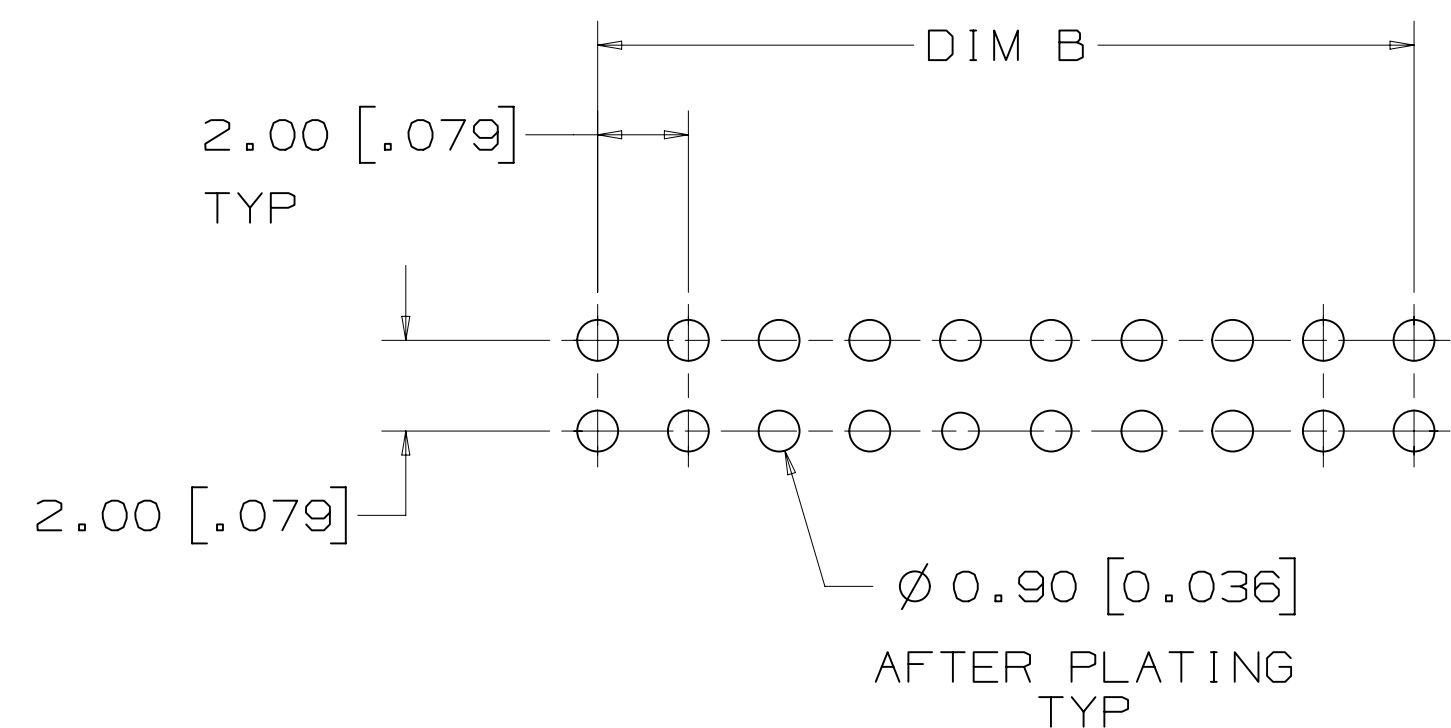
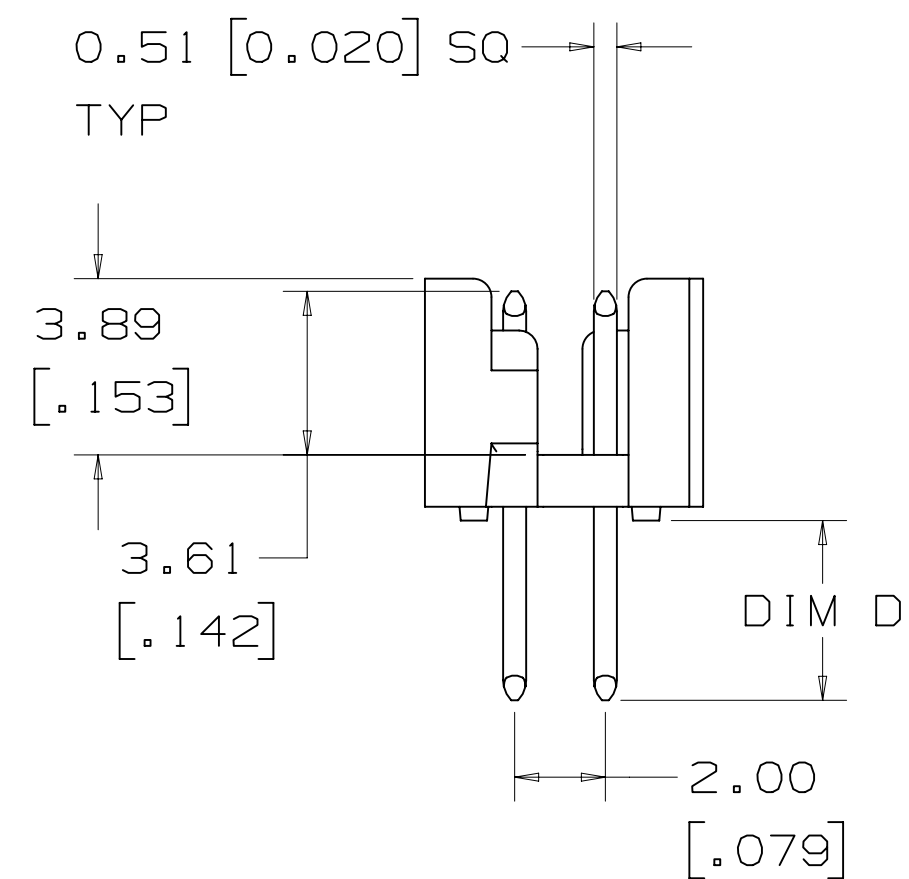
