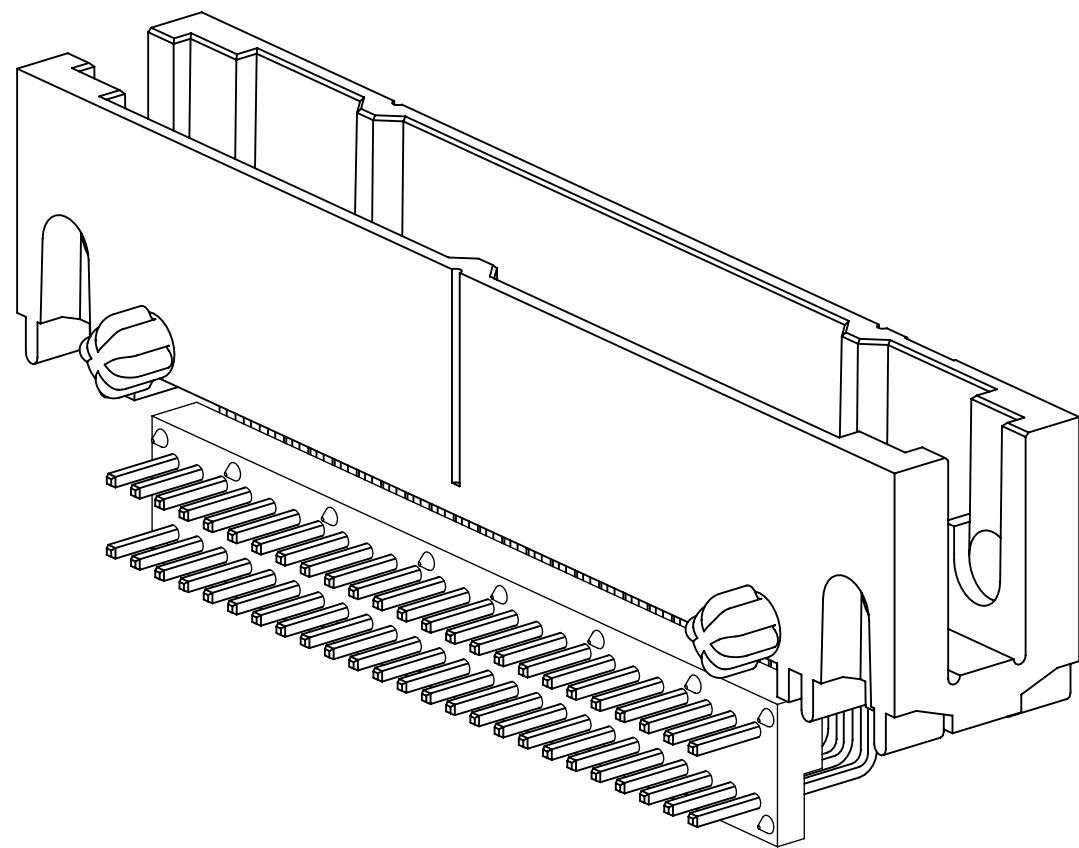
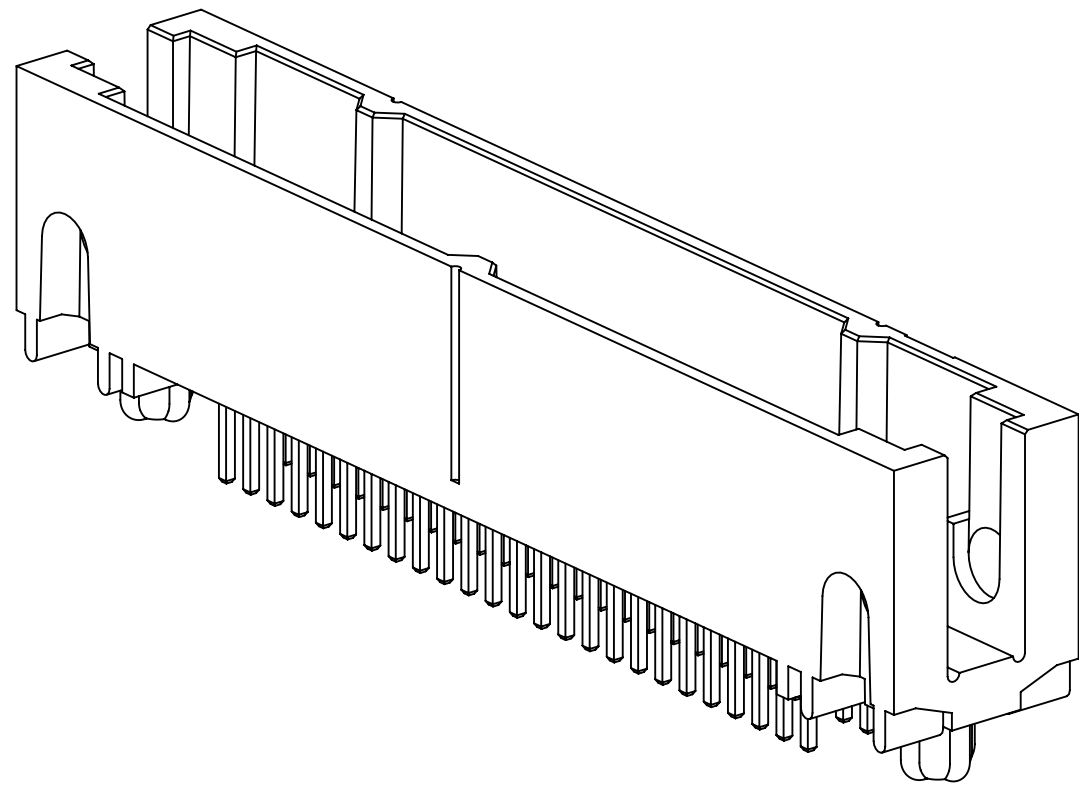


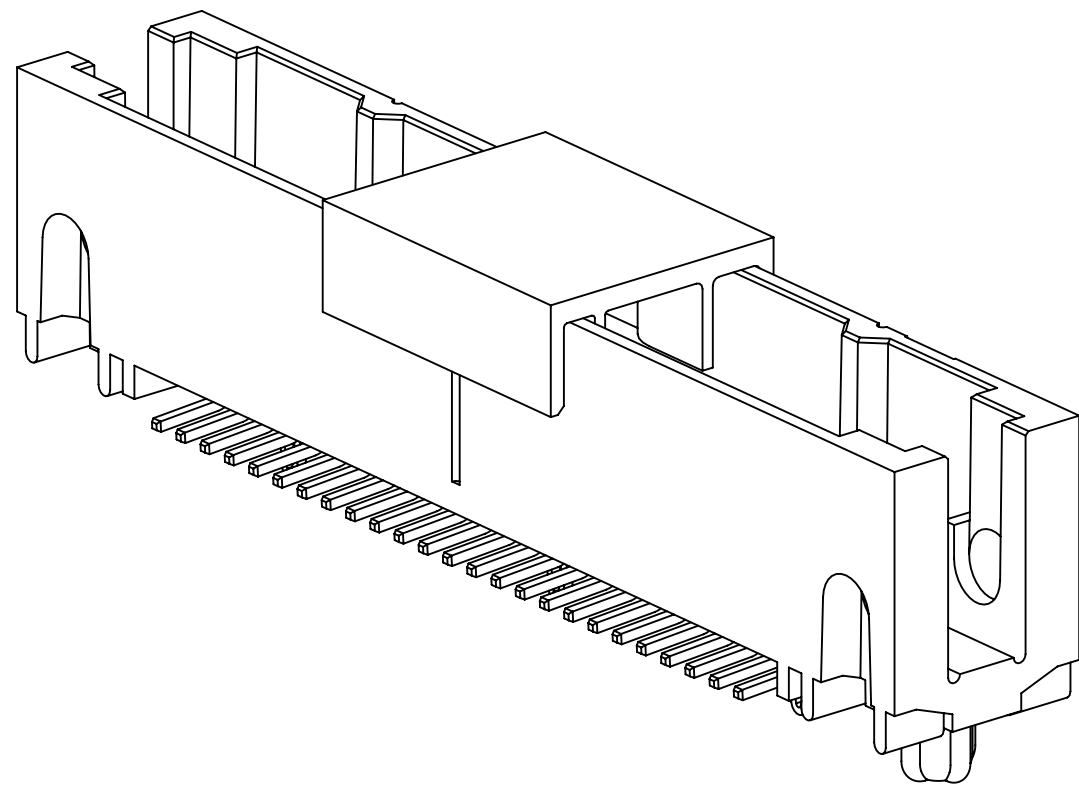
3M™ 4-WALL, TRIPOLARIZED HEADER, 810 SERIES  
.050" X .100" LATCH/EJECTOR, PTH AND SMT STRAIGHT, PTH RIGHT ANGLE



