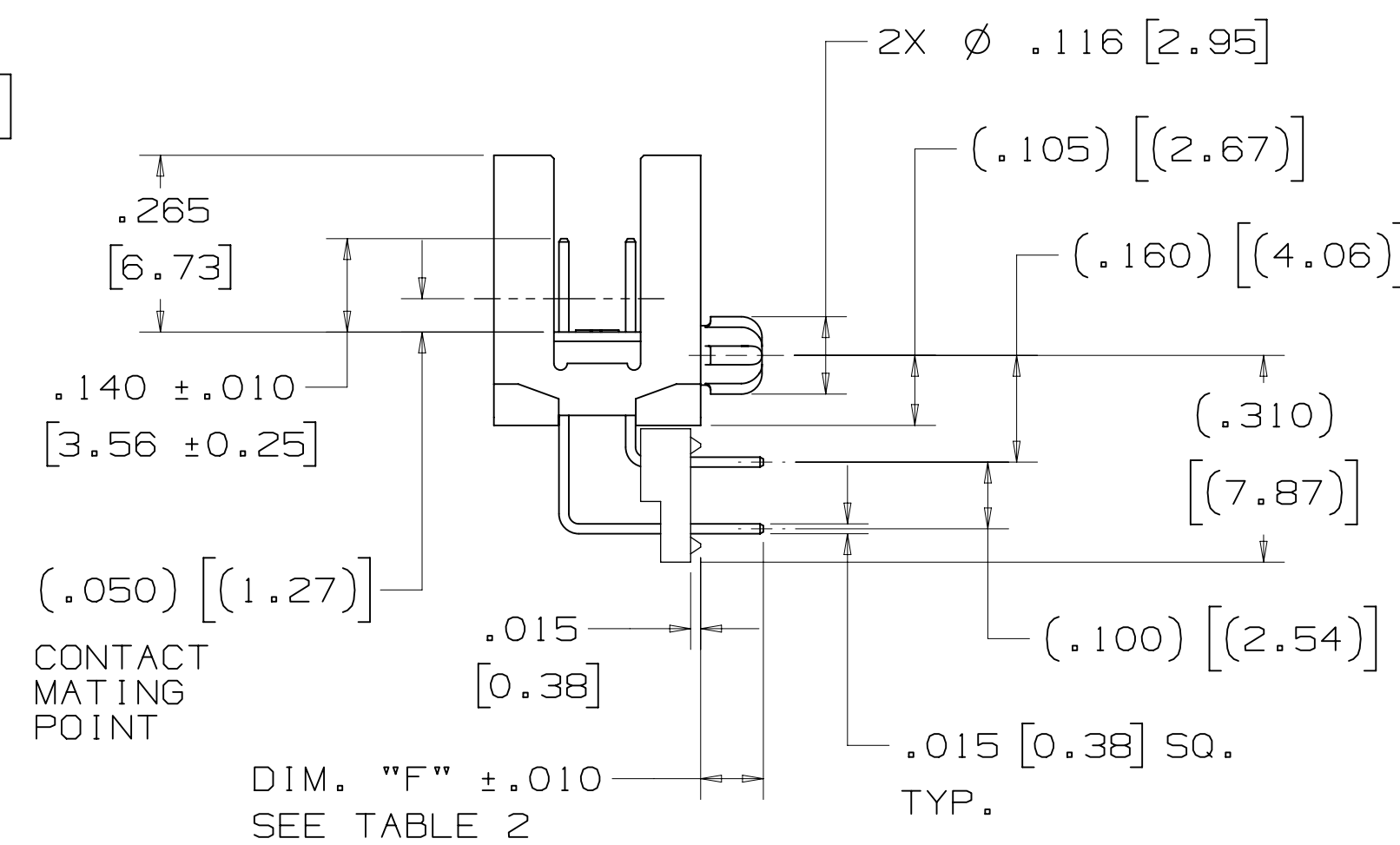
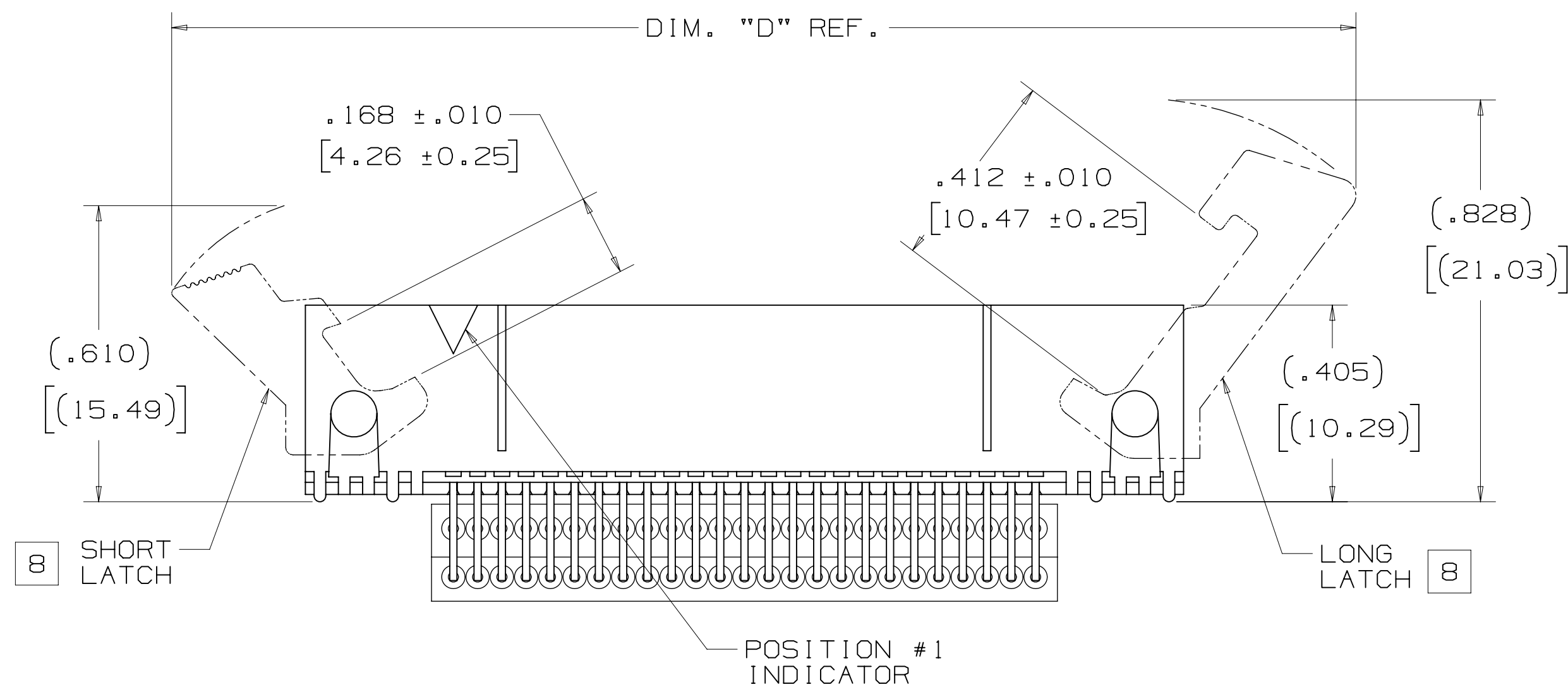
CONTACT QTY: (SEE TABLE 1)

