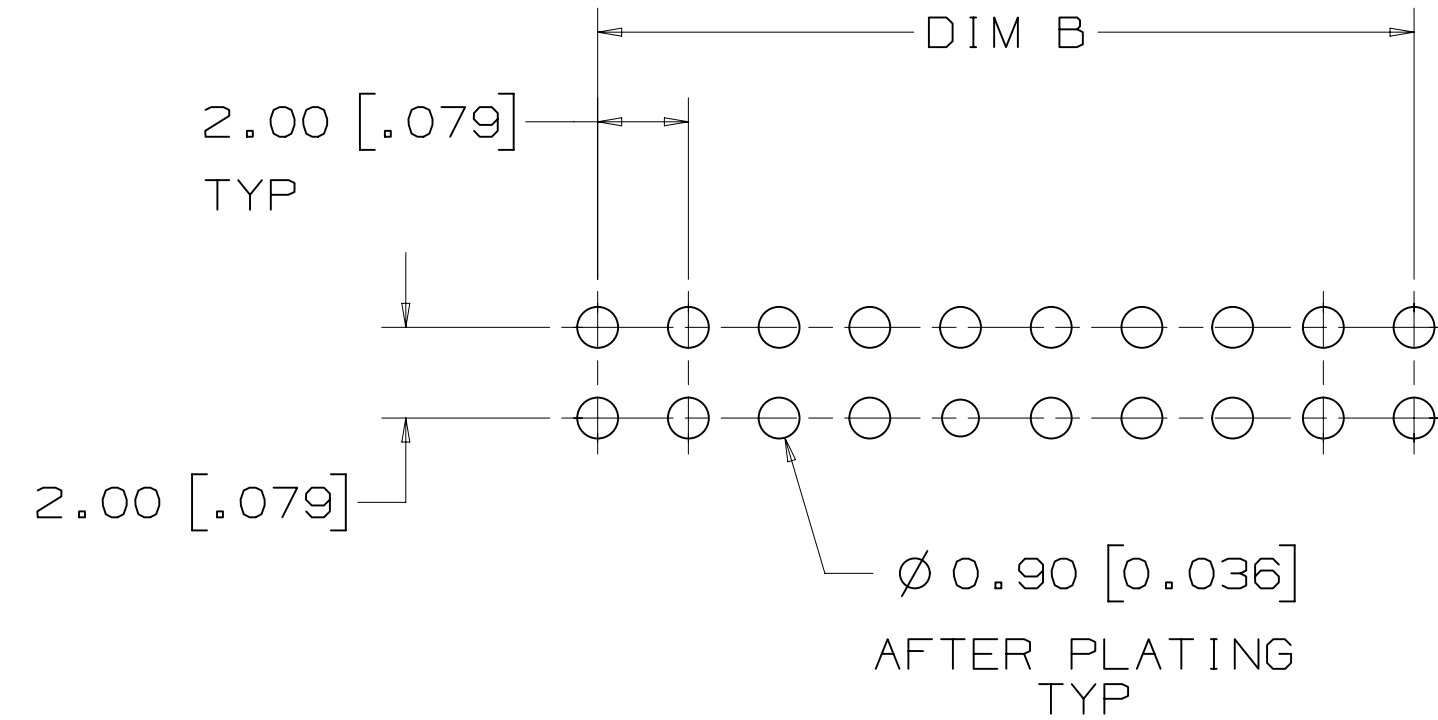
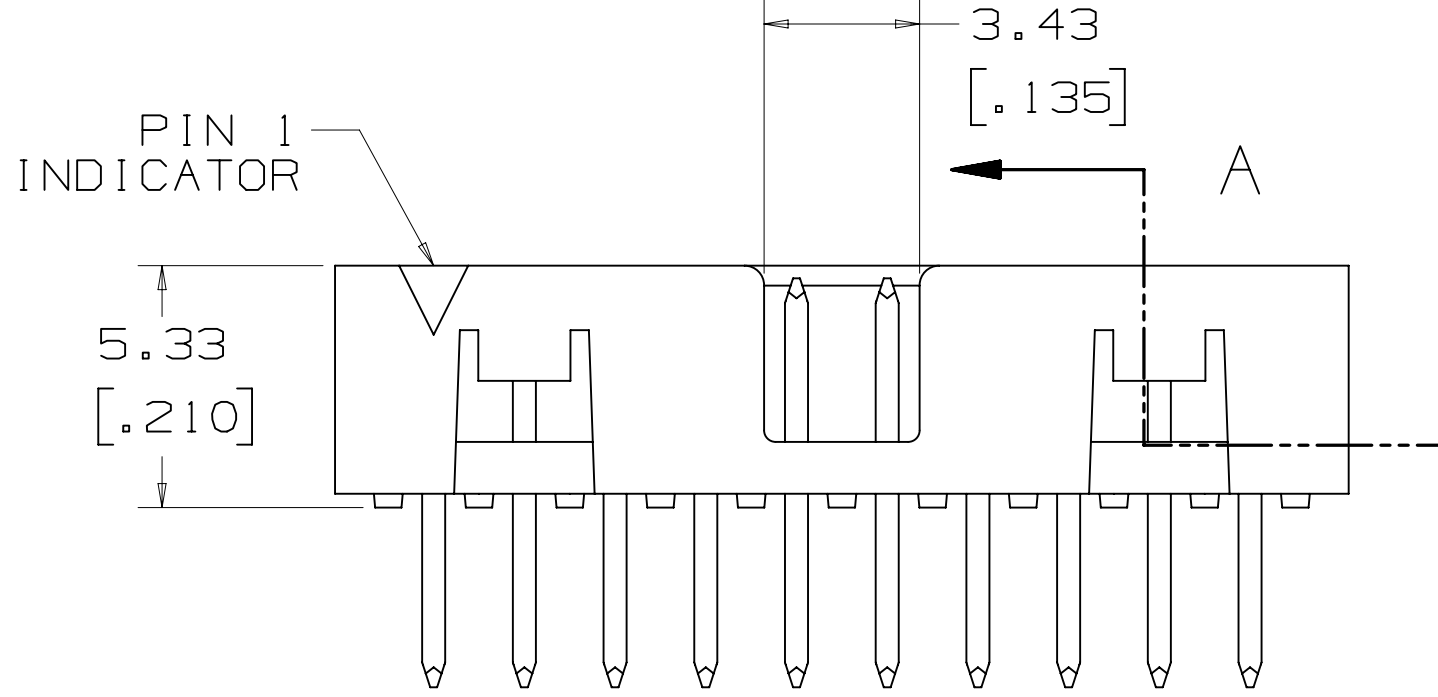
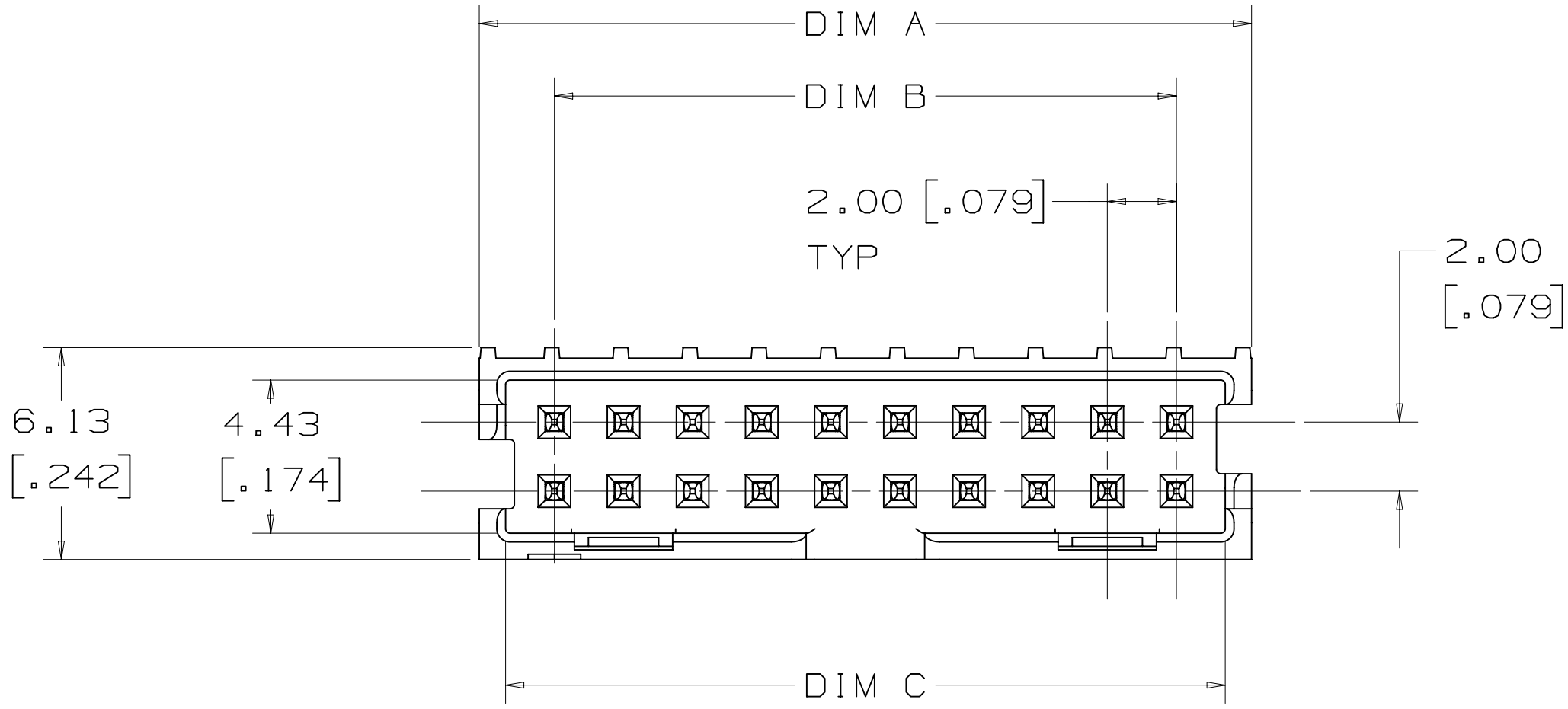
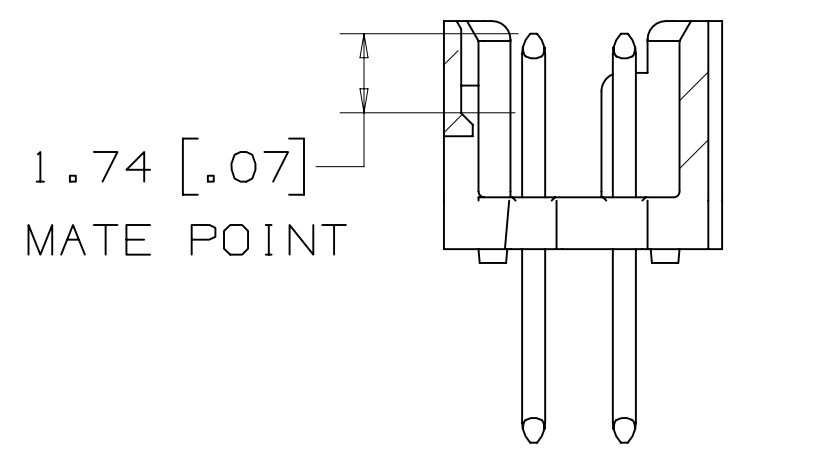
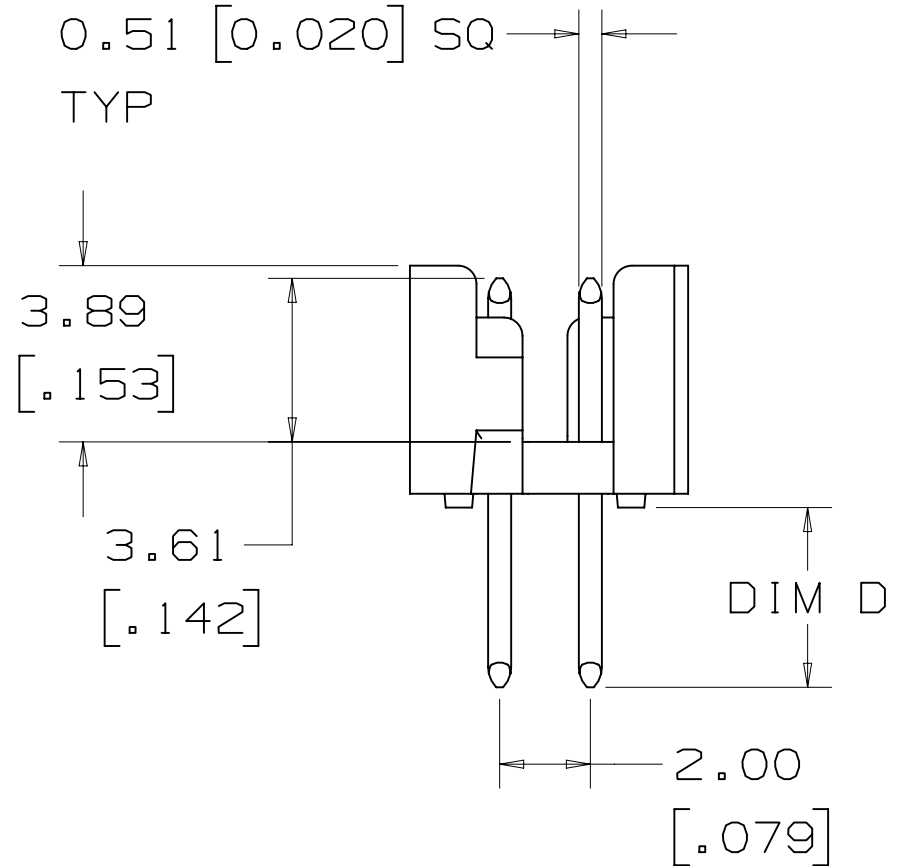