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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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  
MATERIAL: 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 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)

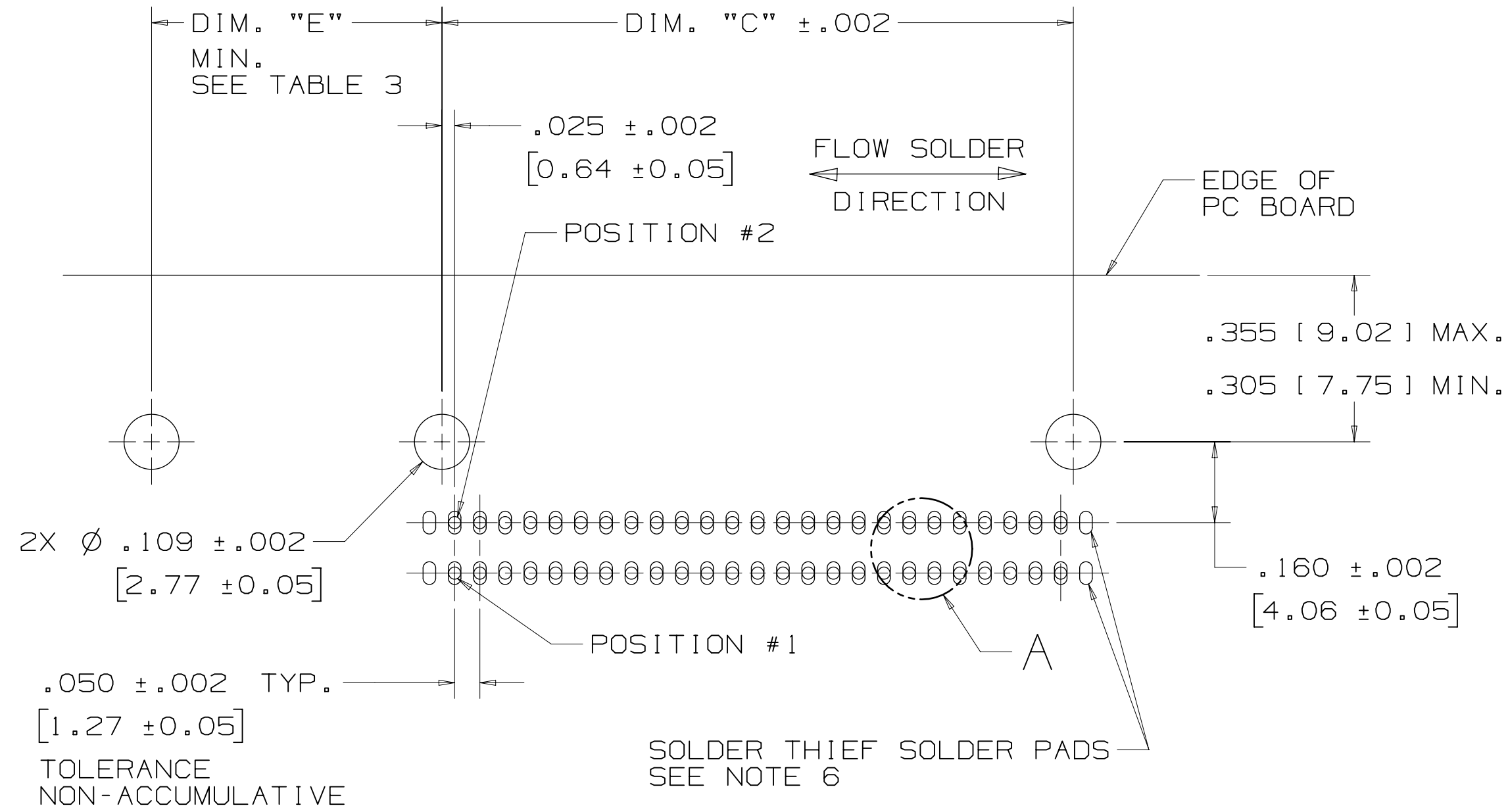
- NOTES
1. REGULATORY INFORMATION:  
VISIT [3M.com/regs](http://3M.com/regs)
  2. UNLESS OTHERWISE NOTED, REFERENCES TO INDUSTRY SPECIFICATIONS ARE INTENDED TO INDICATE SUBSTANTIAL COMPLIANCE TO THE MATERIAL ELEMENTS OF THE SPECIFICATION. SUCH REFERENCES SHOULD NOT BE CONSTRUED AS A GUARANTEE OF COMPLIANCE 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	ISSUE DATE AND DESCRIPTION		DATE	CHKD
ADDRESS CODES				DRAFT CAST IGL 1 ONE		DATE JAN 13, 2022		MFG	DRAFT
				CHKD		DATE		ASPL S - NEU	DATE JAN 13, 2022
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		INCHES							
						TITLE			
THIRD ANGLE PROJECTION						TRIPOLARIZED HEADER, 4-WALL, LATCH/EJECT, .050" X .100"			
INTERPRET PER ASME Y14.5 - 2018		MILLIMETERS				CAGE NUMBER			
MAX SURFACE ROUGHNESS						SIZE		DRAWING NO.	
SURFACES						D		78-5100-0253-4	
MARKED ONLY		ANGLES		MODEL		DET.		REV.	
				810		LISTS <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		SHT 1 OF 5	

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

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)