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 BOARD (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	REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
				JAN 13, 2022	JNC	SAN
DO NOT SCALE DRAWING		SCALE		TOLERANCES EXCEPT AS NOTED		
THIRD ANGLE PROJECTION		EMSD		INCHES: .00 ± .01, .000 ± .005, .0000 ± .0002		
INTERPRET PER ASME Y14.5 - 2018		MILLIMETERS: 0 ± .00, .00 ± .000, .000 ± .000		MATERIAL: 3M Center St. Paul, MN 55144		
MAX SURFACE ROUGHNESS		MARKED ONLY		TITLE: TRIPOLARIZED HEADER, 4-WALL, LATCH/EJECT, .050" X .100"		
SURFACES		ANGLES		CAGE NUMBER: D78-5100-0253-4		
				MODEL: 810		
				REV. L		

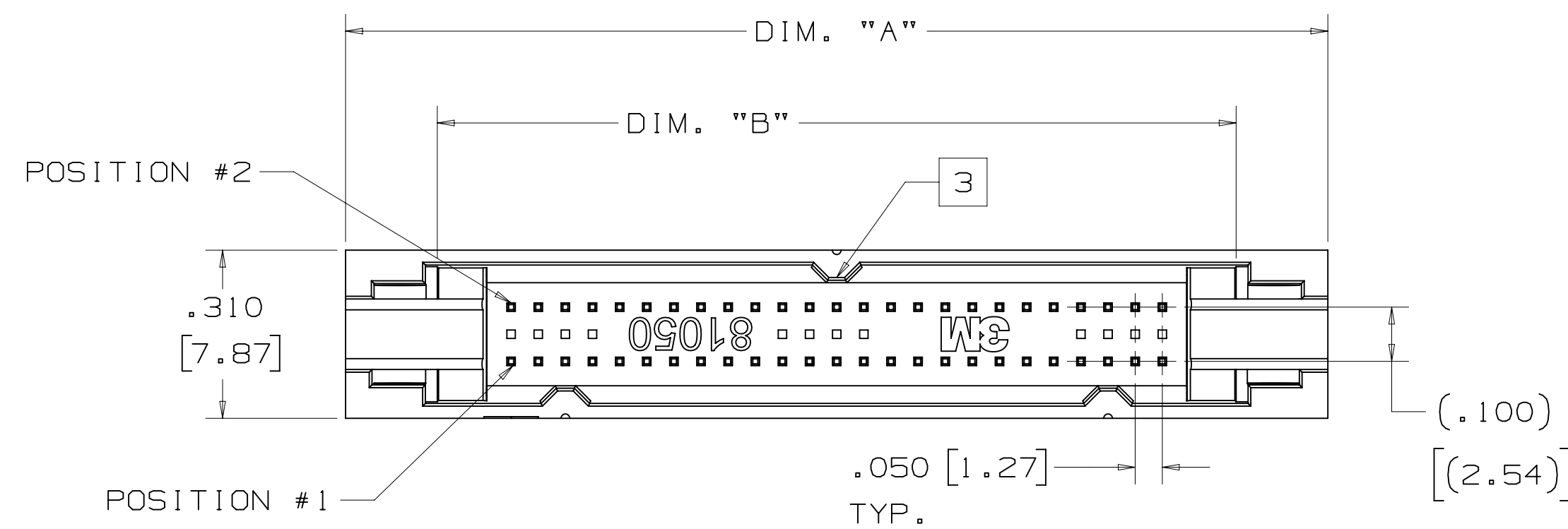
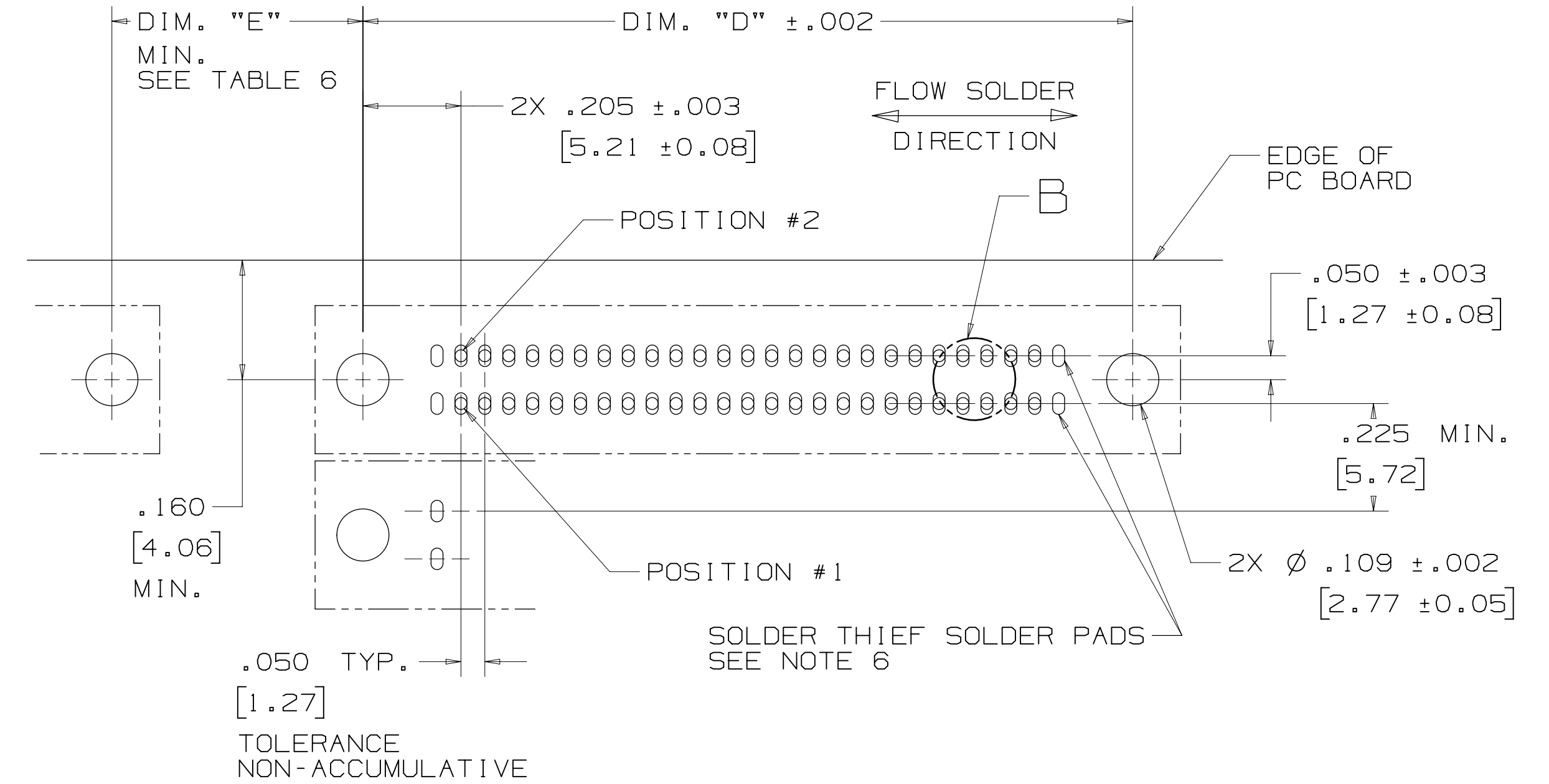
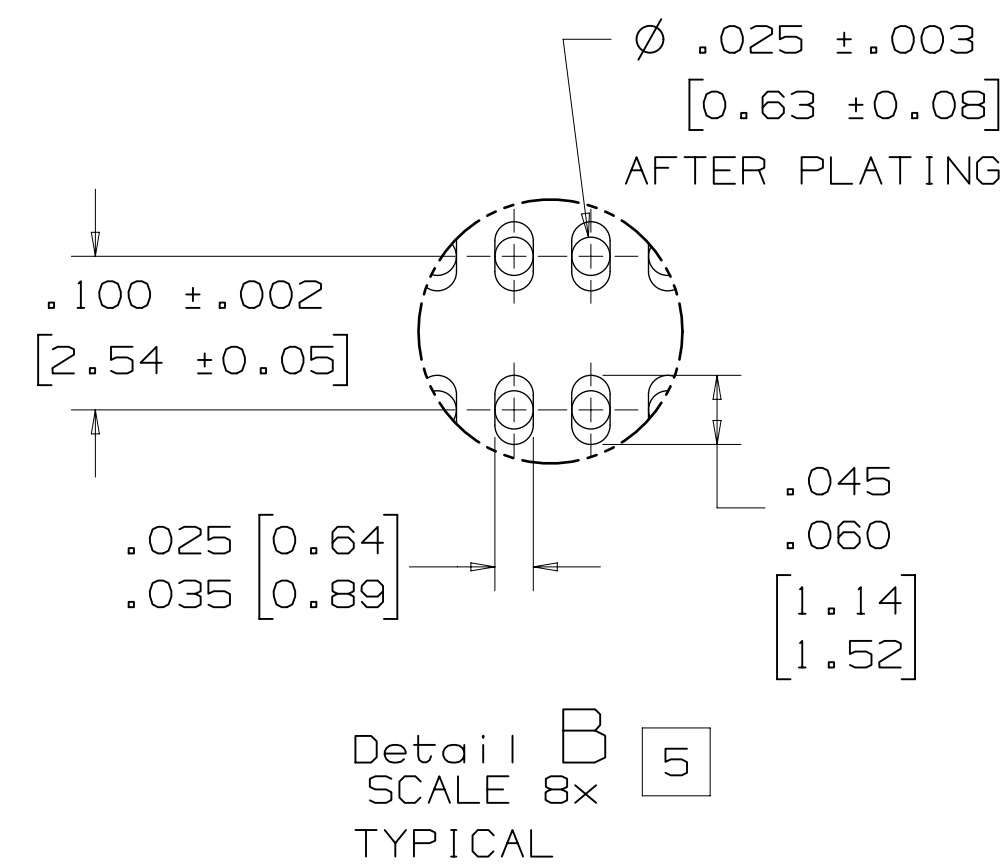
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 1/25/2022 -- UTC  
 Drt-set (hrs) 6  
 REVISION