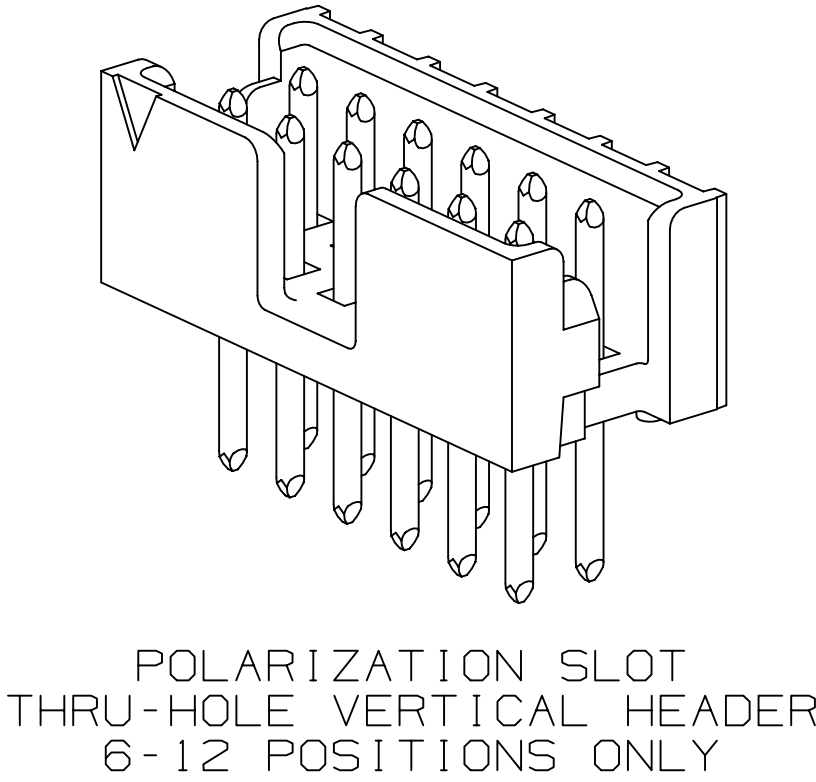
3M™ Shrouded Board Mount Header 2 mm X 2 mm Pitch 159 Series, Standard Length [3] and Extended Length [4]



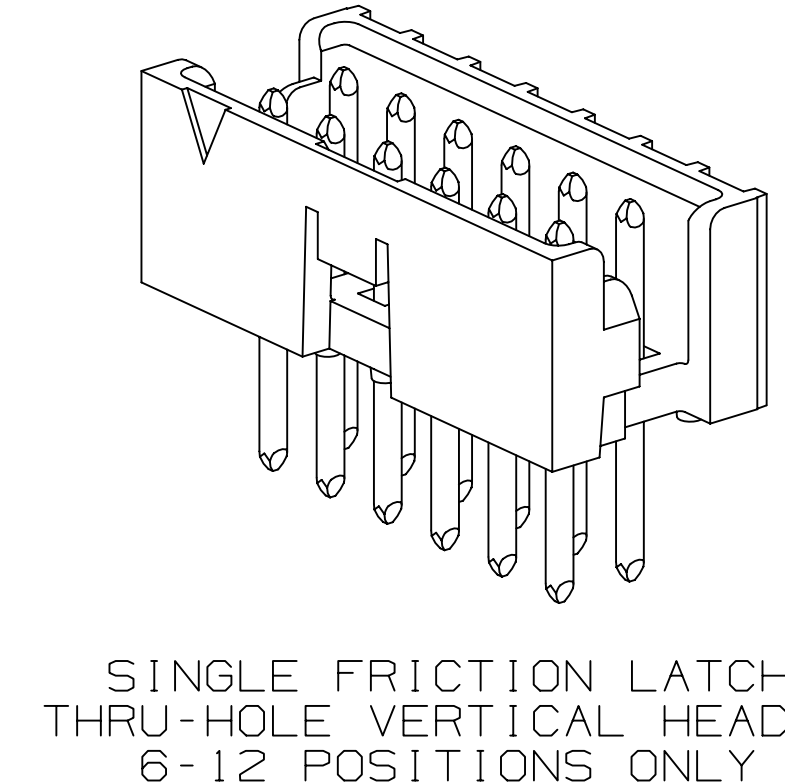
RECOMMENDED PCB HOLE PATTERN
TOLERANCE = 0.05 [.002]



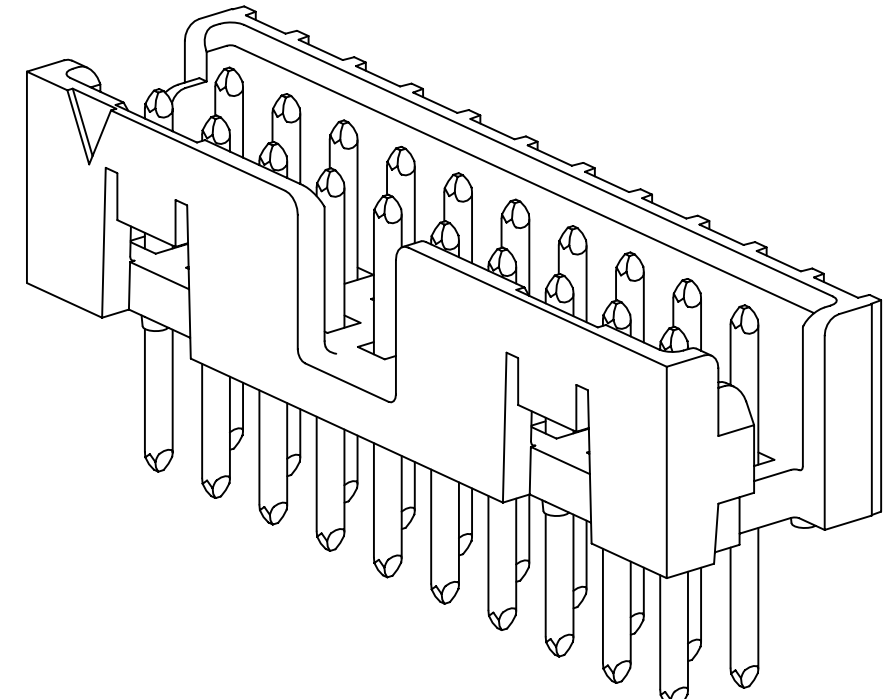
SECTION A - A



POLARIZATION SLOT
THRU-HOLE VERTICAL HEADER
6-12 POSITIONS ONLY



SINGLE FRICTION LATCH
THRU-HOLE VERTICAL HEADER
6-12 POSITIONS ONLY



POLARIZATION SLOT AND
DUAL FRICTION LATCHES
THRU-HOLE VERTICAL HEADER
14-50 POSITIONS

PERFORMANCE [5] [7]	
CURRENT:	1.25 A, ALL LINES ENERGIZED 2.75 A, 6 LINES ENERGIZED 4.75 A, 1 LINE ENERGIZED
INSULATION RESISTANCE:	>1 X 10 ⁹ OHMS AT 500 VDC
VOLTAGE RATING:	150 VAC PER EIA-364-20
WITHSTANDING VOLTAGE:	500 VACrms AT SEA LEVEL
TEMPERATURE RATING:	-55°C TO +105°C
SOLDER PROCESS TEMPERATURE:	260°C MAX PER IPC/JEDEC J-STD-020D