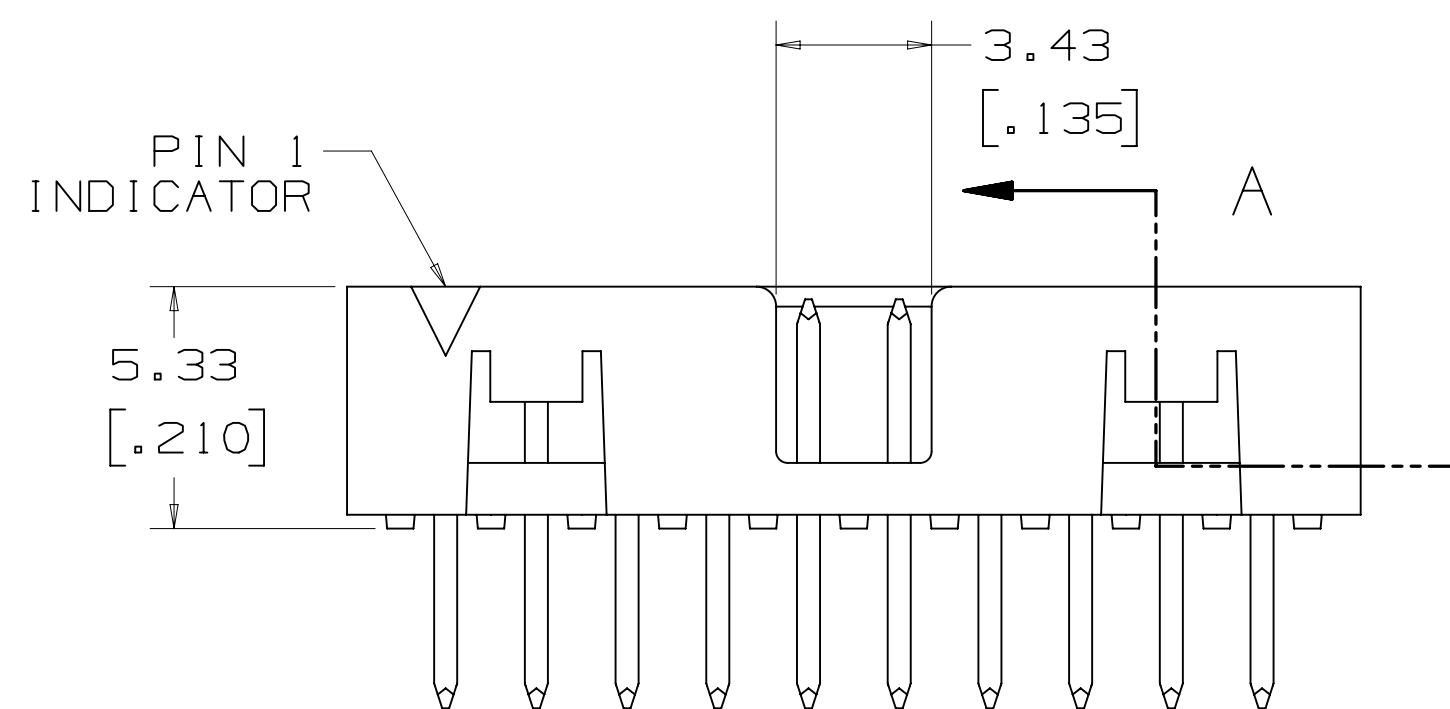
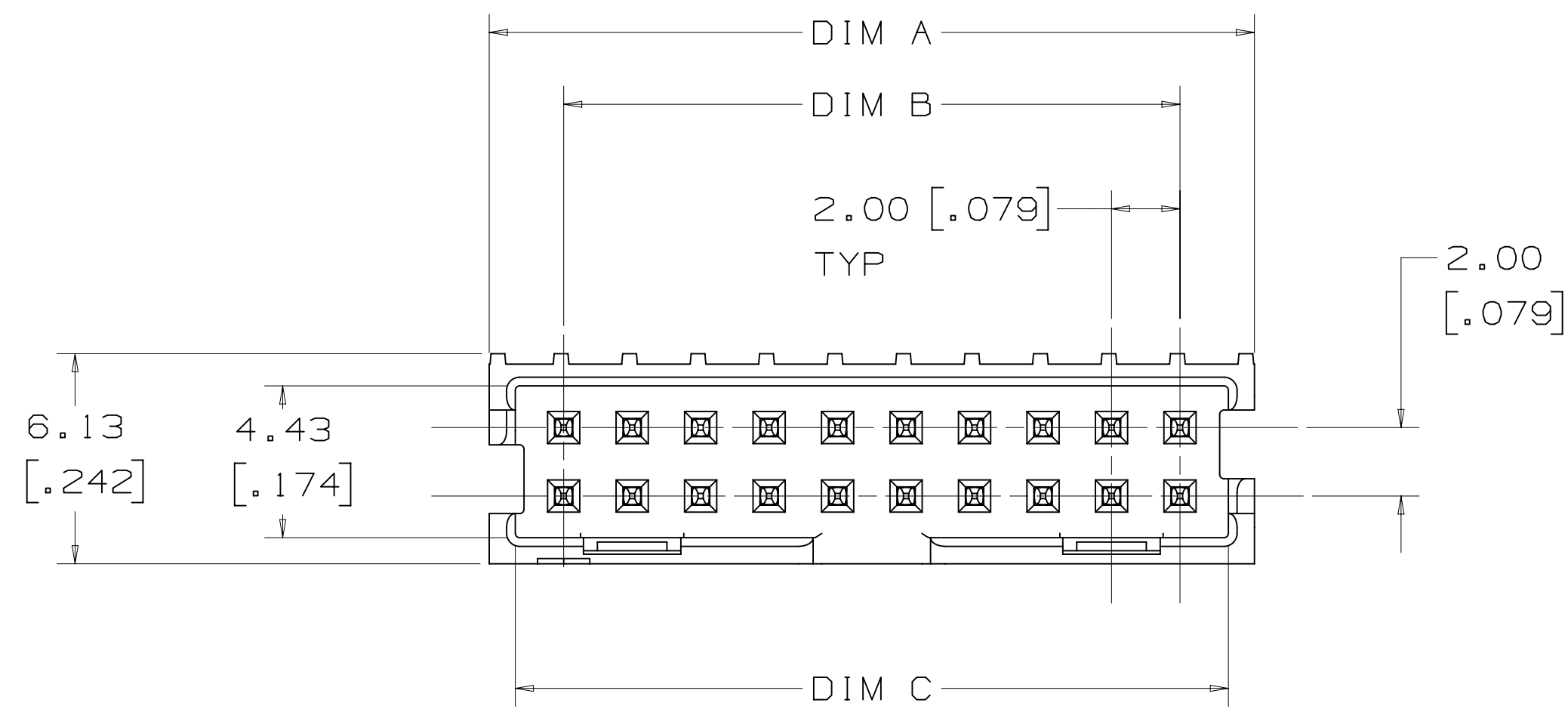