## PTH RIGHT ANGLE HEADER

81 XXX-5X0X03-RB

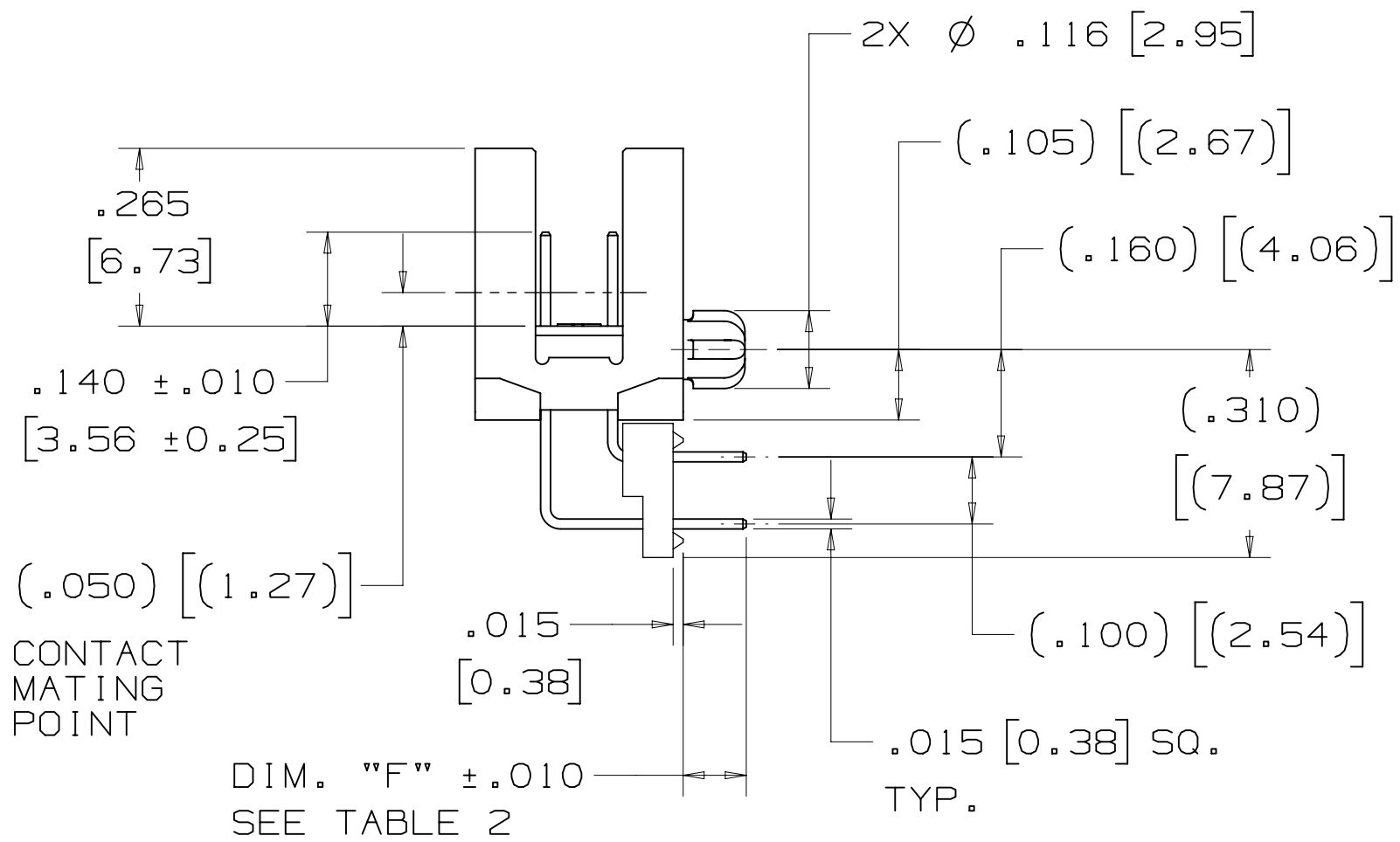
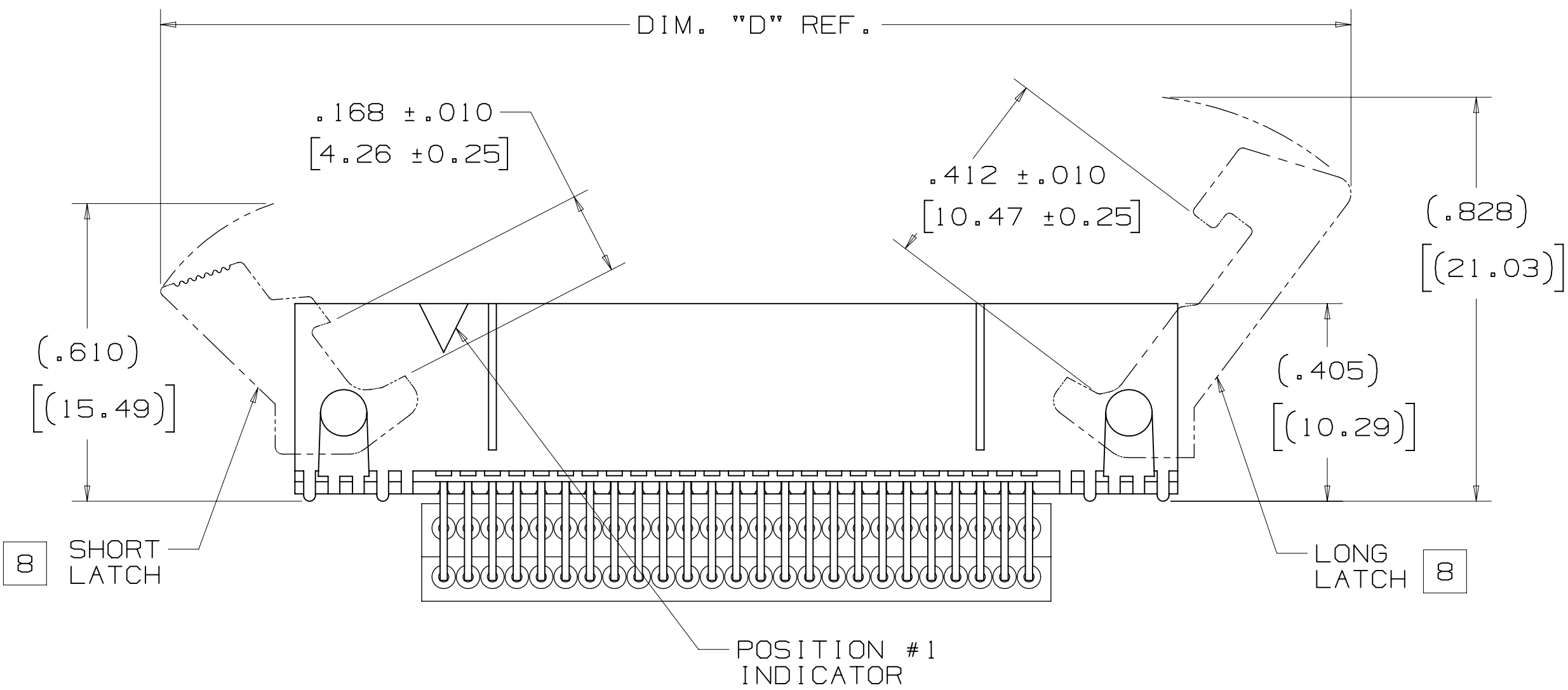
CONTACT QTY: —  
(SEE TABLE 1)

- 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)

(IF ORDERED SEPARATELY)