REFERENCE TABLE ON SHEET 5
FOR AVAILABLE POSITIONS AND
SOLDER TAIL LENGTHS

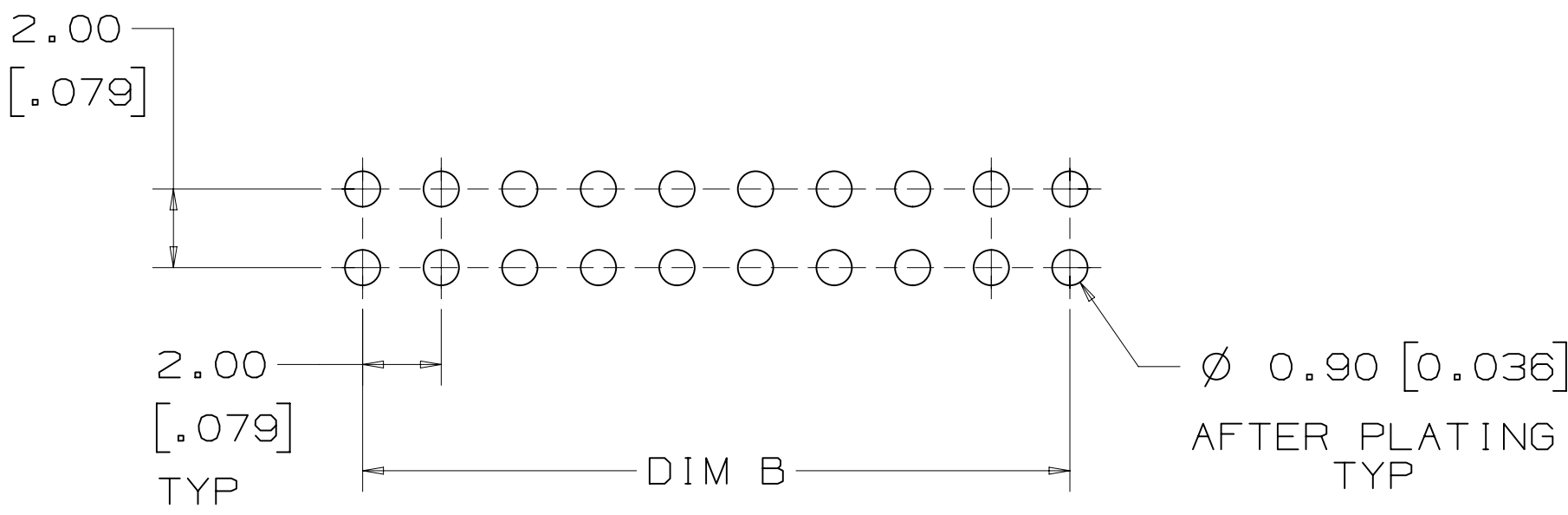
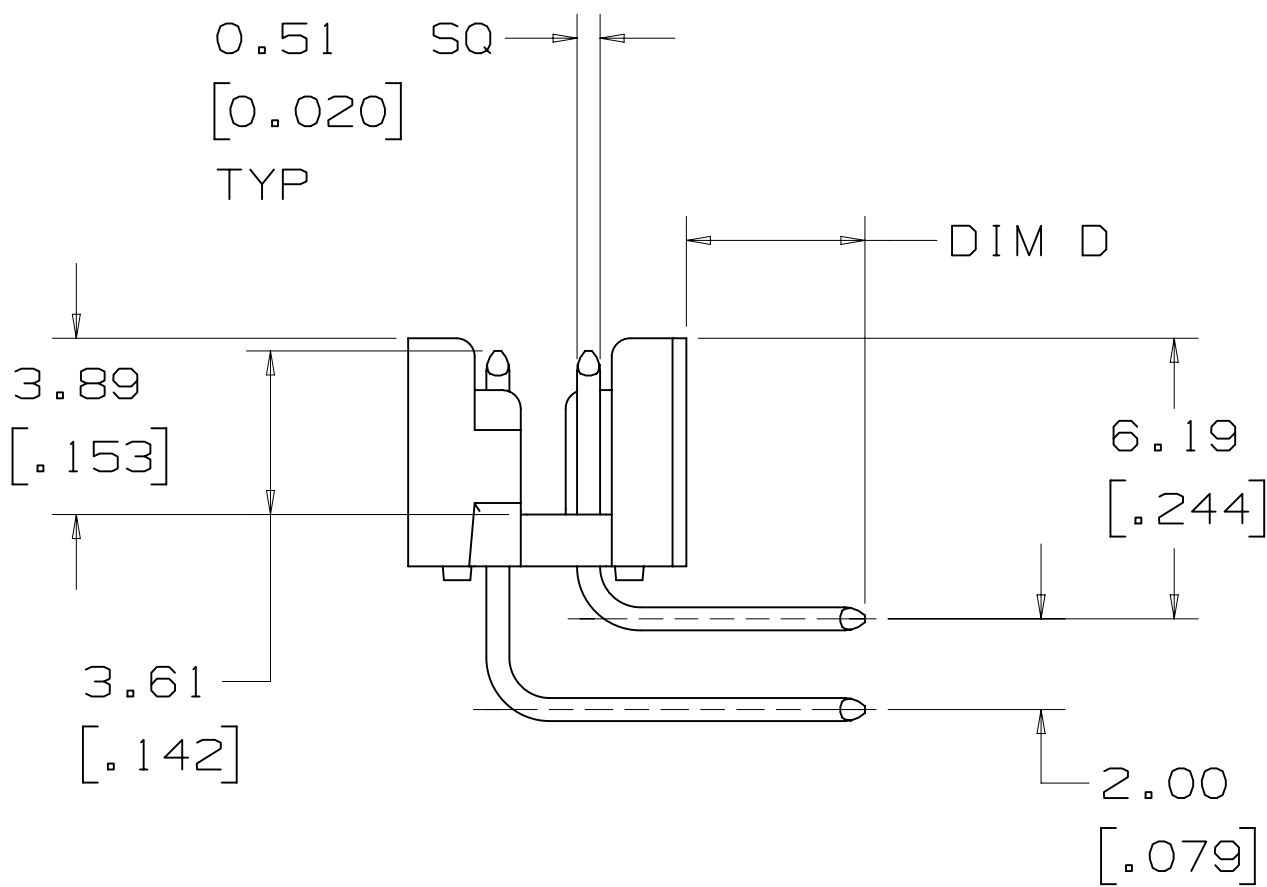
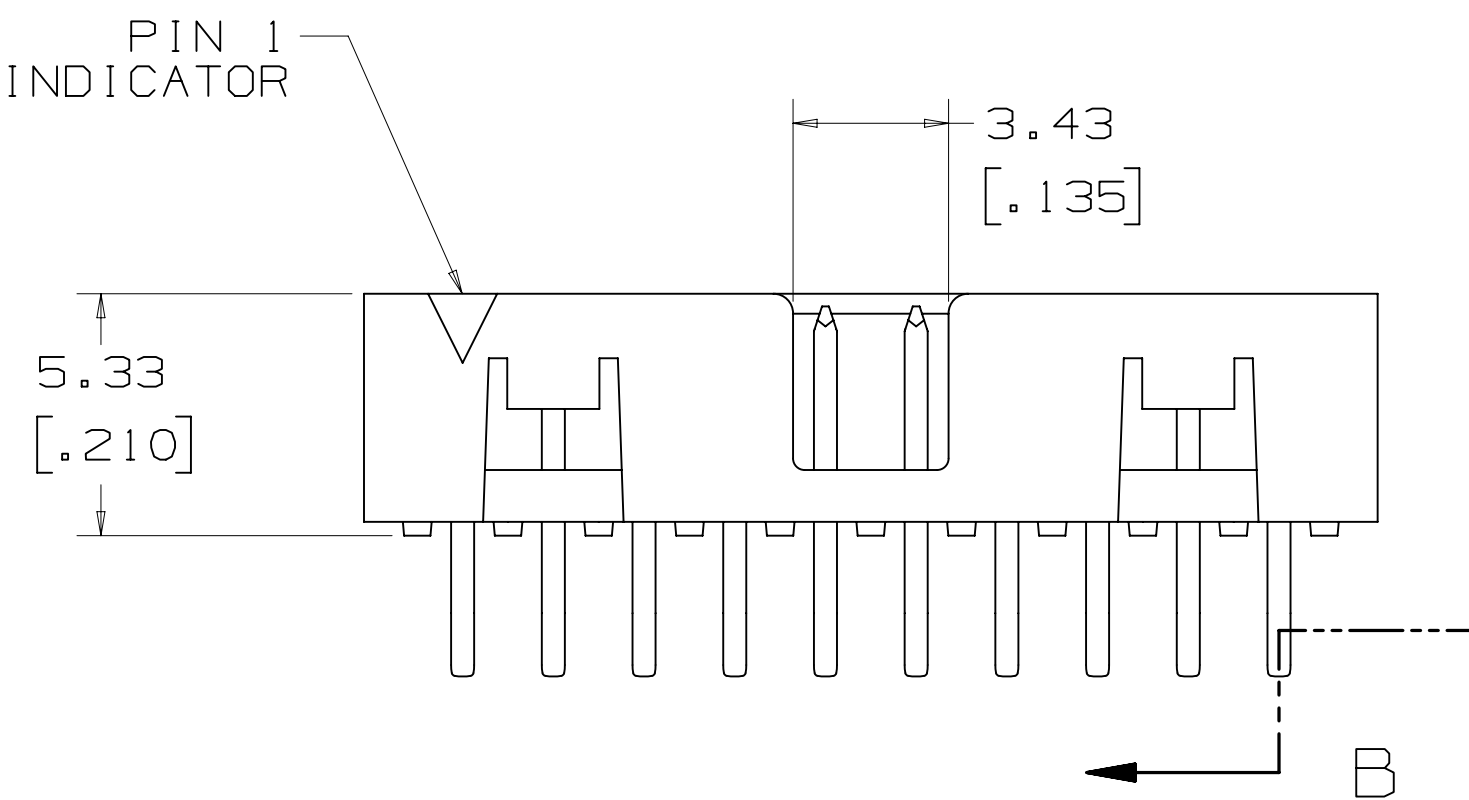
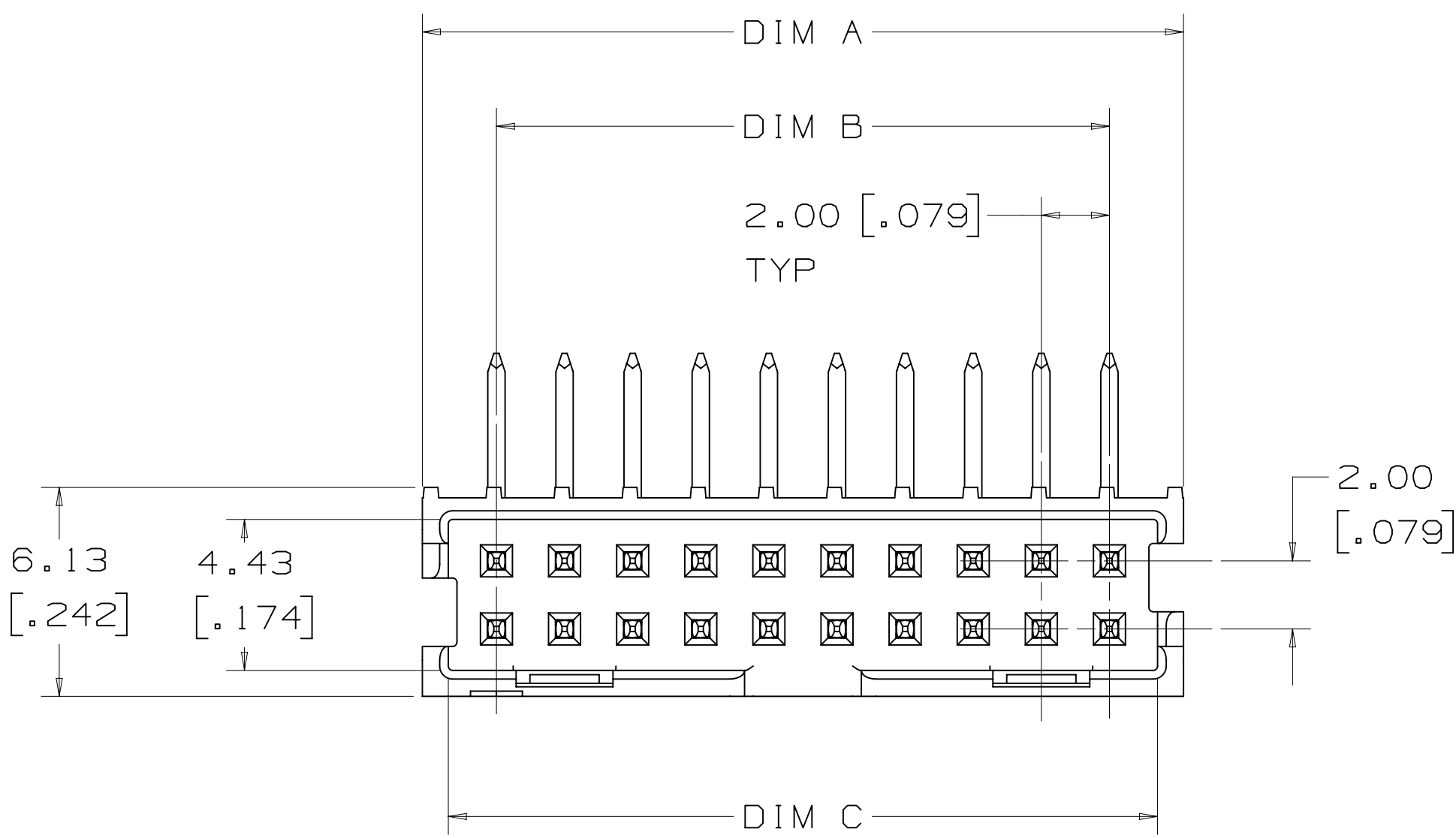
METRIC [ENGLISH]
cALUS
UL FILE NO: E68080