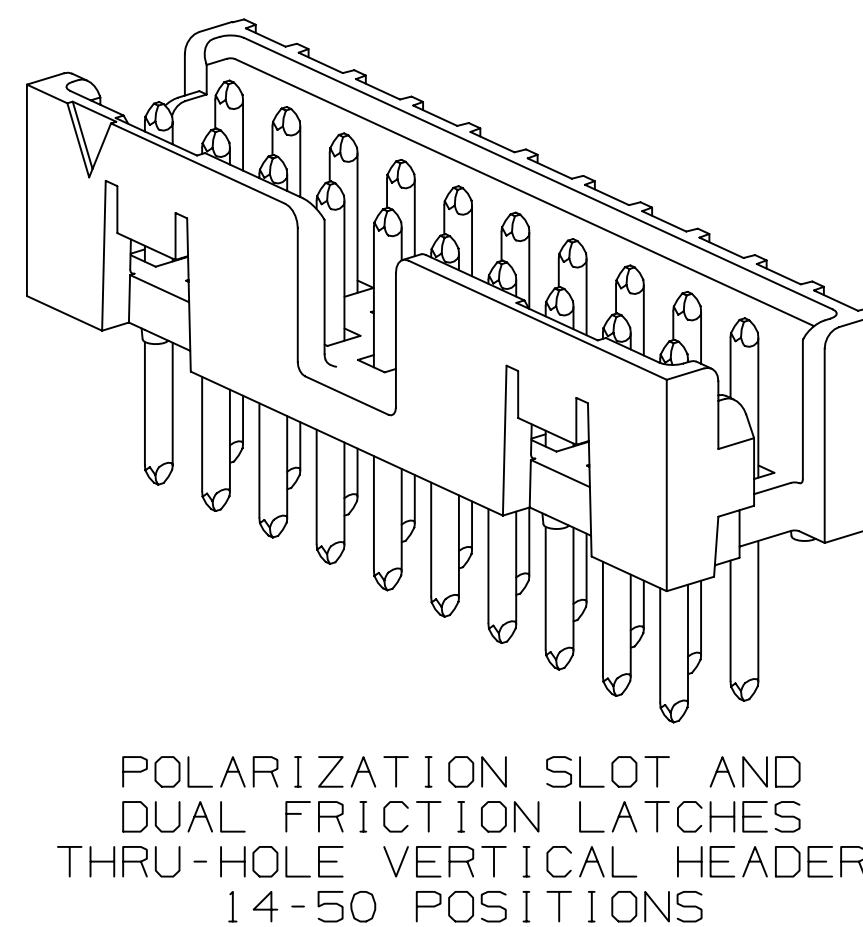
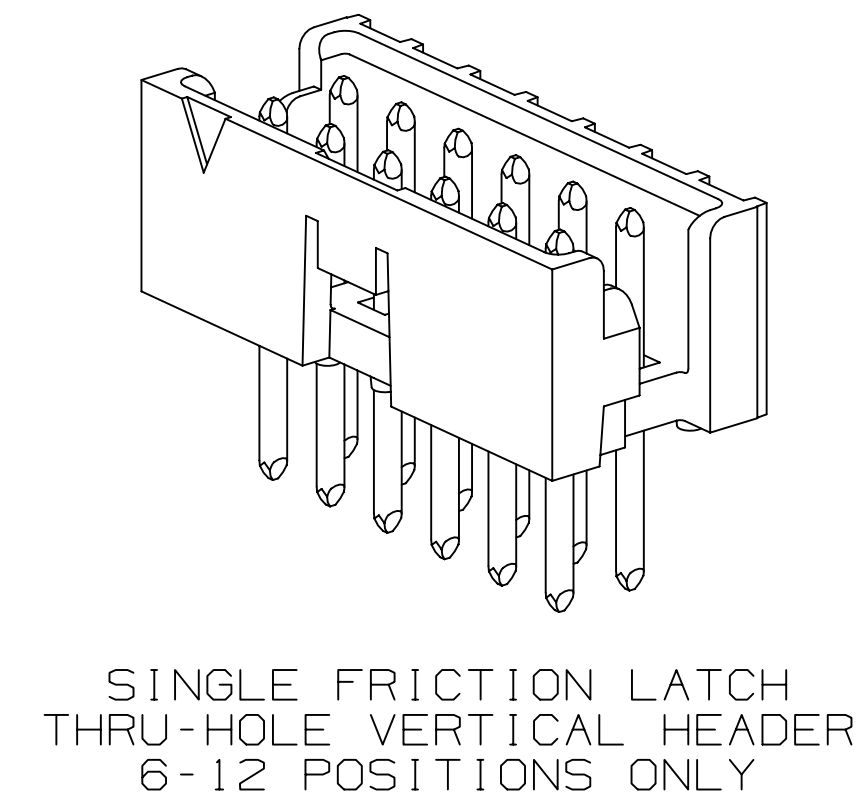