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. "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]

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

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)

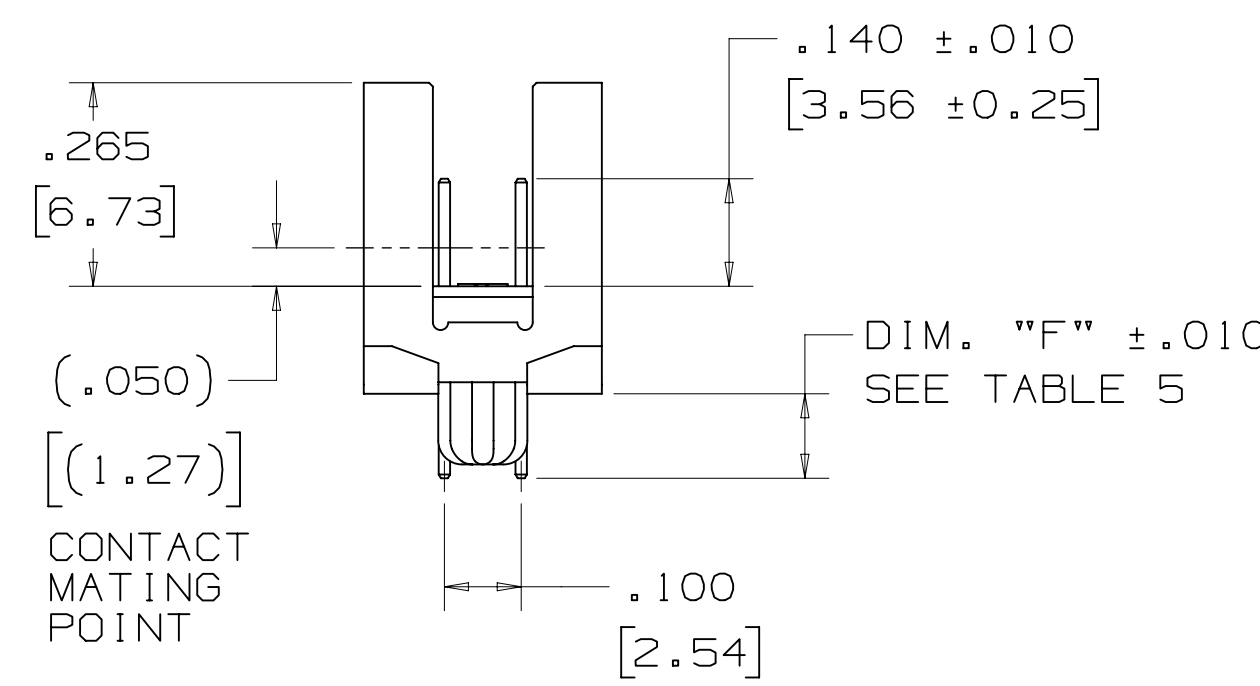
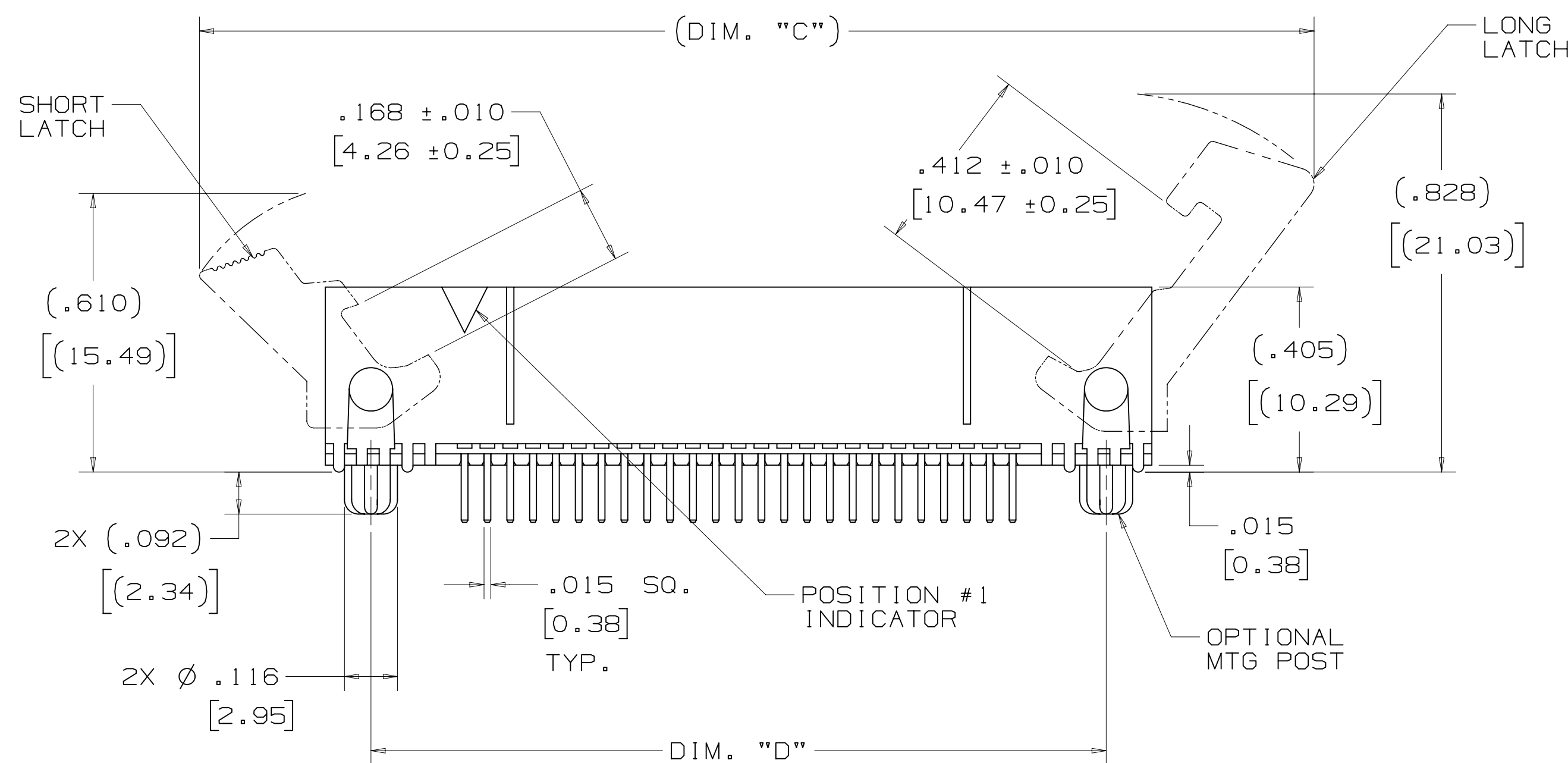
EJECTOR/LATCH SYSTEM:  
 0 = NONE (SPECIAL ORDER)  
 5 = WITH SHORT EJECTORS INSTALLED (SPECIAL ORDER)  
 6 = WITH LONG EJECTORS INSTALLED (STANDARD)