DESIGN REFERENCE	NEXT ASSEMBLY	REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
3M Center		L. SCHMIDT		JUL 29, 2010	WFG	
CHGD		CHGD		DATE	APPROV	DATE
					S. FELDMAN	AUG 09, 2010
DIVISION	DIVISION CODE	3M 3M Center St. Paul, MN 55144				
DO NOT SCALE DRAWING	SCALE 6-1	TOLERANCES EXCEPT AS NOTED				
THIRD ANGLE PROJECTION		INCHES 0.0 0.00 0.002 0.000 ± 0.000 ±				
INTERPRET PER ASME Y14.5 - 1994		MILLIMETERS 0 ± 0 ± 0.00 ± 0.00 ±				
MAX SURFACE ROUGHNESS 125 / ALL SURFACES ✓ MARKED ONLY		ANGLES ±1°				
TITLE 3M SHROUDED BOARD MOUNT HEADER 2 MM X 2 MM PITCH 159 SERIES		CAGE / SIZE / DRAWING NO. NUMBER D 78-5100-2359-7				
MODEL		REV. F				
		DET. LISTS YES NO SHT 1 OF 5				

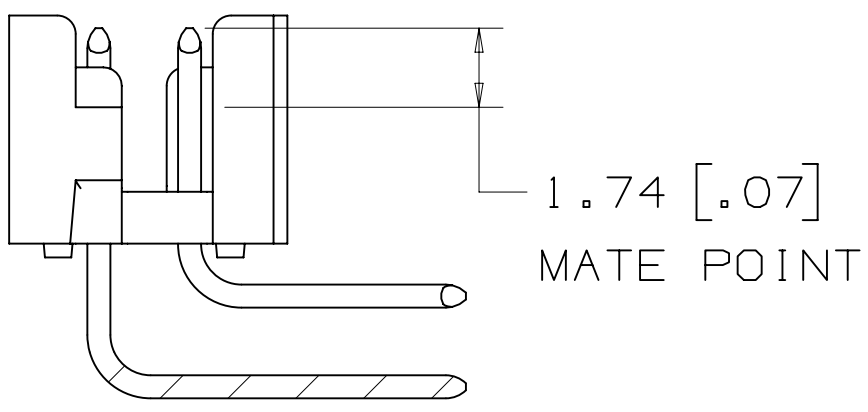
- NOTES
- MATERIAL:
BODY: HIGH TEMPERATURE GLASS FILLED LCP, BLACK UL94V-0
CONTACTS: COPPER ALLOY
 - PLATING:
2.03-3.81 μ m [80-150 μ in]
NICKEL UNDERPLATE.
0.38 μ m [15 μ in] OR
0.76 μ m [30 μ in] AVG GOLD
ON WIPING AREA.
5.08 μ m [200 μ in] MIN
MATTE TIN ON SOLDER TAILS.
 - STANDARD LENGTH HEADERS
MATE WITH 3M™ SOCKETS,
158 SERIES (REFERENCE 3M
DRAWING 78-5100-2358-9).
 - EXTENDED LENGTH HEADERS
MATE WITH 3M™ SOCKETS,
870 SERIES.
 - FOR PRODUCT
SPECIFICATIONS AND
WARRANTY INFORMATION SEE
3M 78-5102-0078-1.
 - SEE THE REGULATORY
INFORMATION APPENDIX (RIA)
IN THE "ROHS COMPLIANCE"
SECTION OF
WWW.3MCONNECTOR.COM FOR
COMPLIANCE INFORMATION
(RIA E1 & C1 APPLY).
 - IN THE EVENT OF CONFLICT
BETWEEN THIS DATA AND
THAT CONTAINED IN THE
PRODUCT SPECIFICATION,
THE PRODUCT SPECIFICATION
TAKES PRECEDENT.
 - PACKAGING:
VERTICAL THRU: TRAY
RIGHT ANGLE: TRAY
VERTICAL SMT: TAPE & REEL

F	52868	MAR 05, 2014	SJS	SAN
E	51692	DEC 16, 2013	SJS	SAN
D	41488	JUN 20, 2012	LDS	SAN
C	39876	APR 18, 2012	LDS	SAN
B	34080	MAY 18, 2011	LDS	SF
A	30741	OCT 28, 2010	LDS	SF

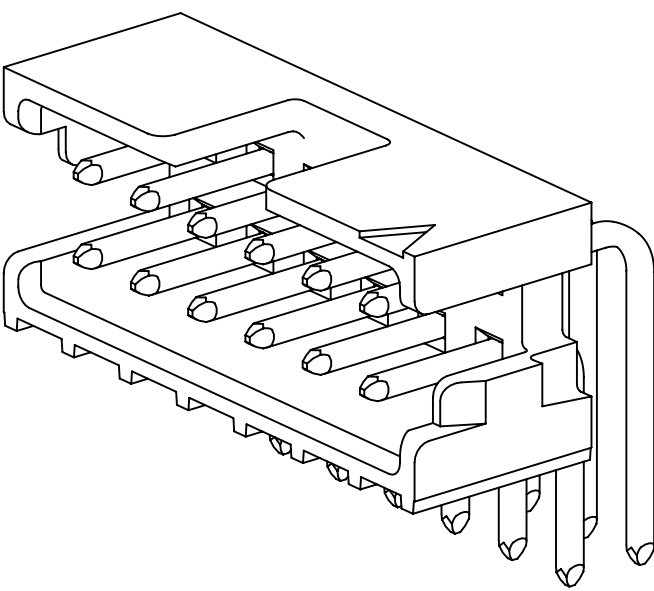
3M™ Shrouded Board Mount Header 2 mm X 2 mm Pitch 159 Series, Standard Length [3] and Extended Length [4]



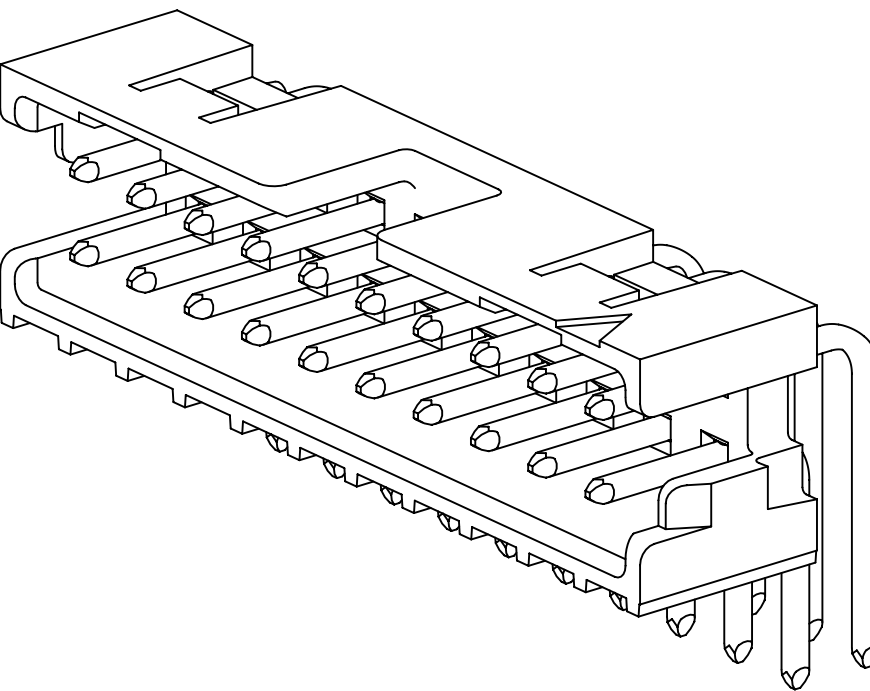
RECOMMENDED PCB HOLE PATTERN
TOLERANCE = ±0.05 [.002]



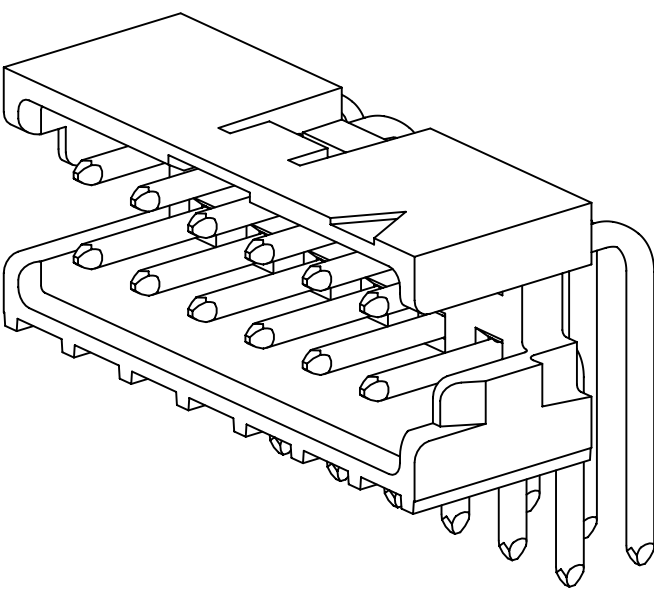
SECTION B - B



POLARIZATION SLOT
RIGHT ANGLE HEADER
6-12 POSITIONS ONLY



POLARIZATION SLOT AND
DUAL FRICTION LATCHES
RIGHT ANGLE HEADER
14-50 POSITIONS



SINGLE FRICTION LATCH
RIGHT ANGLE HEADER
6-12 POSITIONS ONLY

METRIC [ENGLISH]