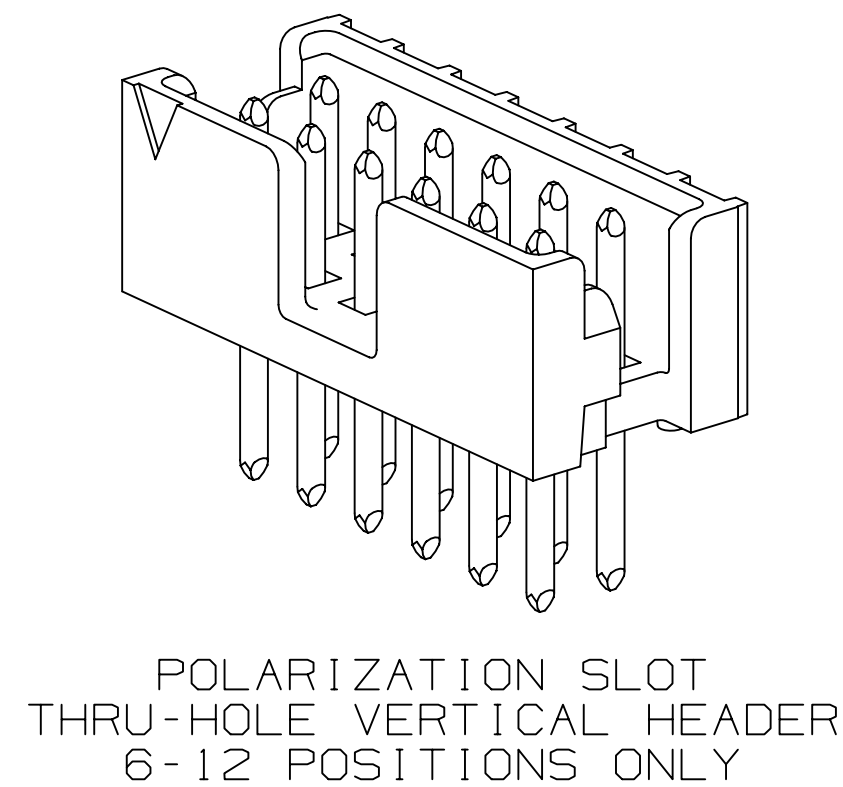
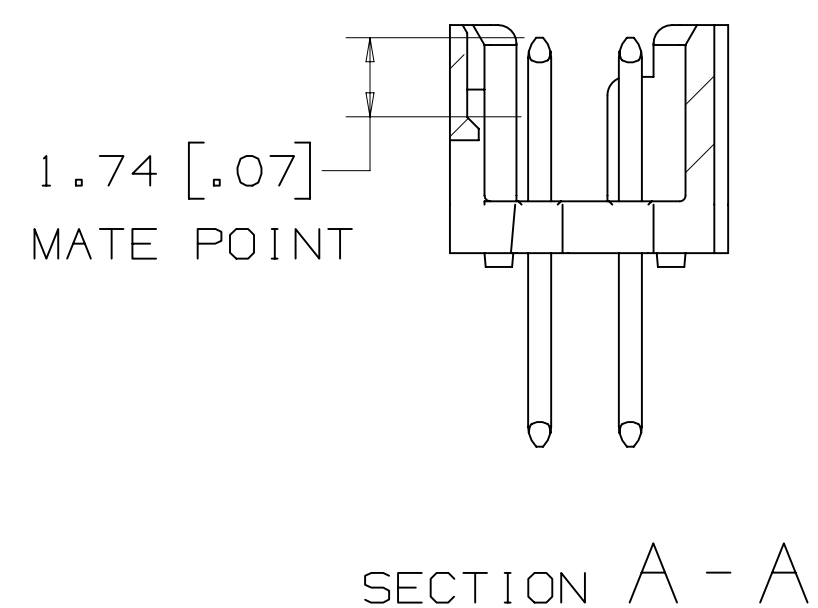