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



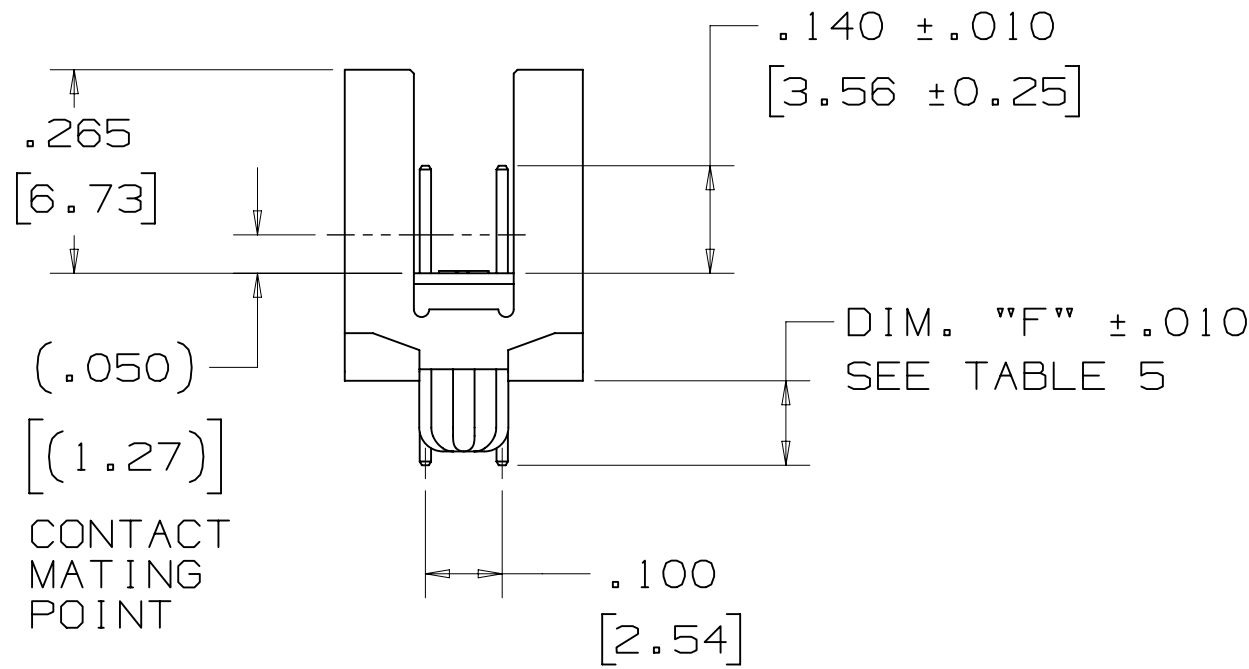
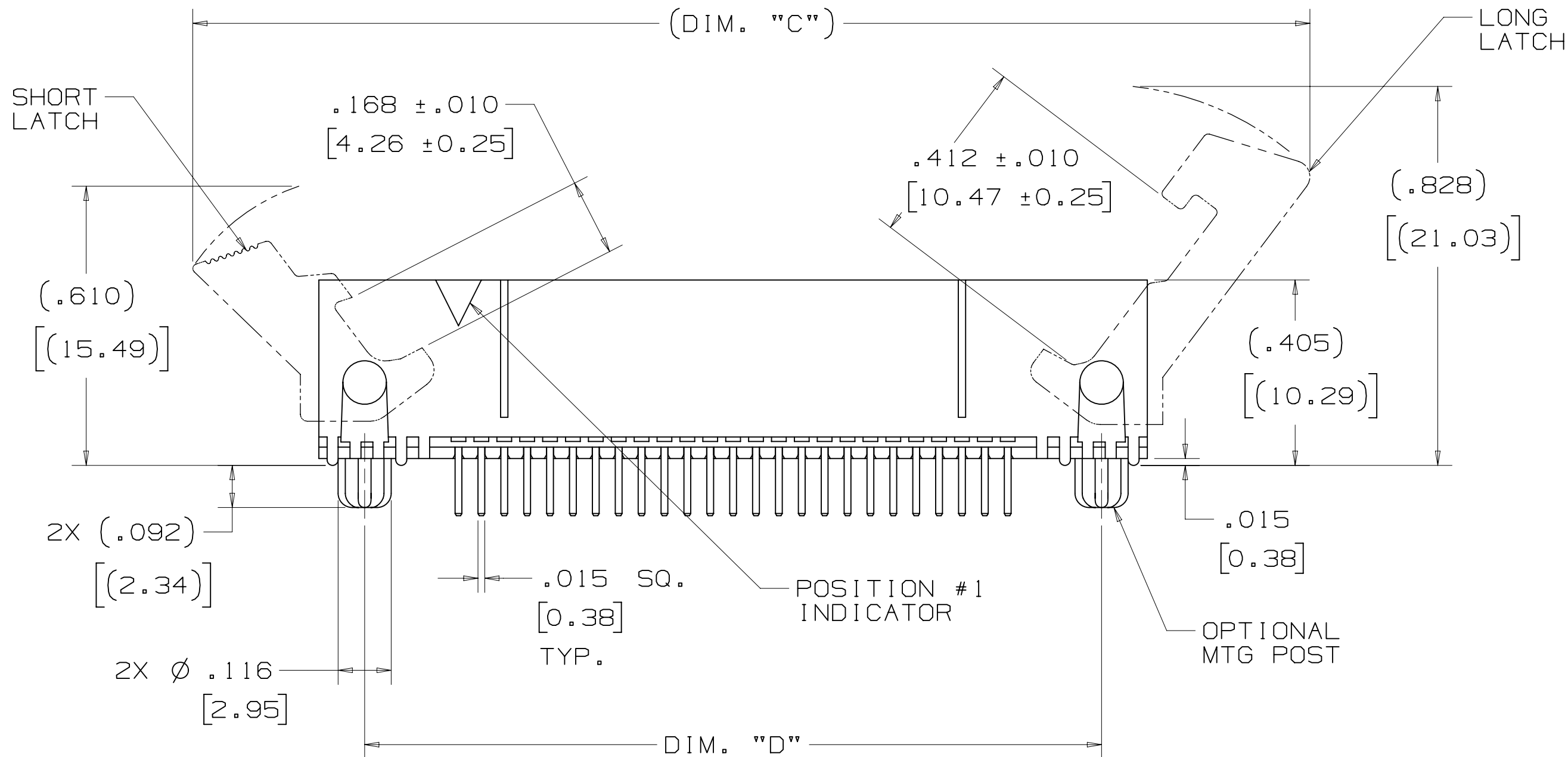
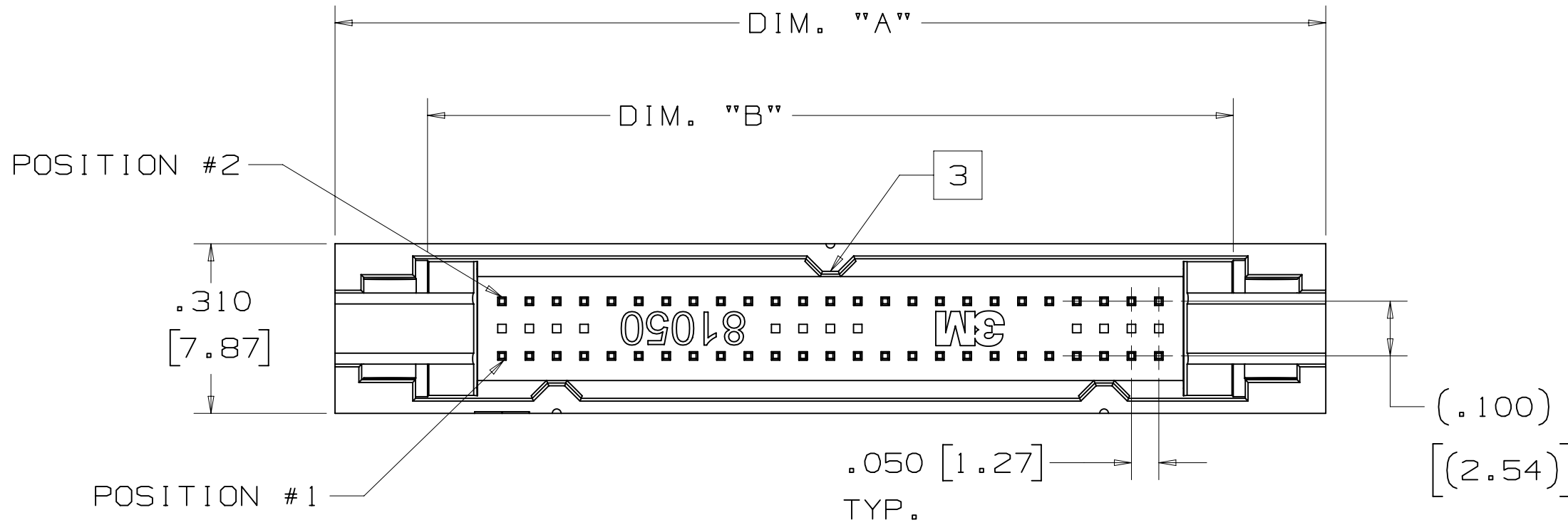
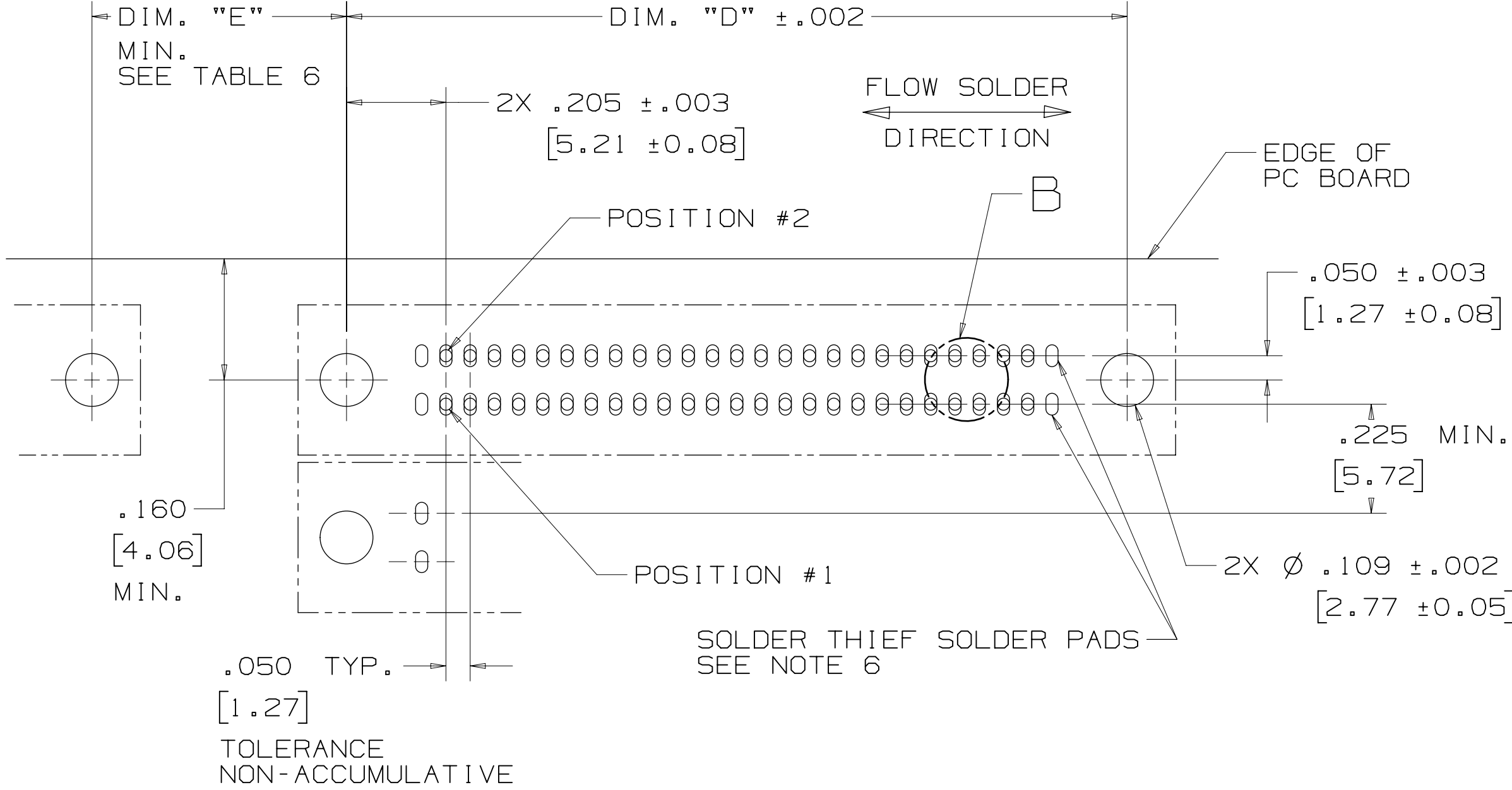
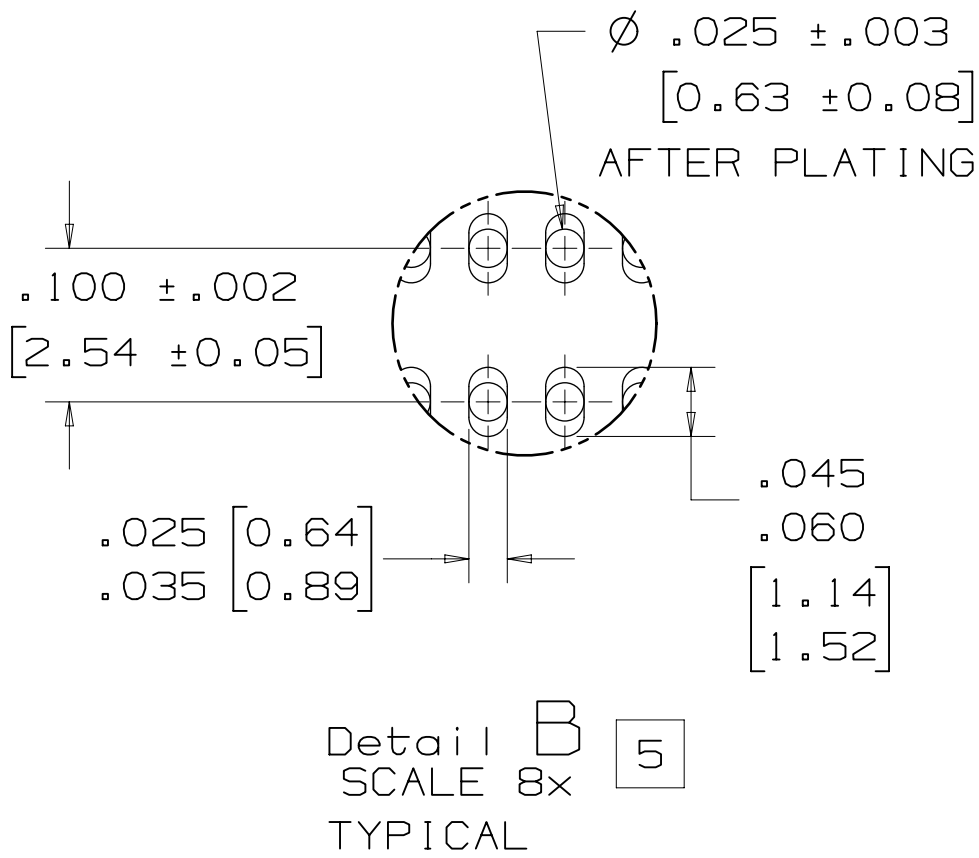
		L 101674		JAN 13, 2022		JNC	JAN
				REVISED AND REDRAWN			
ENGINEERING REFERENCE		NEXT ASSEMBLY		REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT
ADDRESS CODES				DATE	JAN 13, 2022	MFG	DATE
		CHD		DATE	JAN 13, 2022	APPRV	DATE
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				INCHES 0.0 ±.01 0.00 ±.005 0.000 ±.0002		TITLE TRIPOLARIZED HEADER, 4-WALL, LATCH/EJECT, 0.050" X 0.100"	
THIRD ANGLE PROJECTION				MILLIMETERS 0 0.0 ±.002 0.00 ±.0002		CAGE NUMBER D 78-5100-0253-4	
INTERPRET PER ASME Y14.5 - 2018				SIZE 1/8		DRAWINGS NO. L	
MAX. SURFACE ROUGHNESS				DATE DET.		YES YES NO SHT 2 OF 5	
ALL SURFACES				1/8			
✓ MARKED ONLY				1/8			
				1/8			