REFERENCE TABLE ON SHEET 5
FOR AVAILABLE POSITIONS AND
SOLDER TAIL LENGTHS

F	52868	MAR 05, 2014	SJS	SAN
E	51692	DEC 16, 2013	SJS	SAN
D	41488	JUN 20, 2012	LDS	SAN
C	39876	APR 18, 2012	LDS	SAN
B	34080	MAY 18, 2011	LDS	SF
A	30741	OCT 28, 2010	LDS	SF

REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
L	SCHMIDT	JUL 29, 2010		
S	FELDMAN	AUG 09, 2010		

DESIGN REFERENCE	NEXT ASSEMBLY	REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
DIVISION		DIVISION CODE		TITLE		
DO NOT SCALE DRAWING		SCALE 4/1		TOLERANCES EXCEPT AS NOTED		
THIRD ANGLE PROJECTION		INTERPRET PER ASME Y14.5 - 1994		MAX SURFACE ROUGHNESS 125/ALL SURFACES MARKED ONLY		
CAGE NUMBER		SIZE		DRAWING NO.		
125		D		78-5100-2359-7		
MODEL		REV.		SHT 2 OF 5		

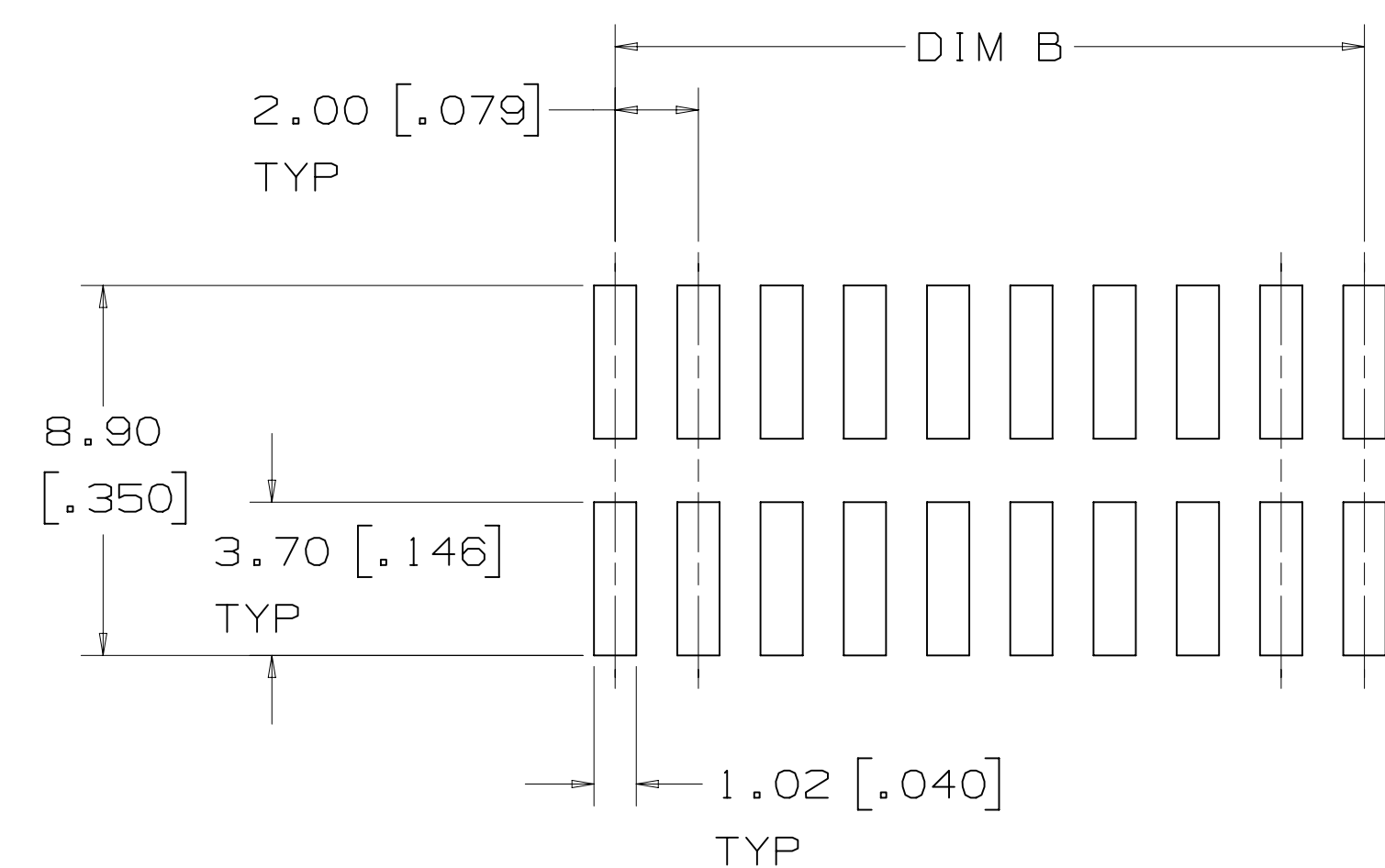
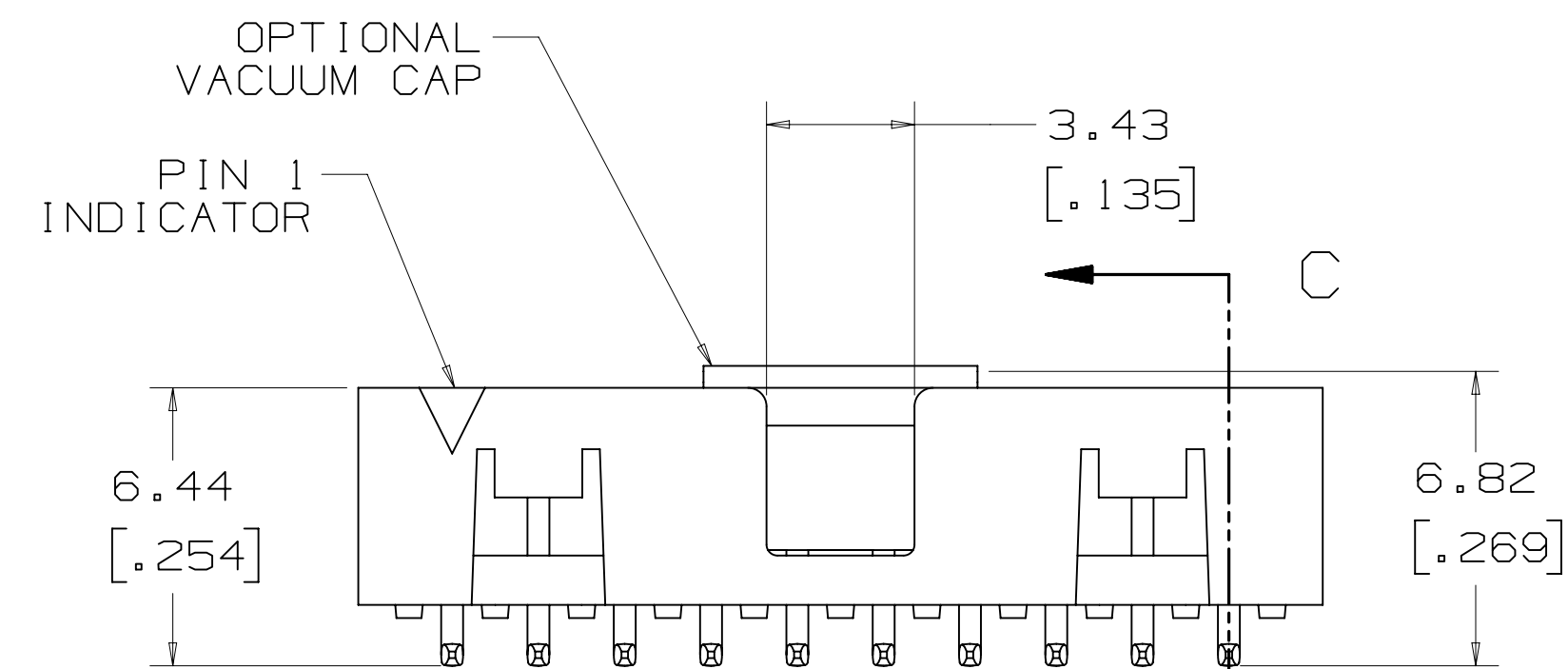
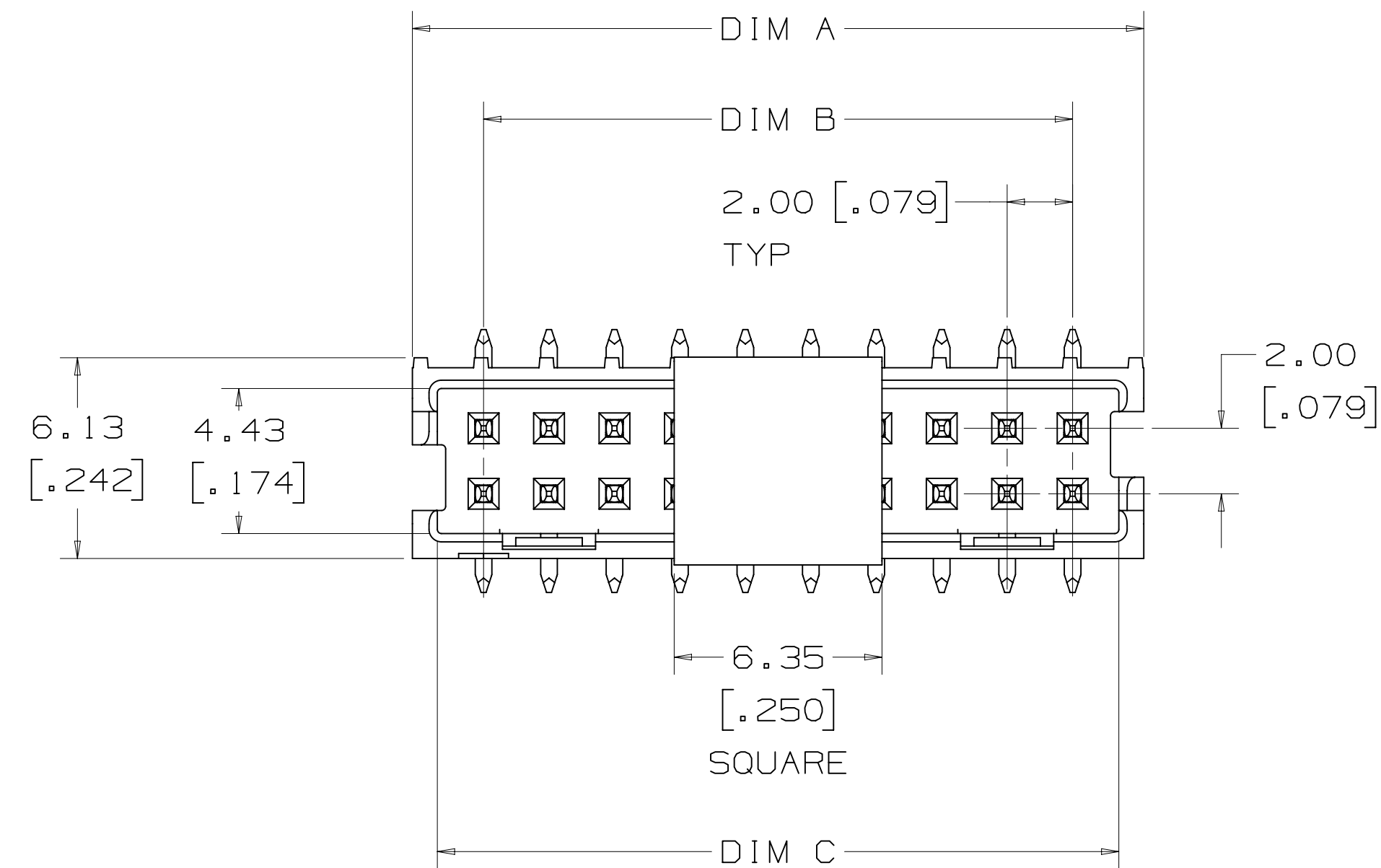
3M SHROUDED BOARD MOUNT HEADER 2 MM X 2 MM PITCH 159 SERIES