3M™ Shrouded Board Mount Header 2 mm X 2 mm Pitch 159 Series, Standard Length [3] and Extended Length [4]



RECOMMENDED PCB HOLE PATTERN
TOLERANCE = 0.05 [.002]



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 TAIL POSITIONS AND
SOLDER TAIL LENGTHS

NOTES

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

REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
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
DATE	DATE	DATE	DATE	DATE	DATE	DATE
APPROV	APPROV	DATE	DATE	DATE	DATE	DATE

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 St. Paul,
 MN 55144
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TITLE
**3M SHROUDED BOARD
 MOUNT HEADER 2 MM X 2
 MM PITCH 159 SERIES**

CAGE NUMBER
D 78-5100-2359-7

MODEL
D 78-5100-2359-7

INTERPRET PER
 ASME Y14.5 - 1994

MAX SURFACE ROUGHNESS
 ALL SURFACES
 MARKED ONLY

TOLERANCES EXCEPT AS NOTED
 INCHES
 .00 ±
 .000 ±
 .0000 ±
 MILLIMETERS
 0 ±
 .00 ±
 .00 ± 0.13
 .000 ±
 ANGLES ±1°

DO NOT SCALE DRAWING
 SCALE 6/1
 THIRD ANGLE PROJECTION
 INTERPRET PER ASME Y14.5 - 1994
 MAX SURFACE ROUGHNESS ALL SURFACES MARKED ONLY