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-6X0X0X-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

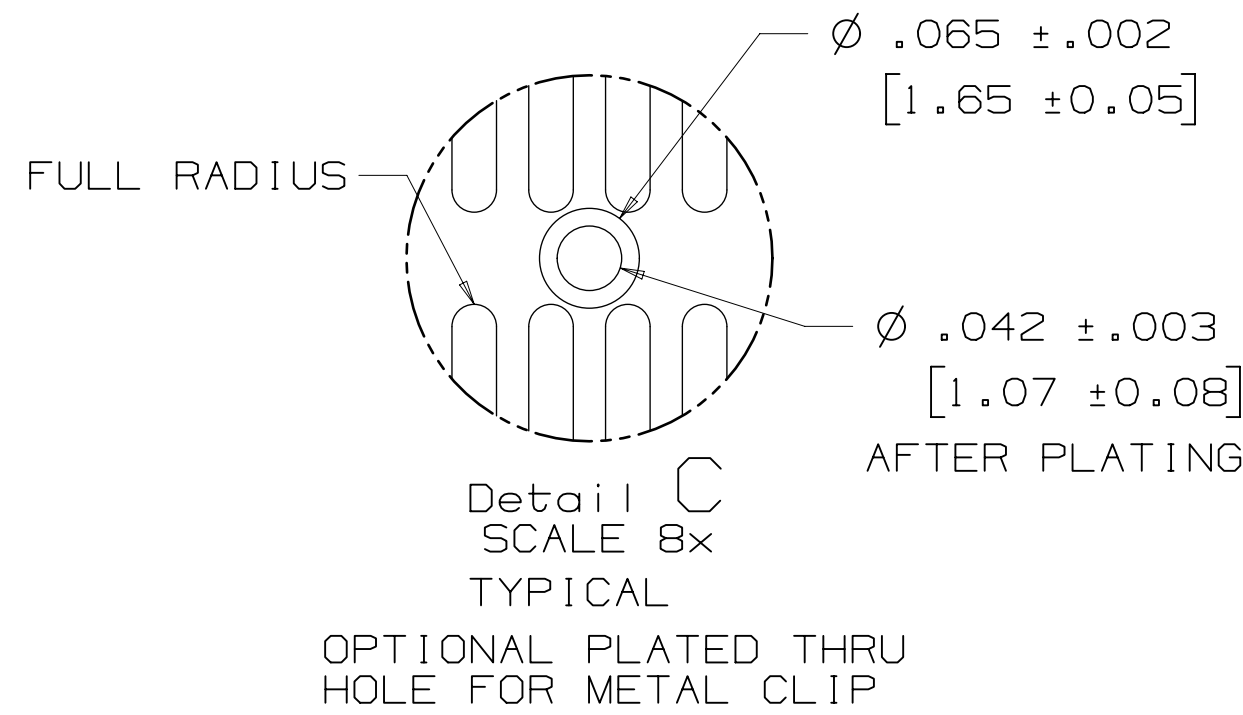
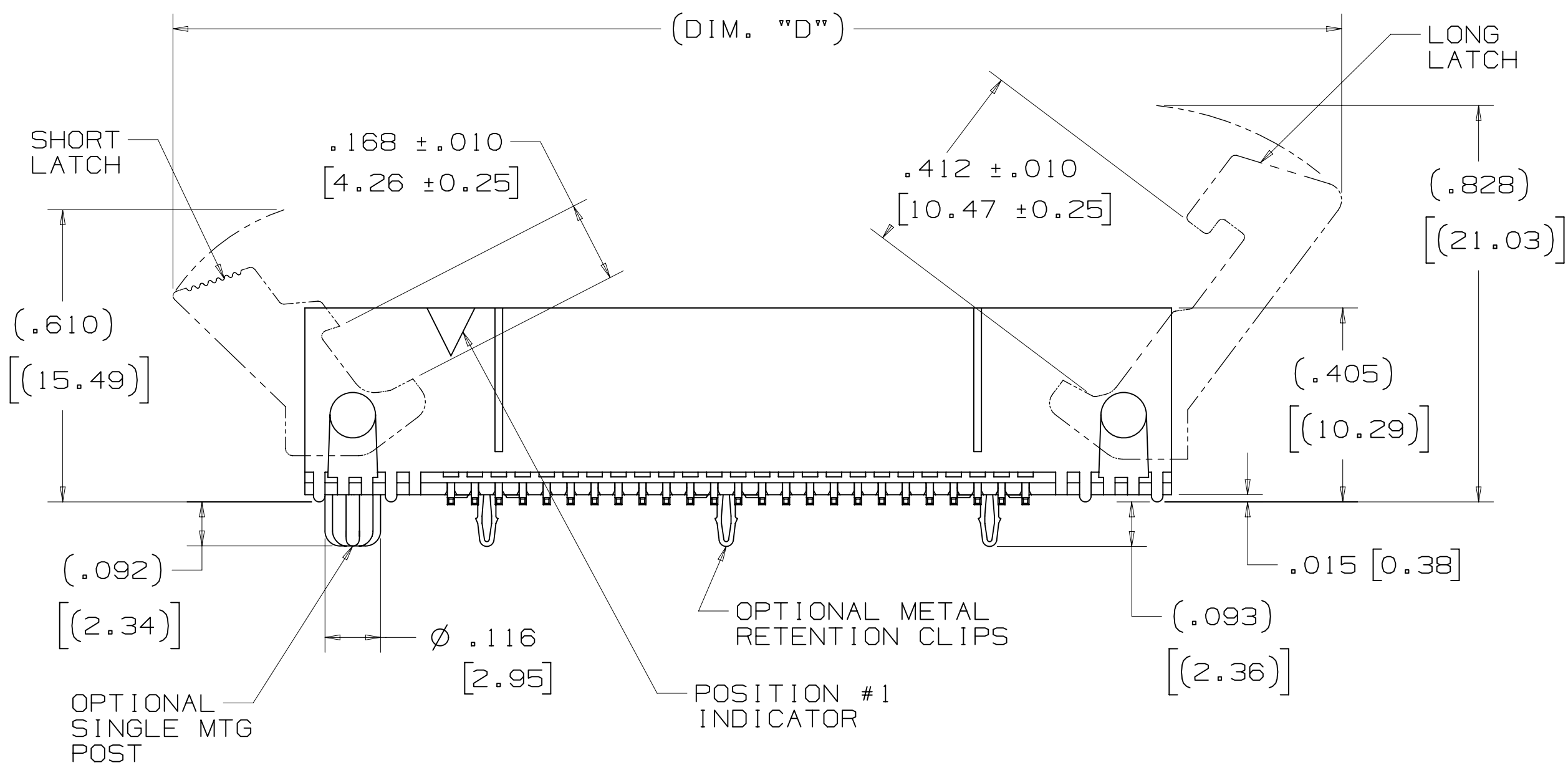
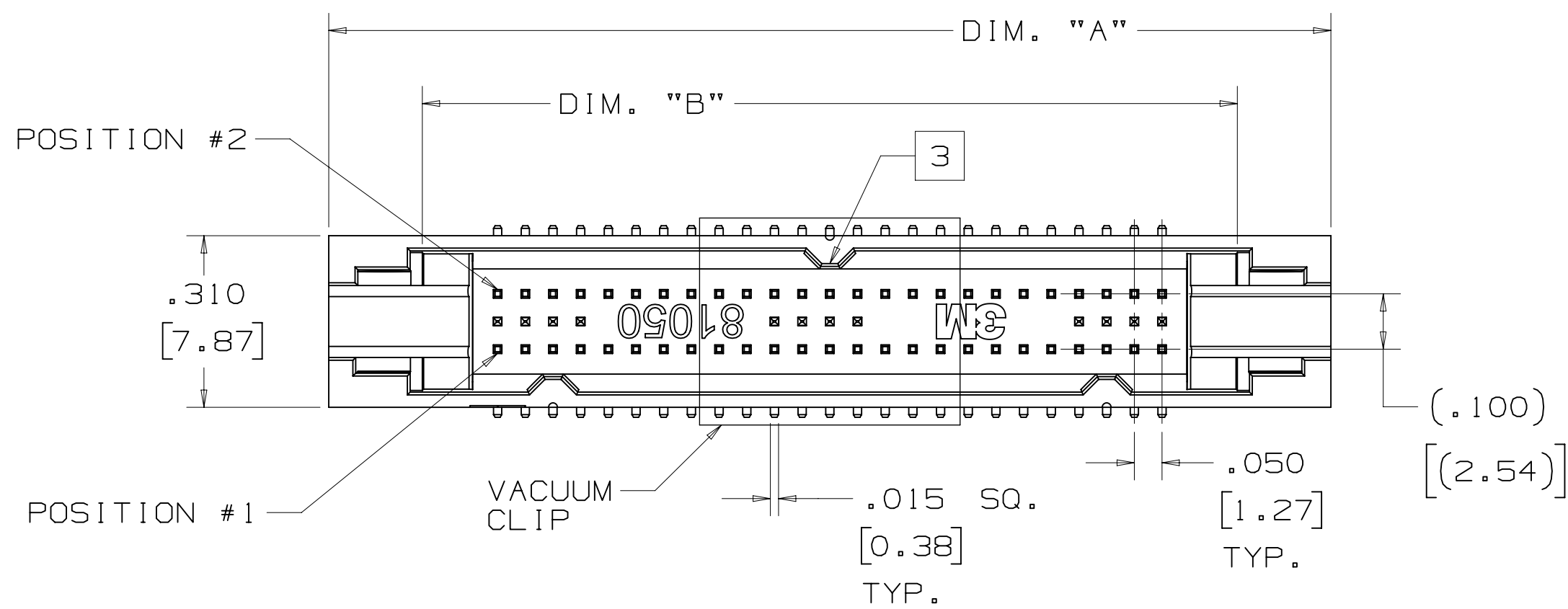
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REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD	
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CHKD	DATE	APPRV S. NEU	DATE JAN 13, 2022		
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DO NOT SCALE DRAWING	SCALE	TOLERANCES EXCEPT AS NOTED	TITLE TRIPOLARIZED HEADER, 4-WALL, LATCH/EJECT, .050" X .100"		
THIRD ANGLE PROJECTION	INTERPRET PER ASME Y14.5 - 2018	INCHES ±.1 ±.01 ±.000 ±.0005 ±.0002	CAGE NUMBER D 78-5100-0253-4		
MAX SURFACE ROUGHNESS	MARKED SURFACES	MILLIMETERS 0 ±.0 ±.00 ±.000	REV. L		
MODEL	810	LISTS	YES	NO	SHT 3 OF 5