3M Center St. Paul, MN 55144

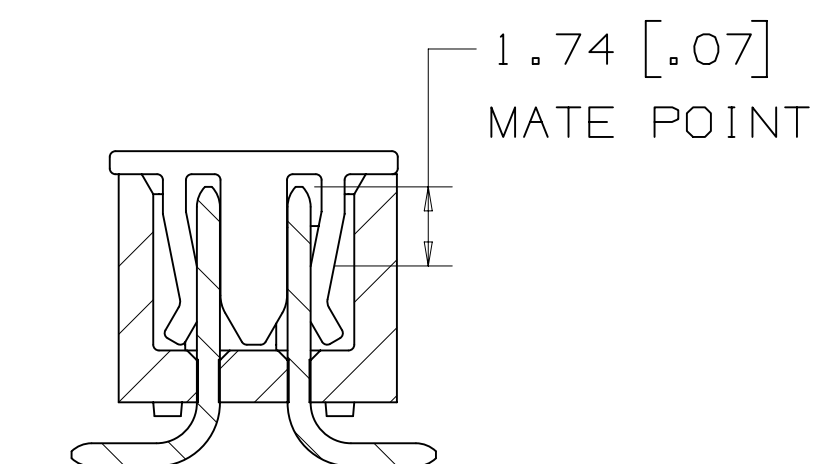
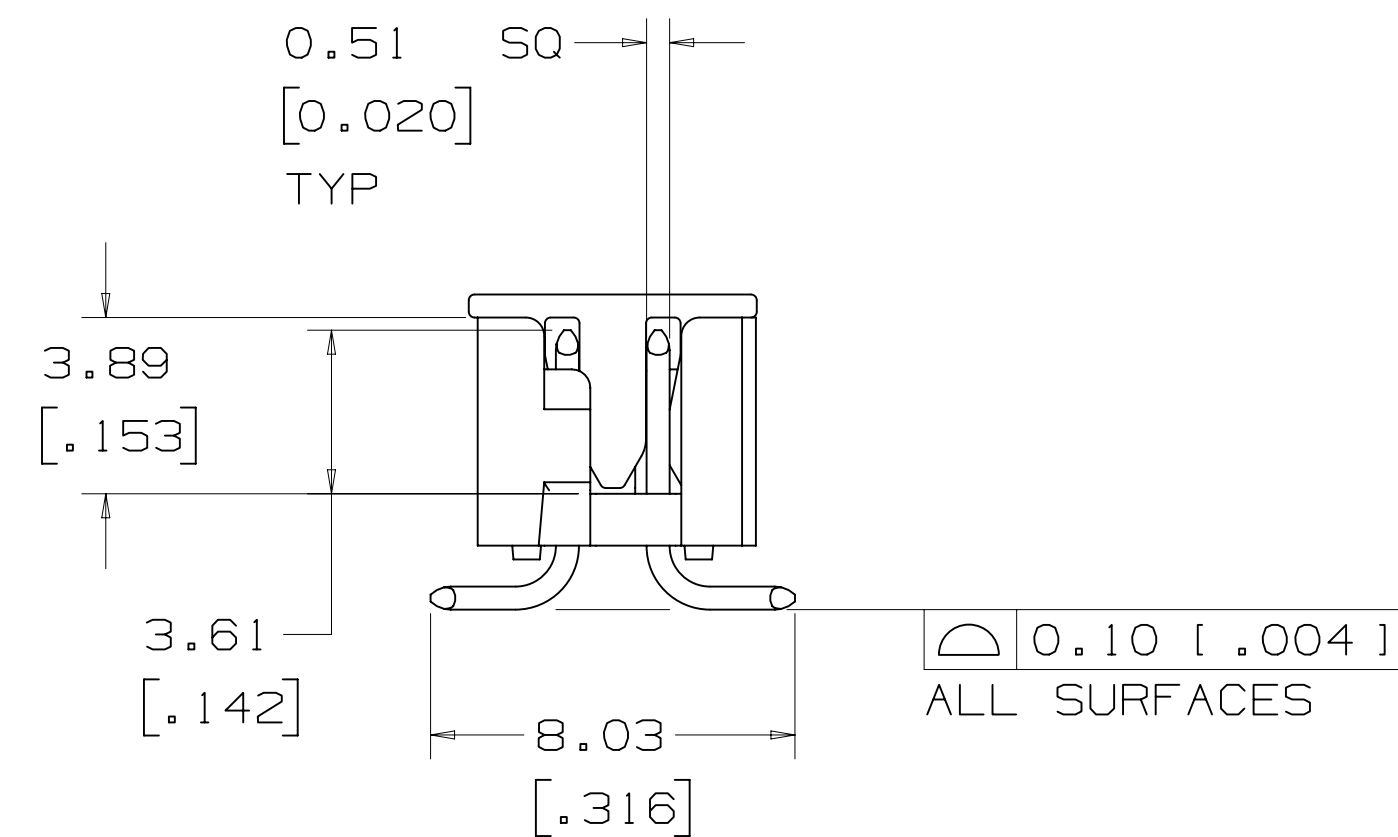
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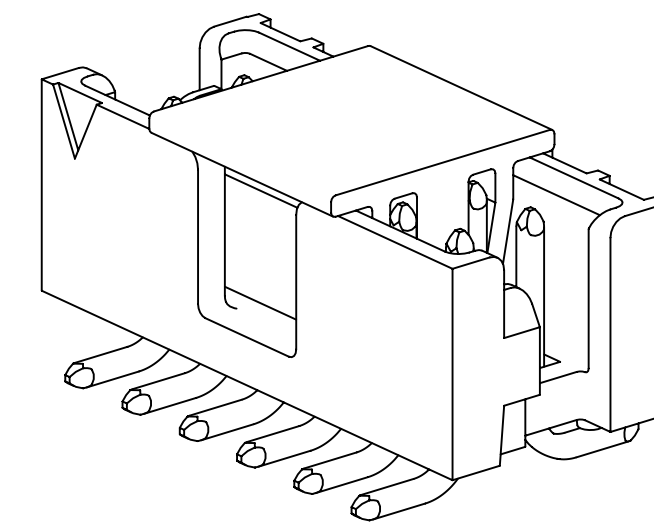
3M™ Shrouded Board Mount Header 2 mm X 2 mm Pitch 159 Series, Standard Length and Extended Length



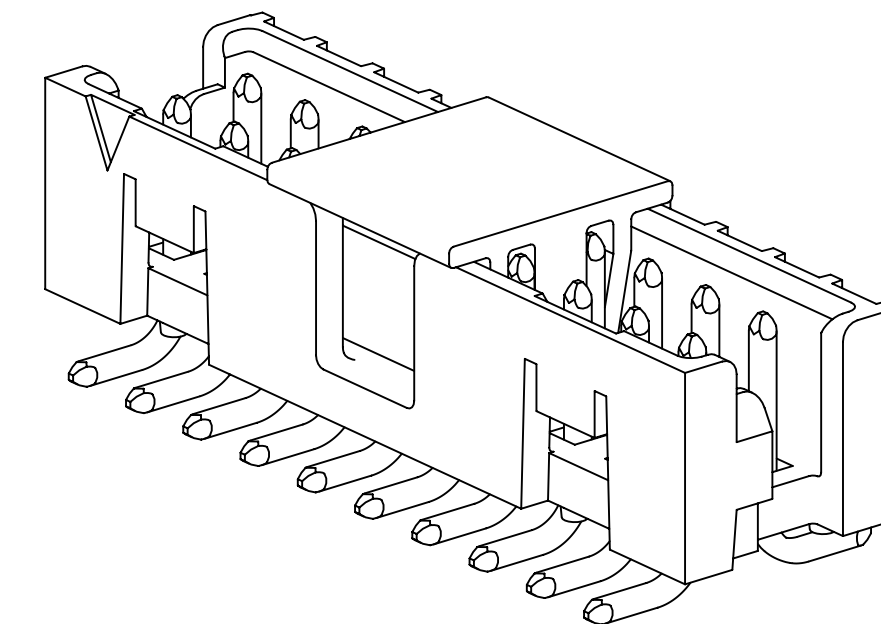
RECOMMENDED PCB PAD PATTERN
TOLERANCE = ± 0.08 [.003]



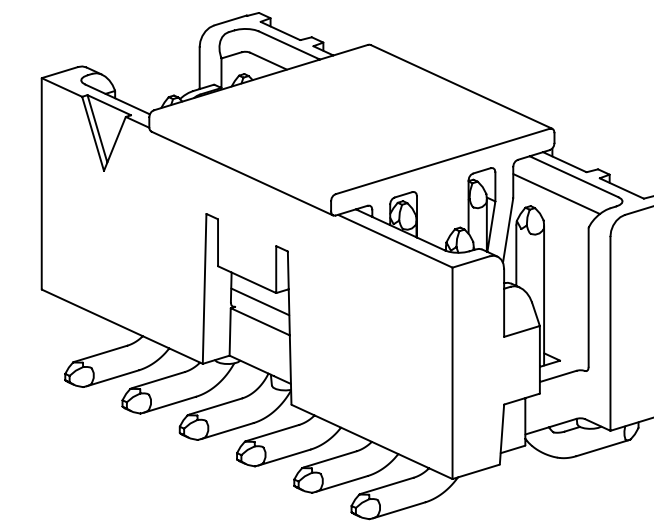
SECTION C - C



POLARIZATION SLOT
SURFACE MOUNT HEADER
6-12 POSITIONS ONLY



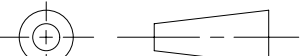
POLARIZATION SLOT AND
DUAL FRICTION LATCHES
SURFACE MOUNT HEADER
14-50 POSITIONS