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

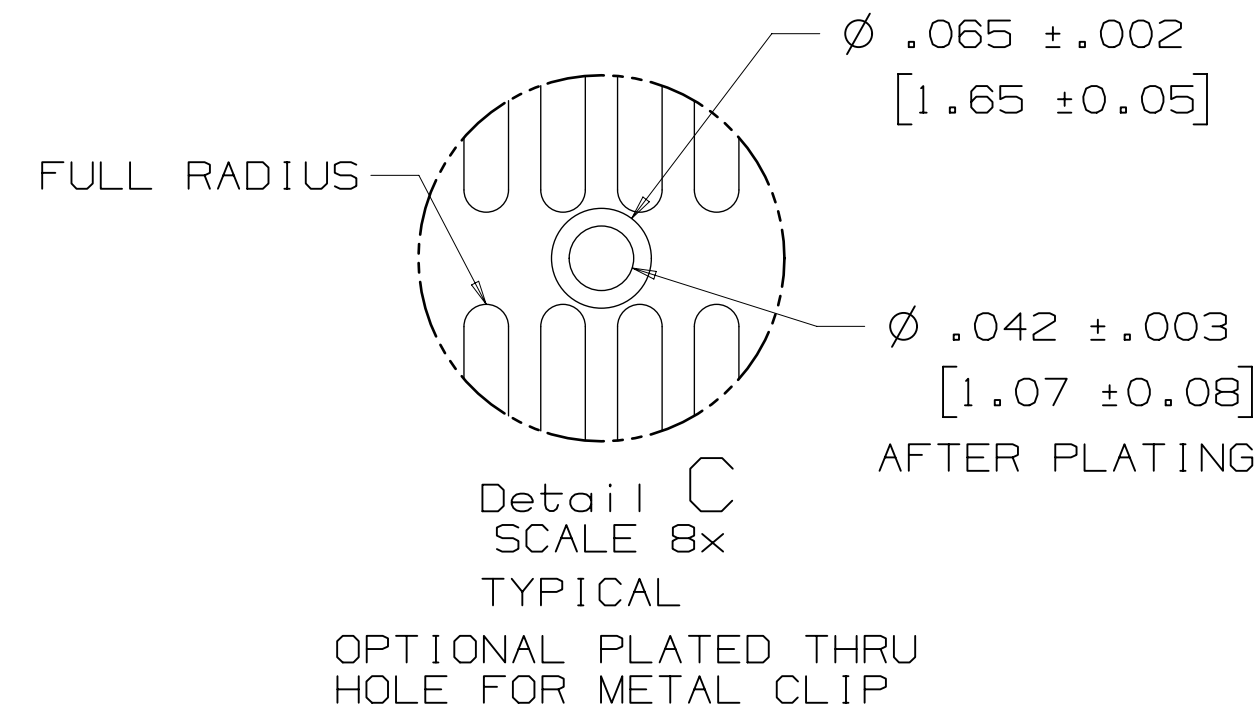


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				JAN 13, 2022	JNC	SAN
				REVISED AND REDRAWN		
DESIGN CODES		CHKD	DATE	MFG	DATE	
		CASTIGLIONE	JAN 13, 2022			
DIVISION		APPR	DATE			
		S. NEU	JAN 13, 2022			
DO NOT SCALE DRAWING		TOLERANCES EXCEPT AS NOTED		© 3M COPYRIGHT 2022 This document and 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.		
THIRD ANGLE PROJECTION		INCHES		TITLE		
		.00 ± .01		TRIPOLARIZED HEADER,		
INTERPRET PER ASME Y14.5 - 2018		MILLIMETERS		4-WALL, LATCH/EJECT,		
		0 ± .0002		.050" X .100"		
MAX SURFACE ROUGHNESS		CAGE NUMBER		DRAWING NO.		
12.5 SURFACES		D 78-5100-0253-4		REV.		
MARKED ONLY		MODEL		SHT 3 OF 5		
		810				