METRIC [ENGLISH]
3M
 UL FILE NO: E68080

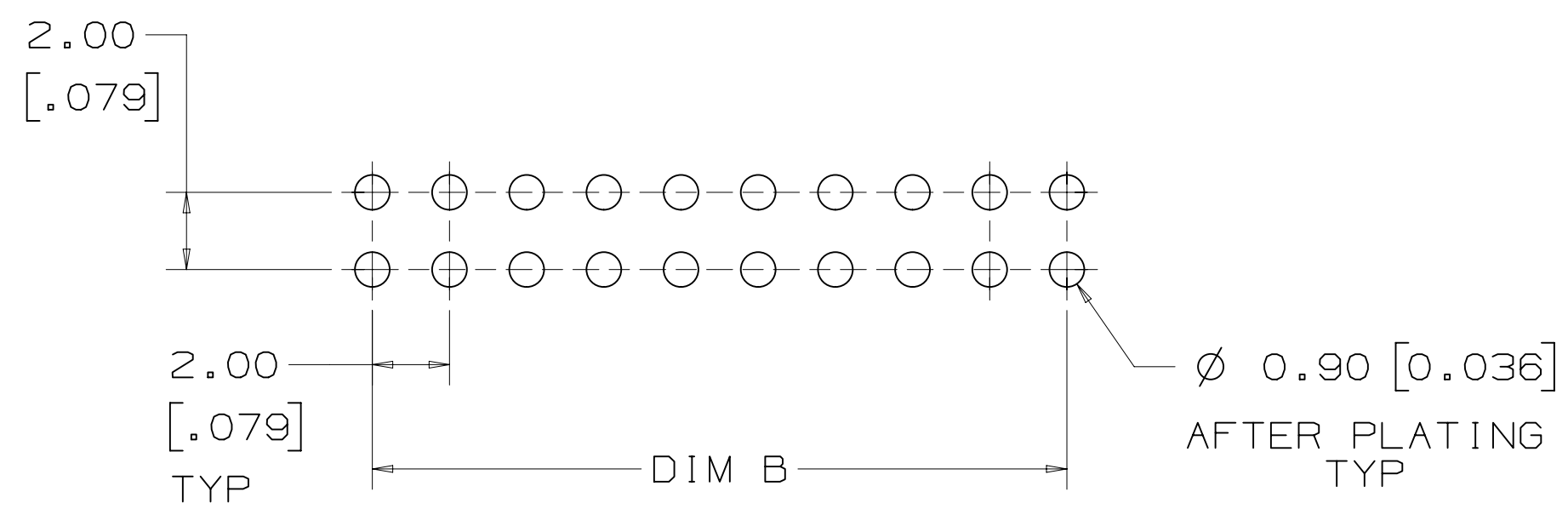
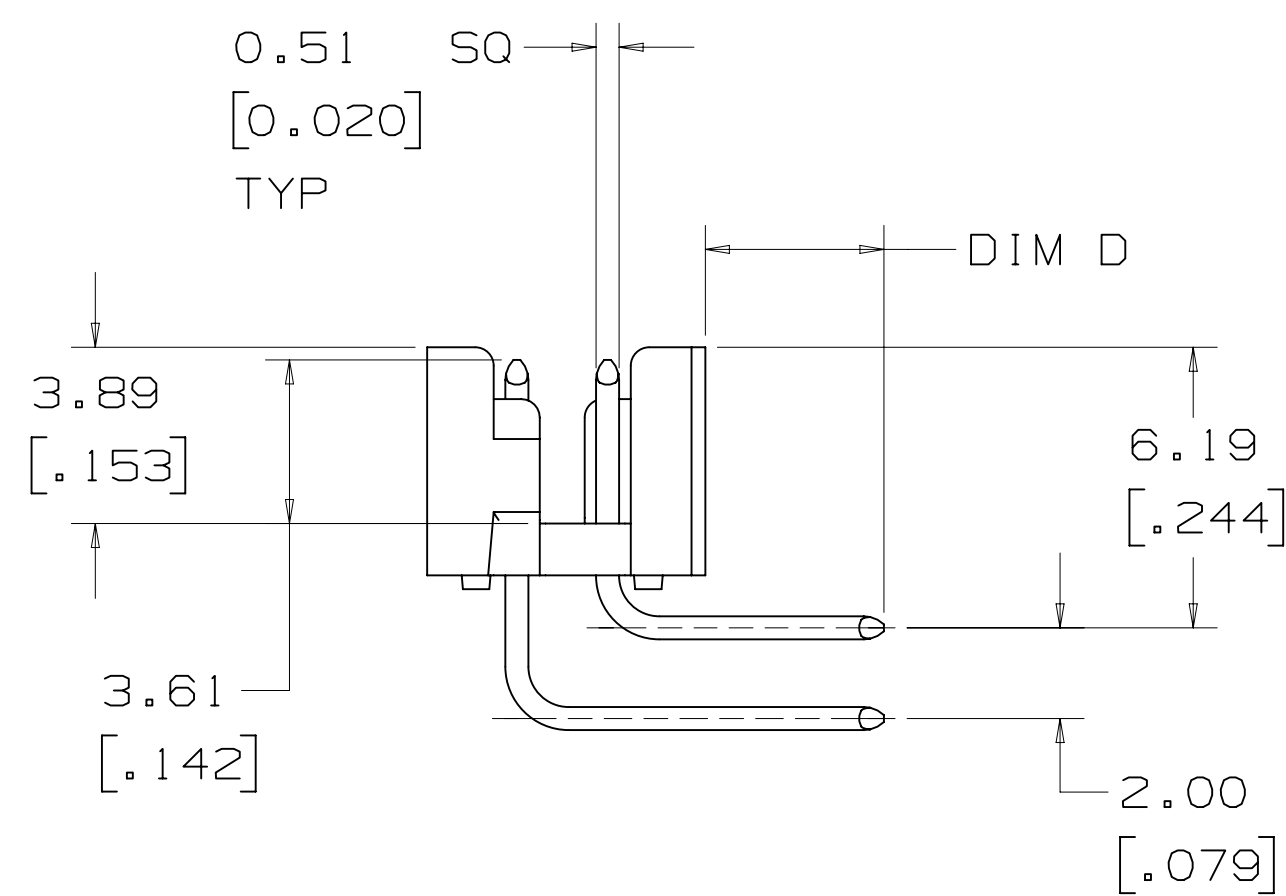