SINGLE FRICTION LATCH
SURFACE MOUNT HEADER
6-12 POSITIONS ONLY

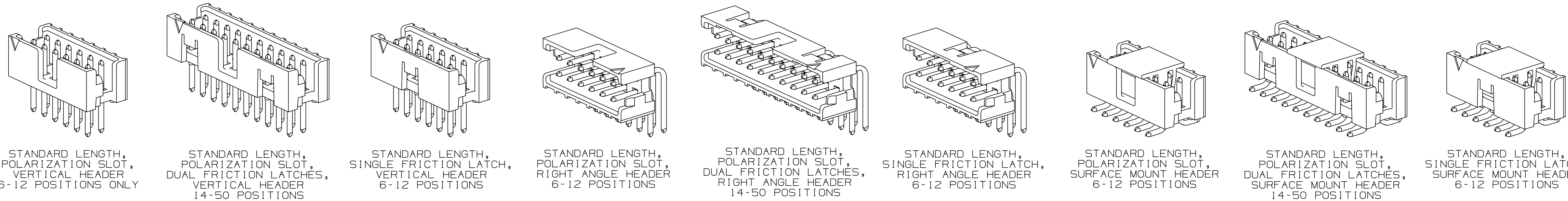
REFERENCE TABLE ON SHEET 5
FOR AVAILABLE POSITIONS

METRIC [ENGLISH]

DESIGN REFERENCE				NEXT ASSEMBLY		REV	ECO	ISSUE DATE AND DESCRIPTION		DRFT	CHKD
ADDEND CODES				DRFT		L. SCHMIDT		JUL 29, 2010		DATE	
				CHKD				DATE		APPR	5 FELDMAN
										DATE	AUG 09, 2010
DIVISION				DIVISION CODE				© 3M COPYRIGHT 2010 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 4 1		TOLERANCES EXCEPT AS NOTED		 3M Center ST. PAUL, MN 55114					
		INCHES 0.0 0.00 0.000 0.000 ±		TITLE 3M SHROUDED BOARD MOUNT HEADER 2 MM X 2 MM PITCH 159 SERIES							
THIRD ANGLE PROJECTION INTERPRET PER ASME Y14.5 - 1994				MILLIMETERS 0 0.1 0.00 ± 0.13 0.000 ±		CAGE NUMBER		SIZE		DRAWING NO.	
MAX SURFACE ROUGHNESS 125 ✓ □ ALL SURFACES ✓ MARKED ONLY				ANGLES ± 1°		D 78-5100-2359-7		REV.		F	
						MODEL		DET. LISTS		YES X NO SHT 3 OF 5	

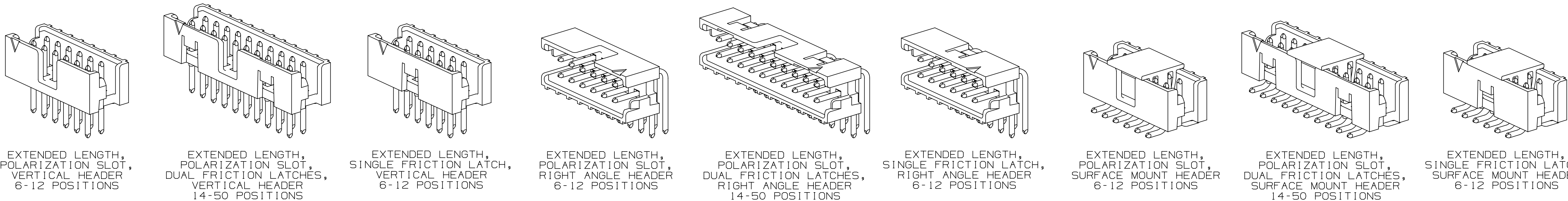
3M™ Shrouded Board Mount Header 2 mm X 2 mm Pitch 159 Series, Standard Length 3

STANDARD LENGTH HEADERS
ARE AVAILABLE



3M™ Shrouded Board Mount Header 2 mm X 2 mm Pitch 159 Series, Extended Length 4

CALL 3M INTERCONNECT SOLUTIONS
AT 800-225-5373 FOR AVAILABILITY
OF EXTENDED LENGTH HEADERS



ORDERING INFORMATION

TIER 1 - BEST
1591XX-XXXX

TIER
1 = BEST 0.76 μ m
[30 μ in] GOLD

POSITION COUNT
(SEE TABLE)

PART CONFIGURATION
2 = VERTICAL SMT
5 = RIGHT ANGLE THRU HOLE
6 = VERTICAL THRU HOLE

BODY LENGTH
0 = STANDARD LENGTH
(MATES TO 158 SERIES)
1 = EXTENDED LENGTH
(MATES TO 870 SERIES)

CONTACT TAIL LENGTH
2 = 2.84 mm [.112]
3 = 3.94 mm [.155]

POLARIZATION/LATCHING
0 = POLARIZATION SLOT AND
DUAL FRICTION LATCHES
(14-50 POSITIONS ONLY)
1 = POLARIZATION SLOT
(6-12 POSITIONS ONLY)
2 = SINGLE FRICTION LATCH
(6-12 POSITIONS ONLY)

TIER 2 - BETTER
1592XX-XXXX

TIER
2 = BETTER 0.38 μ m
[15 μ in] GOLD

POSITION COUNT
(SEE TABLE)

PART CONFIGURATION
2 = VERTICAL SMT
5 = RIGHT ANGLE THRU HOLE
6 = VERTICAL THRU HOLE

BODY LENGTH
0 = STANDARD LENGTH
(MATES TO 158 SERIES)
1 = EXTENDED LENGTH
(MATES TO 870 SERIES)

CONTACT TAIL LENGTH
2 = 2.84 mm [.112]
3 = 3.94 mm [.155]

POLARIZATION/LATCHING
0 = POLARIZATION SLOT AND
DUAL FRICTION LATCHES
(14-50 POSITIONS ONLY)
1 = POLARIZATION SLOT
(6-12 POSITIONS ONLY)
2 = SINGLE FRICTION LATCH
(6-12 POSITIONS ONLY)

METRIC [ENGLISH]

F	52868	MAR 05, 2014	SJS	SAN
E	51692	DEC 16, 2013	SJS	SAN
D	41488	JUN 20, 2012	LDS	SAN
C	39876	APR 18, 2012	LDS	SAN
B	34080	MAY 18, 2011	LDS	SF
A	30741	OCT 28, 2010	LDS	SF
REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
DRFT	L. SCHMIDT	DATE JUL 29, 2010	DATE	DATE
CHKD		DATE	APPROV S FELDMAN	DATE AUG 09, 2010
DIVISION		DIVISION CODE		
DO NOT SCALE DRAWING	SCALE 4 1	TOLERANCES EXCEPT AS NOTED		
THIRD ANGLE PROJECTION		INCHES .00 .00 .000 .0000		
INTERPRET PER ASME Y14.5 - 1994		MILLIMETERS 0 .0 .00 .000		
MAX SURFACE ROUGHNESS 125		ALL SURFACES MARKED ONLY		
ANGLES $\pm$ 1°				
TITLE	3M SHROUDED BOARD MOUNT HEADER 2 MM X 2 MM PITCH 159 SERIES			
CAGE NUMBER	78-5100-2359-7	DRAWING NO.	REV.	
MODEL		DET	ISTS	YES NO SHT 4 OF 5