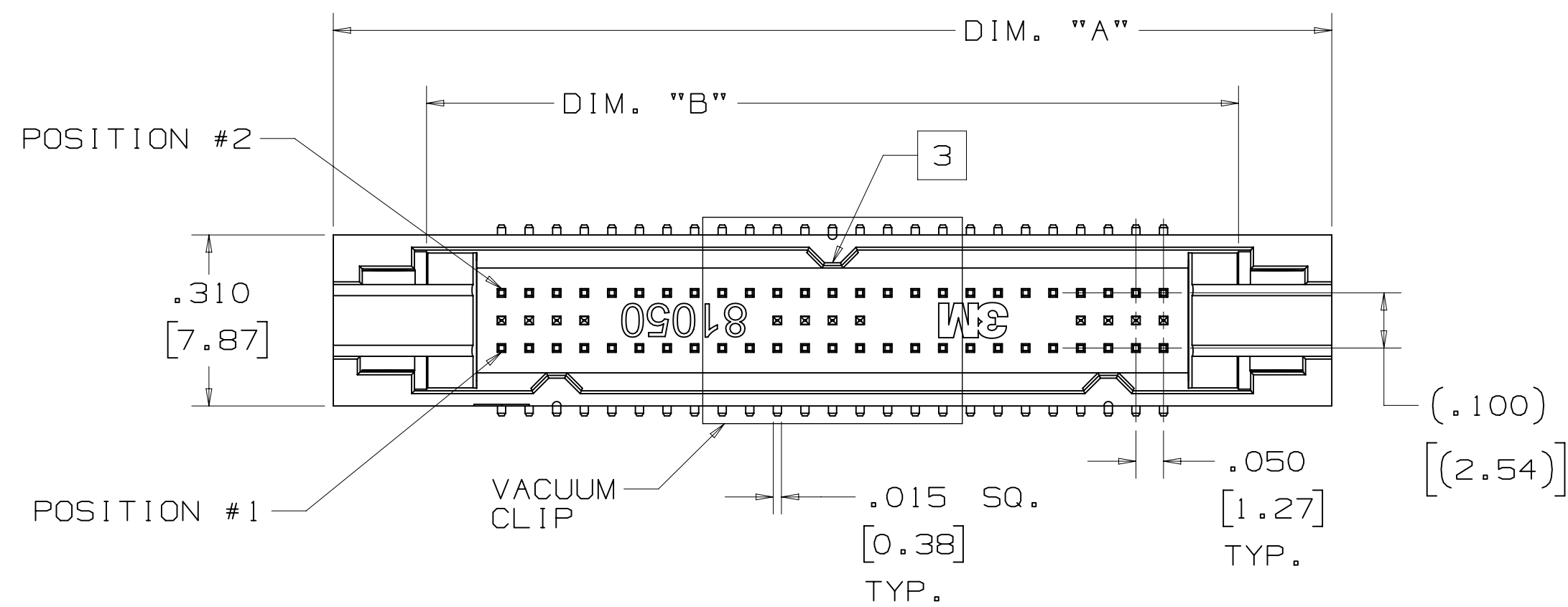
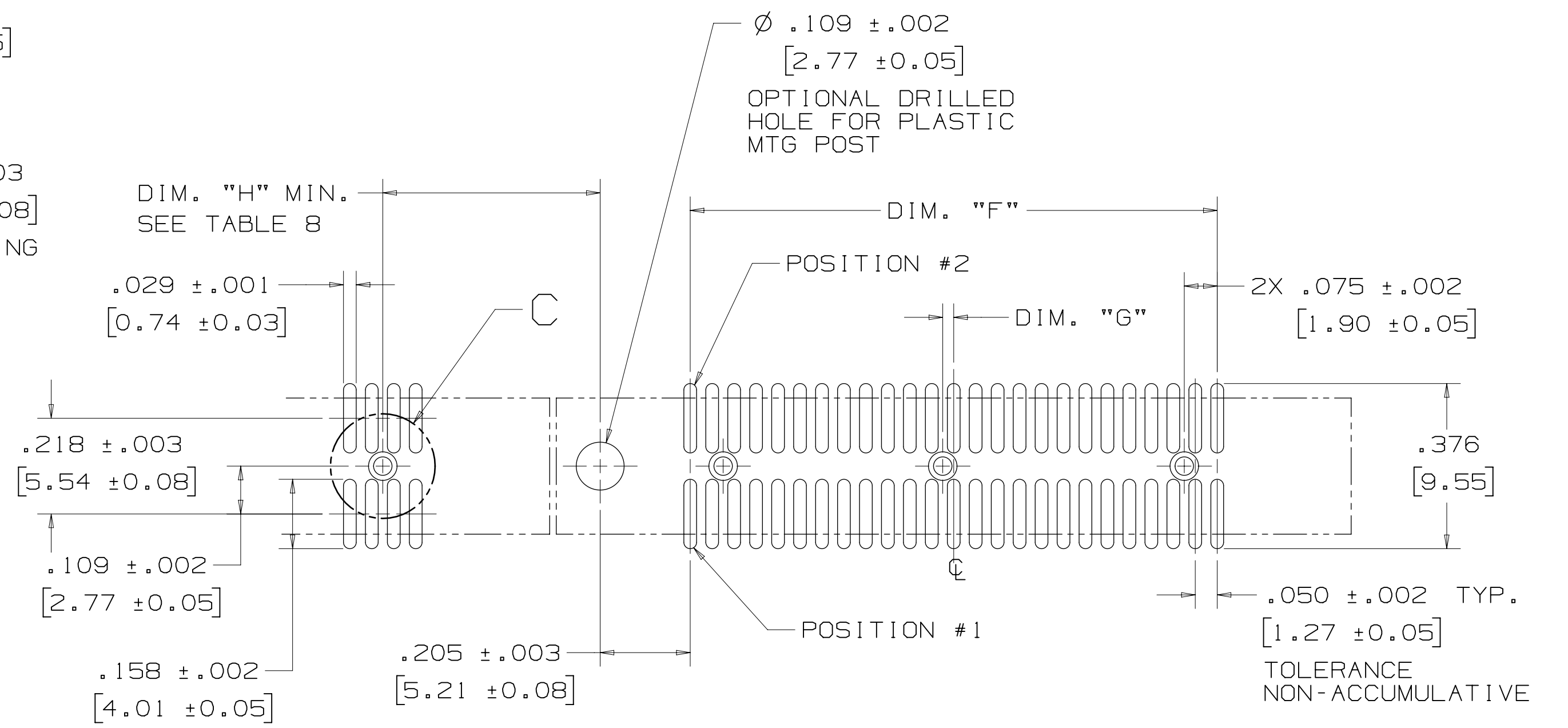
3M™ 4-WALL, TRIPOLARIZED HEADER, 810 SERIES  
 .050" X .100" LATCH/EJECTOR, PTH AND SMT STRAIGHT, PTH RIGHT ANGLE