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

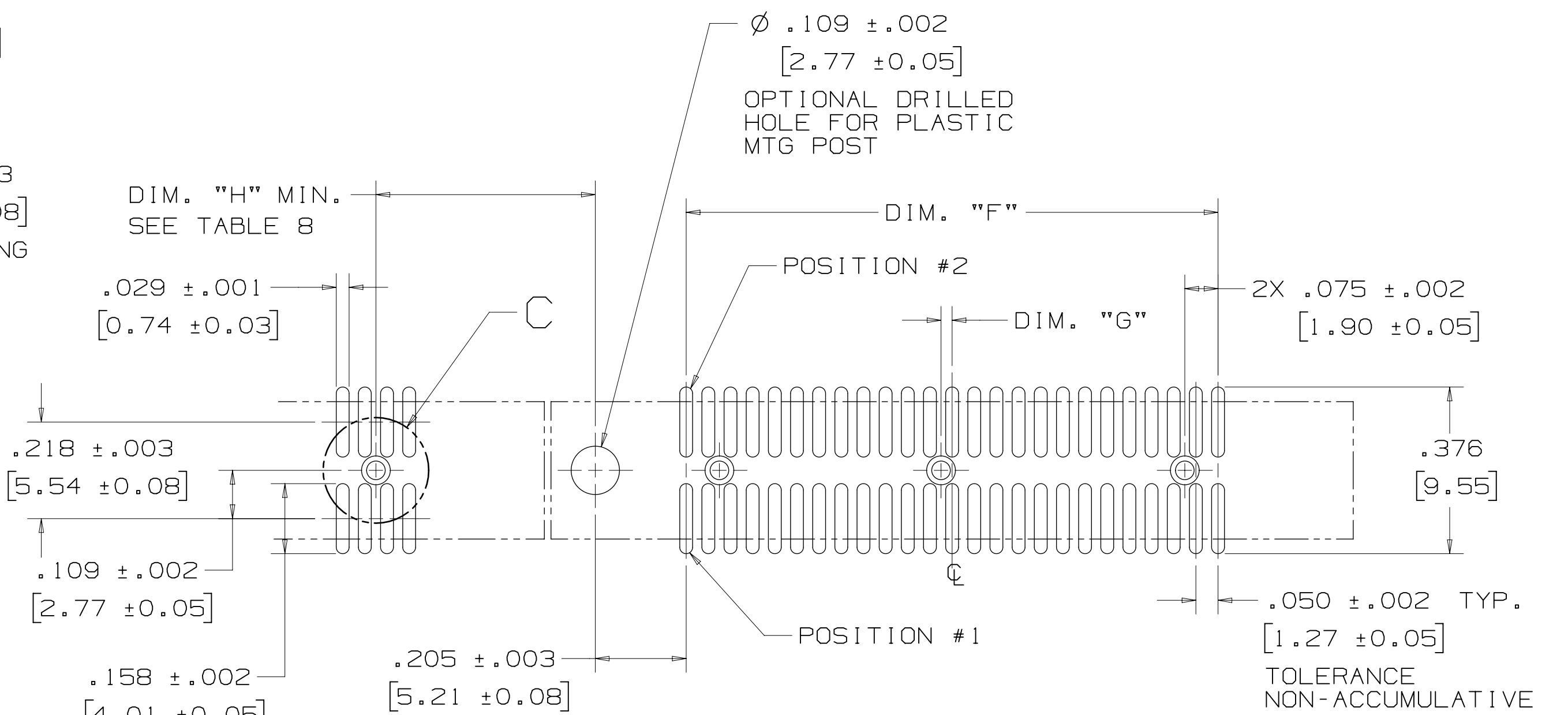
CONTACT QTY.	DIM. "A"	DIM. "B"	DIM. "D" SHORT	DIM. "D" LONG	DIM. "F"	DIM. "G"	TAPE AND REEL SUFFIX
020	1.060 [ 26.92 ]	.722 [ 18.34 ]	1.671 [ 42.44 ]	1.842 [ 46.79 ]	.450 [ 11.43 ]	N/A	WF
026	1.210 [ 30.73 ]	.872 [ 22.15 ]	1.821 [ 46.25 ]	1.992 [ 50.60 ]	.600 [ 15.24 ]	.025 [ 0.64 ]	WF
036	1.460 [ 37.80 ]	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)