3M™ Shrouded Board Mount Header 2 mm X 2 mm Pitch 159 Series, Standard Length

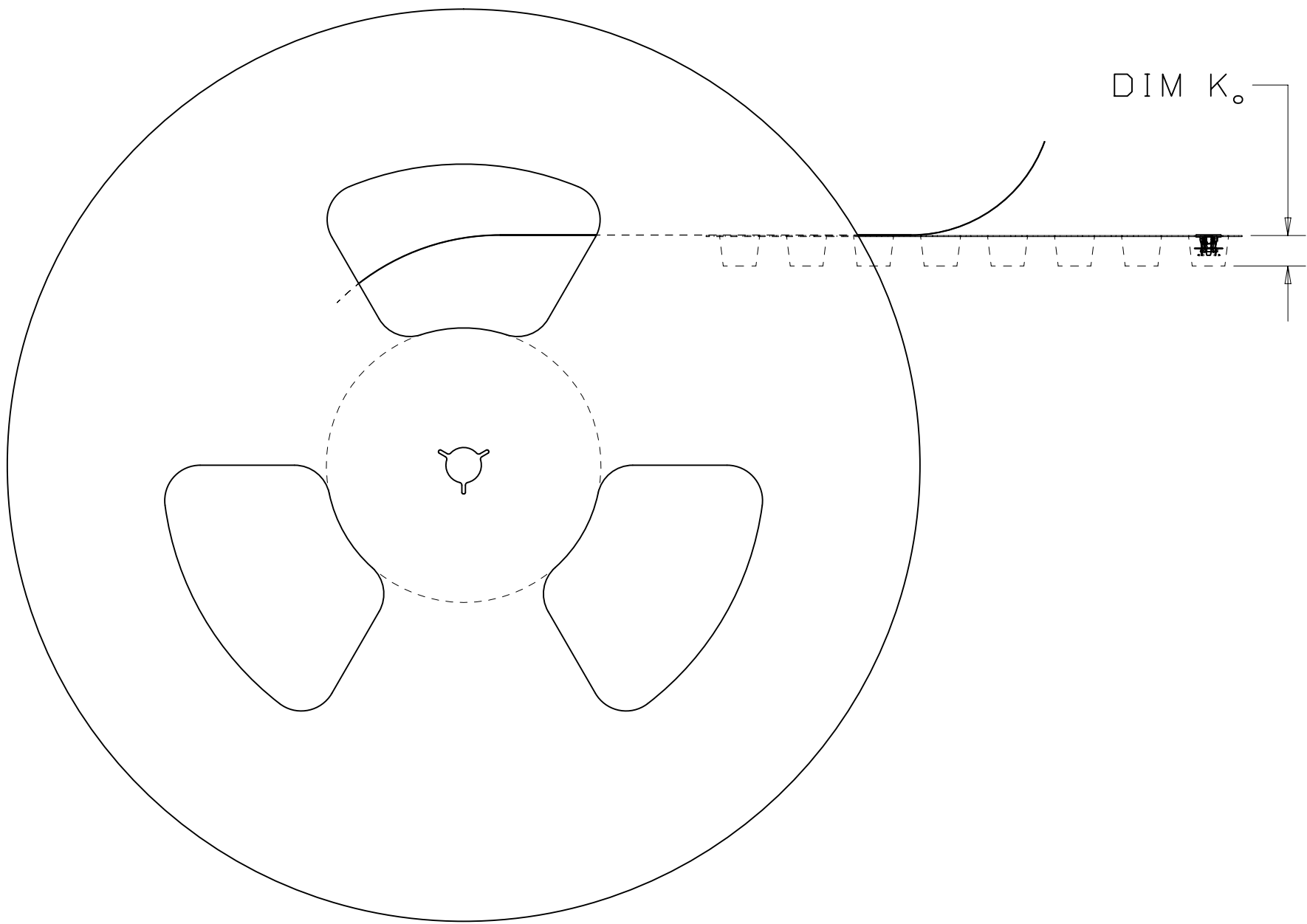
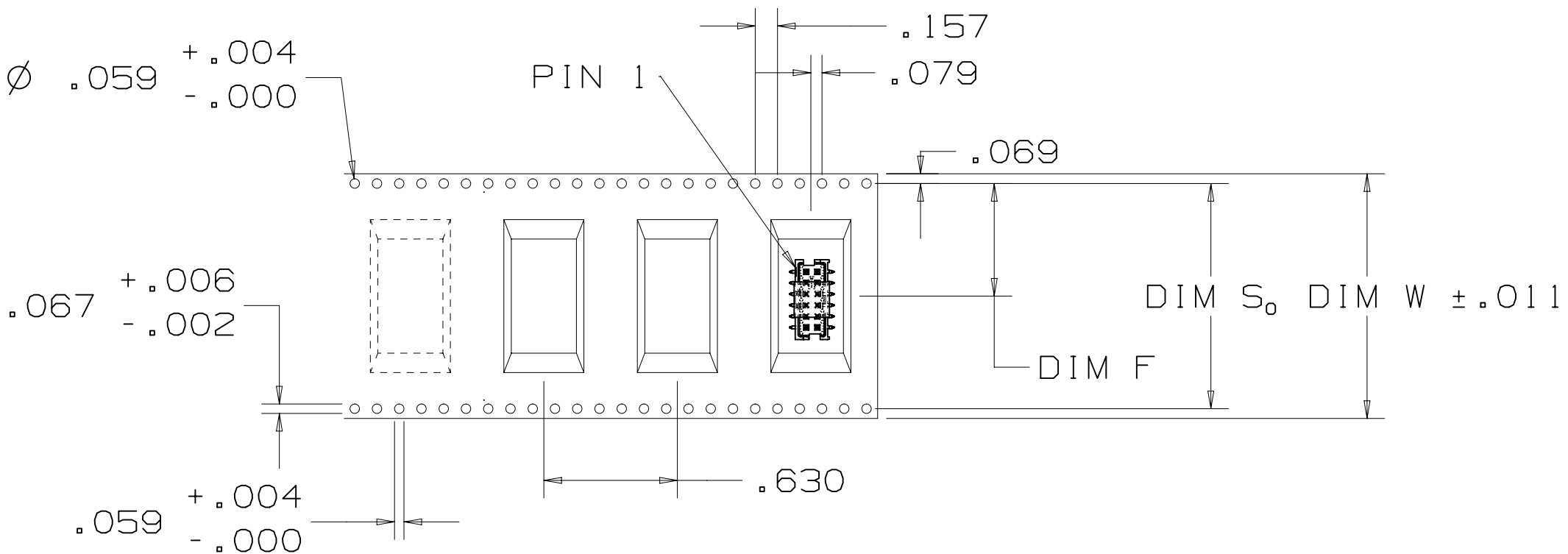
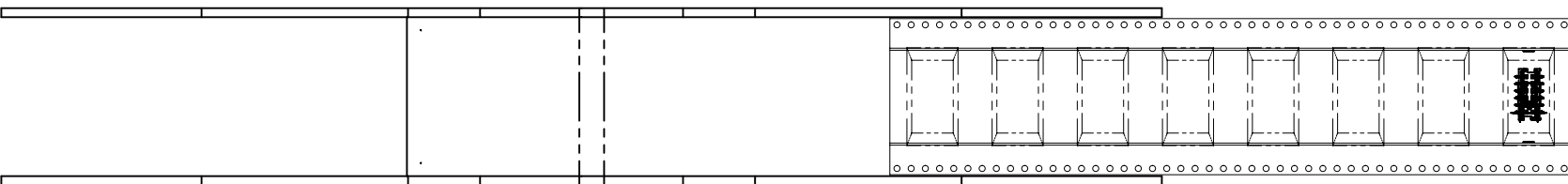
3

 and Extended Length

4

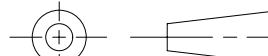
SHROUDED BOX HEADER							
NUMBER OF POSITIONS	DIM A		DIM B	DIM C		DIM D	
	STANDARD	EXTENDED		STANDARD	EXTENDED		
6	8.35 [.329]	9.52 [.375]	4.00 [.157]	6.83 [.269]	7.99 [.315]	2.84 [.112]	3.94 [.155]
8	10.35 [.407]	11.52 [.453]	6.00 [.236]	8.83 [.347]	9.99 [.393]	2.84 [.112]	3.94 [.155]
10	12.35 [.486]	13.52 [.532]	8.00 [.315]	10.83 [.426]	11.99 [.472]	2.84 [.112]	3.94 [.155]
12	14.35 [.565]	15.52 [.611]	10.00 [.394]	12.83 [.505]	13.99 [.551]	2.84 [.112]	3.94 [.155]
14	16.35 [.644]	17.52 [.690]	12.00 [.472]	14.83 [.584]	15.99 [.630]	2.84 [.112]	3.94 [.155]
16	18.35 [.722]	19.52 [.768]	14.00 [.551]	16.83 [.662]	17.99 [.708]	2.84 [.112]	3.94 [.155]
20	22.35 [.880]	23.52 [.926]	18.00 [.709]	20.83 [.820]	21.99 [.866]	2.84 [.112]	3.94 [.155]
22	24.35 [.959]	25.52 [1.005]	20.00 [.787]	22.83 [.899]	23.99 [.945]	2.84 [.112]	3.94 [.155]
24	26.35 [1.037]	27.52 [1.083]	22.00 [.866]	24.83 [.977]	25.99 [1.023]	2.84 [.112]	3.94 [.155]
26	28.35 [1.116]	29.52 [1.162]	24.00 [.945]	26.83 [1.056]	27.99 [1.102]	2.84 [.112]	3.94 [.155]
30	32.35 [1.274]	33.52 [1.320]	28.00 [1.102]	30.83 [1.214]	31.99 [1.260]	2.84 [.112]	3.94 [.155]
34	36.35 [1.431]	37.52 [1.477]	32.00 [1.260]	34.83 [1.371]	35.99 [1.417]	2.84 [.112]	3.94 [.155]
40	42.35 [1.667]	43.52 [1.713]	38.00 [1.496]	40.83 [1.607]	41.99 [1.653]	2.84 [.112]	3.94 [.155]
44	46.35 [1.825]	47.52 [1.871]	42.00 [1.654]	44.83 [1.765]	45.99 [1.811]	2.84 [.112]	3.94 [.155]
50	52.35 [2.061]	53.52 [2.107]	48.00 [1.890]	50.83 [2.001]	51.99 [2.047]	2.84 [.112]	3.94 [.155]

NUMBER OF POSITIONS	DIM F +/- 0.10	DIM K _o +/- 0.10	DIM S _o +/- 0.10	DIM W +/- 0.30
6	14.20 (.559)	7.46 (.294)	28.40 (1.118)	32 (1.26)
8	20.20 (.795)	7.46 (.294)	40.40 (1.591)	44 (1.73)
10	14.20 (.559)	7.46 (.294)	28.40 (1.118)	32 (1.26)
12	20.20 (.795)	7.46 (.294)	40.40 (1.591)	44 (1.73)
14	14.20 (.559)	7.46 (.294)	28.40 (1.118)	32 (1.26)
16	20.20 (.795)	7.46 (.294)	40.40 (1.591)	44 (1.73)
20	20.20 (.795)	7.46 (.294)	40.40 (1.591)	44 (1.73)
22	26.20 (1.031)	7.46 (.294)	52.40 (2.063)	56 (2.20)
24	20.20 (.795)	7.46 (.294)	40.40 (1.591)	44 (1.73)
26	26.20 (1.031)	7.46 (.294)	52.40 (2.063)	56 (2.20)
30	26.20 (1.031)	7.46 (.294)	52.40 (2.063)	56 (2.20)
34	26.20 (1.031)	7.46 (.294)	52.40 (2.063)	56 (2.20)
40	34.20 (1.346)	7.46 (.294)	68.40 (2.693)	72 (2.83)
44	34.20 (1.346)	7.46 (.294)	68.40 (2.693)	72 (2.83)
50	34.20 (1.346)	7.46 (.294)	68.40 (2.693)	72 (2.83)



METRIC [ENGLISH]

F	52868	MAR 05,2014 ADD TAPE & REEL, MATE PT, VOLTAGE RATING	SJS	SAN
E	51692	DEC 16,2013 ADD UL SYMBOLS	SJS	SAN
D	41488	JUN 20,2012 REVISED CURRENT RATING IN PERFORMANCE TABLE	LDS	SAN
C	39876	APR 18,2012 REMOVED 32 POS FROM TABLE ON SHT 5	LDS	SAN
B	34080	MAY 18,2011 ADDED 6.19 DIM ON SHT 2; REVISED & MOVED TABLE TO SHT 5	LDS	SF
A	30741	OCT 28,2010 INITIAL RELEASE	LDS	SF

DESIGN REFERENCE			NEXT ASSEMBLY			REV	ECO	ISSUE DATE AND DESCRIPTION			DRFT	CHKD	
ACCESS CODES						DRFT	L. SCHMIDT	DATE	JUL 29, 2010	MFG		DATE	
						CHKD		DATE		APPROV	S FELDMAN	DATE	AUG 09, 2010
DIVISION			DIVISION CODE			© 3M COPYRIGHT 2010							
DO NOT SCALE DRAWING			SCALE 1/1			TOLERANCES EXCEPT AS NOTED			3M 3M Center St. Paul, MN 55144 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.				
						INCHES							
THIRD ANGLE PROJECTION						MILLIMETERS			TITLE 3M SHROUDED BOARD MOUNT HEADER 2 MM X 2 MM PITCH 159 SERIES				
INTERPRET PER ASME Y14.5 - 1994						0 0 0 0.00 0.00 0.00 0.00							
MAX SURFACE ROUGHNESS						0 0 0 0.00 0.00 0.00 0.00			CAGE NUMBER D 78-5100-2359-7				
125 ✓						0 0 0 0.00 0.00 0.00 0.00							
☐ ALL SURFACES						0 0 0 0.00 0.00 0.00 0.00			REV. F				
☒ MARKED ONLY						0 0 0 0.00 0.00 0.00 0.00							
						ANGLES ± 1°			MODEL DET. LISTS ☐ YES ☒ NO SHT 5 OF 5				