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



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



ORDERING INFORMATION  
 SURFACE MOUNT STRAIGHT HEADER  
 81XXX-6XOCOX-RB-XX

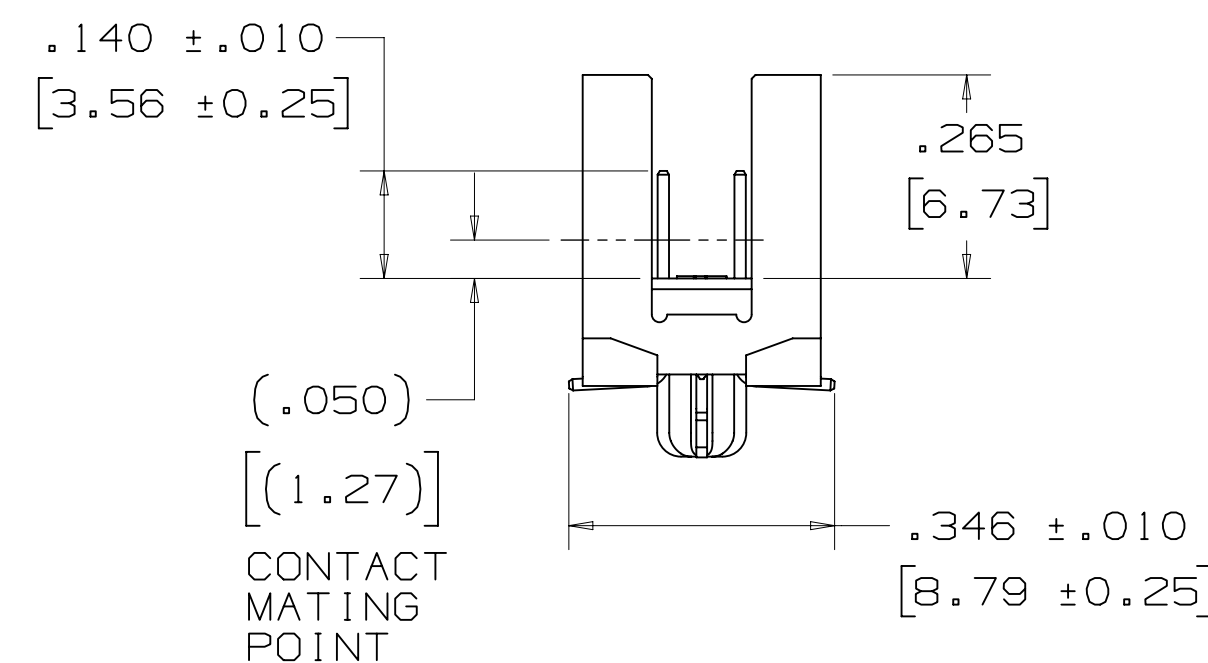
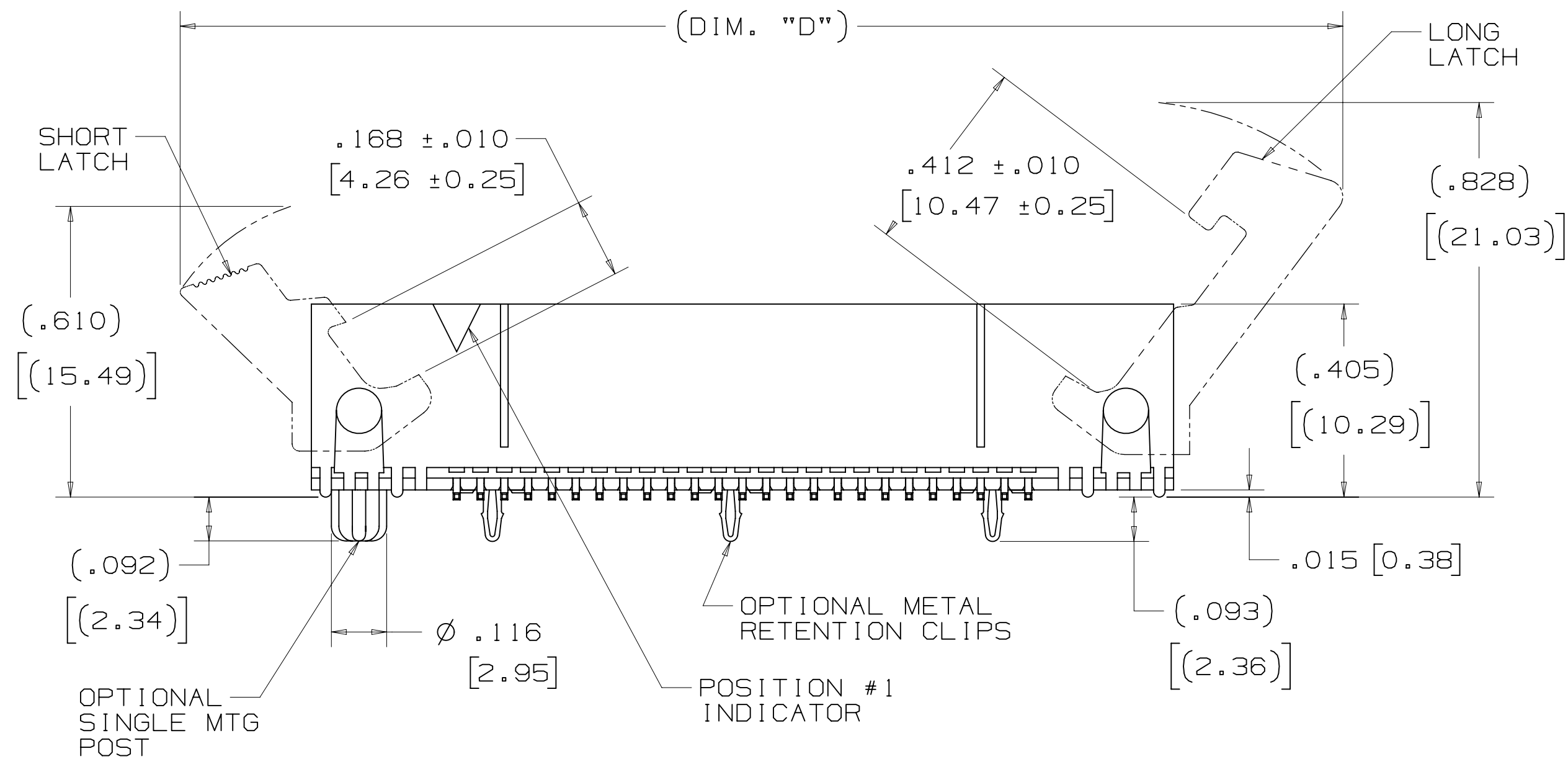
CONTACT QTY:  
 (SEE TABLE 7)