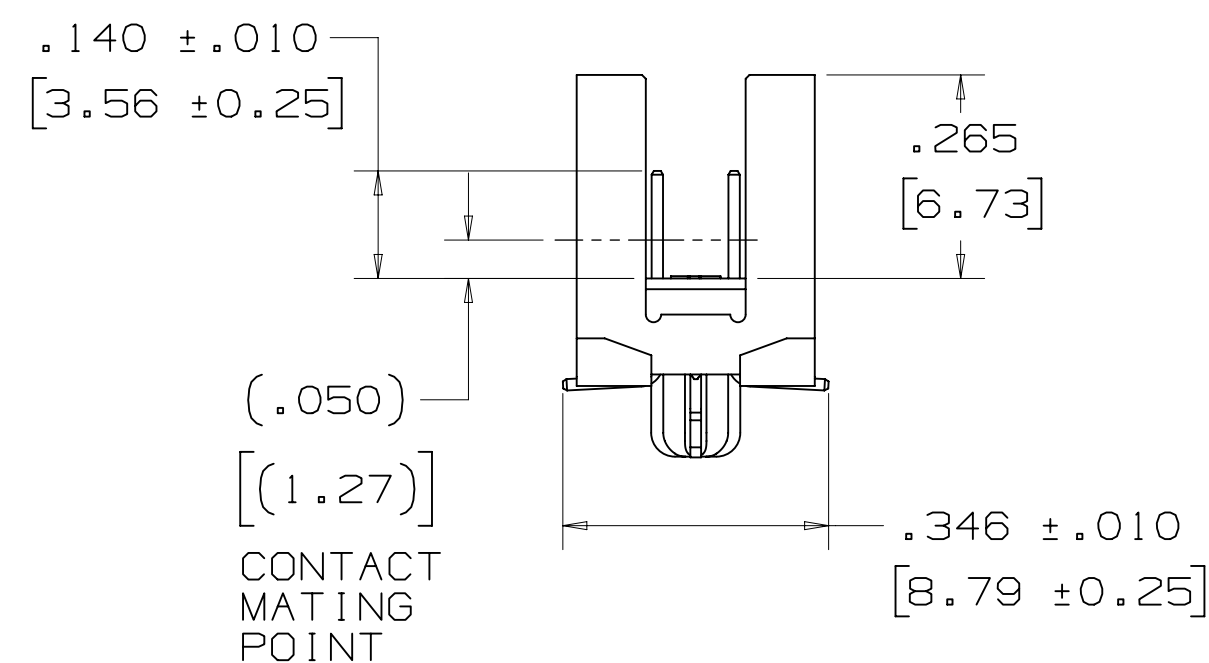
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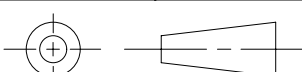
## EJECTOR LATCHES

( IF ORDERED SEPARATELY )

LONG LATCHES: 3505-28

SHORT LATCHES: 3505-29



DESIGN REFERENCE    NEXT ASSEMBLY		L    I01674    JAN 13, 2022    JNC    SAN	
REV    ECO    ISSUE DATE AND DESCRIPTION    DRFT    CHKD		REVISED AND REDRAWN	
APPR. <b>CASTIGLIONE</b> DATE <b>JAN 13, 2022</b> MFG.    DATE		CHGD    DATE    S. NEU    DATE <b>JAN 13, 2022</b>	
DIVISION		DIVISION CODE <b>EMSD</b>	
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		INCHES .0    ± .1 .00    ± .01 .000    ± .005 .0000    ± .0002	
THIRD ANGLE PROJECTION		MILLIMETERS .0    ± .00    ± .000    ±	
INTERPRET PER ASME Y14.5 - 2018		MAX. SURFACE ROUGHNESS ALL SURFACES	
<input checked="" type="checkbox"/> MARKED ONLY		TITLE <b>TRIPOLARIZED HEADER ,          4 - WALL , LATCH/EJECT ,          .050" X .100"</b>	
CASE NUMBER <b>D 78-5100-0253-4</b>		SIZE DRAWING NO.	
MODEL <b>B10</b>		DET. <input type="checkbox"/> LISTS <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> SHT 4 OF 5	

8

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1

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

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78-5100-0253-4  
Drawing Number

Revision

		L	101674	JAN 13,2022		JNC	SAN
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DESIGN REFERENCE	NEXT ASSEMBLY	REV	ECO	ISSUE DATE AND DESCRIPTION		DRFT	CHKD
AKCSEP		DRP		DATE	MFG	DATE	
CODES		CASTIGLIONE		JAN 13,2022			
		CHKD		DATE	APPR	DATE	
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		INCHES		TRIPOLARIZED HEADER, 4-WALL, LATCH/EJECT, .050" X .100"			
		.0 ±.1 .00 ±.01 .000 ±.005 .0000 ±.0002					
THIRD ANGLE PROJECTION		MILLIMETERS					
		0 ± .0 ± .00 ± .000 ±					
INTERPRET PER ASME Y14.5 - 2018		CAGE NUMBER		SIZE	DRAWING NO.	REV.	
MAX SURFACE ROUGHNESS		D			78-5100-0253-4	L	
MARKED SURFACES		MODEL		810		DET LISTS YES NO SHT 5 OF 5	
MARKED ONLY		ANGLES					

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