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

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

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



DESIGN REFERENCE	NEXT ASSEMBLY	REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
				JAN 13, 2022	JNC	SAN
DIVISION		EMSD		DATE		
DO NOT SCALE DRAWING		TOLERANCES EXCEPT AS NOTED		DATE		
THIRD ANGLE PROJECTION		INCHES		DATE		
MAX SURFACE ROUGHNESS		MILLIMETERS		DATE		
MARKED ONLY		ANGLES		DATE		
CAGE NUMBER		DRAWING NO.		REV.		
D 78-5100-0253-4		L		L		
MODEL		810		SHT 4 OF 5		

78-5100-0253-4  
 1/25/2022 -- UTC  
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 1/25/2022 -- UTC  
 6 hrs  
 0253-4  
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8 7 6 5 4 3 2 1

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.


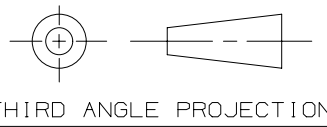
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 Austin, TX 78753-5380  
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DESIGN REFERENCE		NEXT ASSEMBLY		REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
L 101674		JAN 13, 2022		JNC	SAN	REVISED AND REDRAWN		
NAME	DATE	DATE	MFG	DATE	DATE			
CASTIGLIONE	JAN 13, 2022	JAN 13, 2022						
CHKD	DATE	APPRV	DATE					
		S. NEU	JAN 13, 2022					
DIVISION	DIVISION CODE		 © 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.					
DO NOT SCALE DRAWING	SCALE	TOLERANCES EXCEPT AS NOTED						
		INCHES .0 ± .1 .00 ± .01 .000 ± .005 .0000 ± .0002						
THIRD ANGLE PROJECTION		MILLIMETERS 0 ± .0 ± .00 ± .000 ±						
INTERPRET PER ASME Y14.5 - 2018		CAGE NUMBER D 78-5100-0253-4						
MAX SURFACE ROUGHNESS <input type="checkbox"/> UNMARKED SURFACES <input checked="" type="checkbox"/> MARKED ONLY		DRAWING NO. 78-5100-0253-4						
		MODEL 810						
		DET [ ] YES [X] NO [ ] SHT 5 OF 5						

78-5100-0253-4  
 DRAWING NUMBER  
 1/25/2022 -- UTC  
 Drf.set (hrs) 6