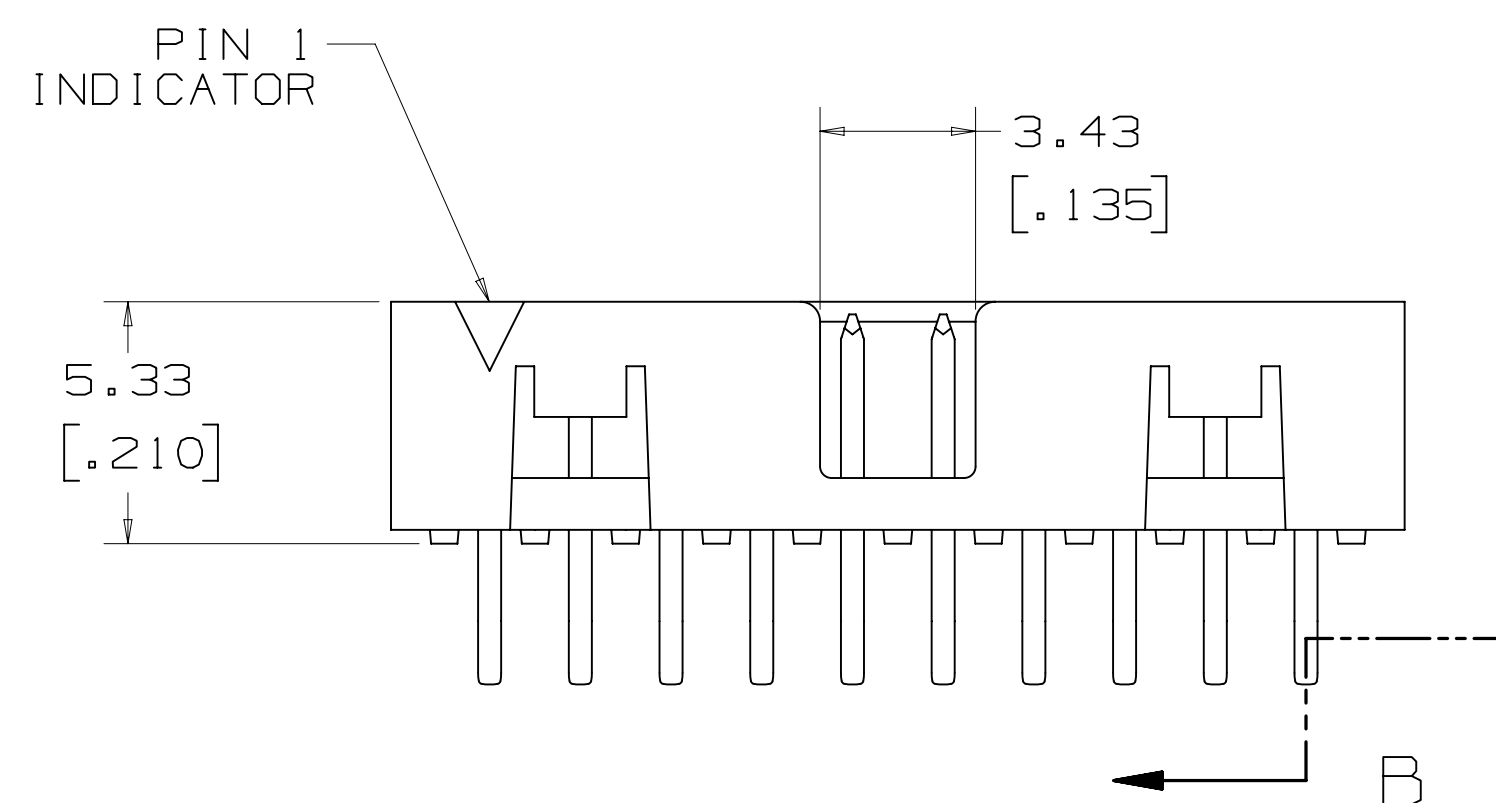
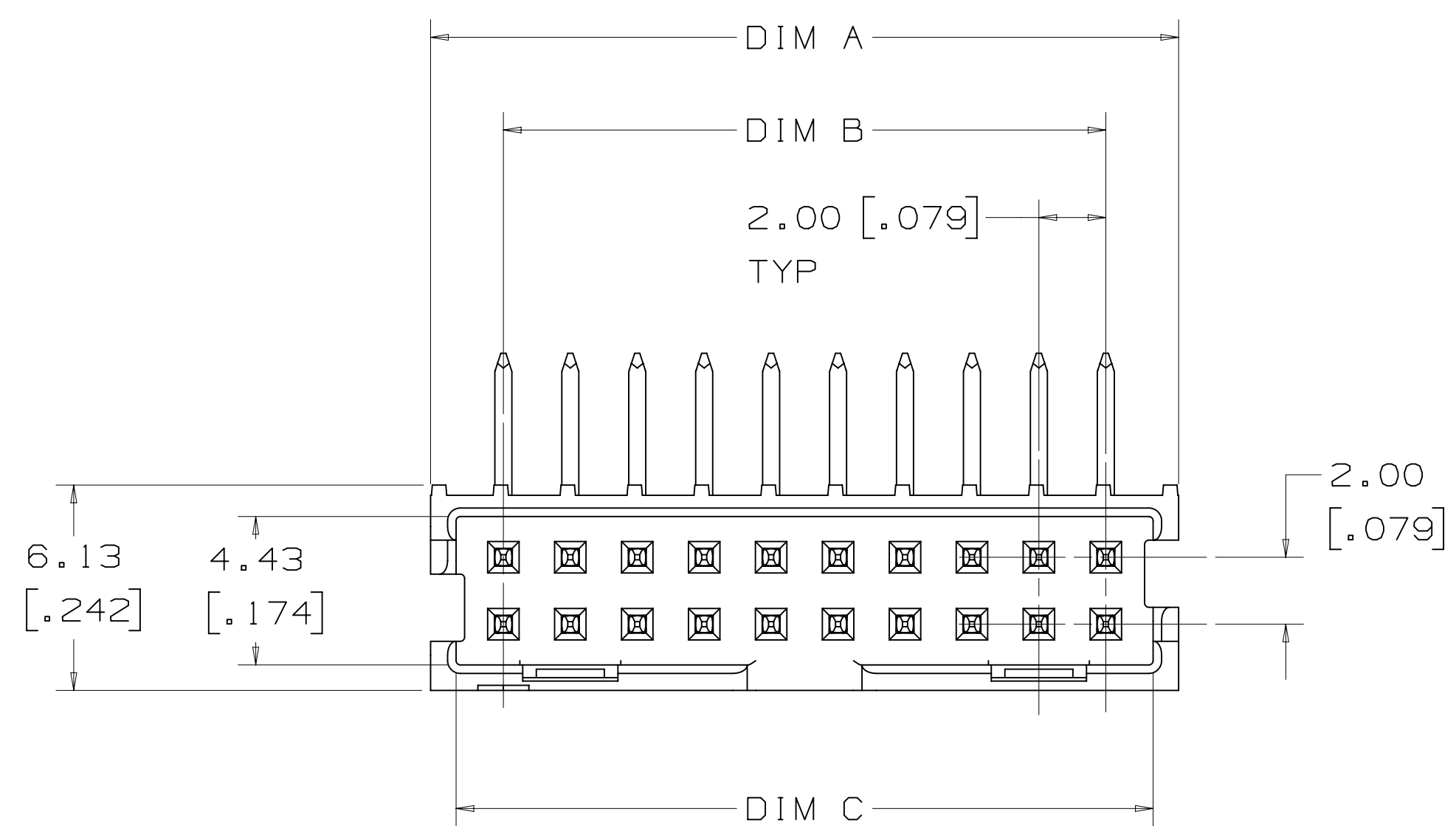
DIVISION
 DIVISION CODE

TOLERANCES EXCEPT AS NOTED
 INCHES
 .00 ±
 .000 ±
 .0000 ±
 MILLIMETERS
 0 ±
 .00 ±
 .00 ± 0.13
 .000 ±
 ANGLES ±1°

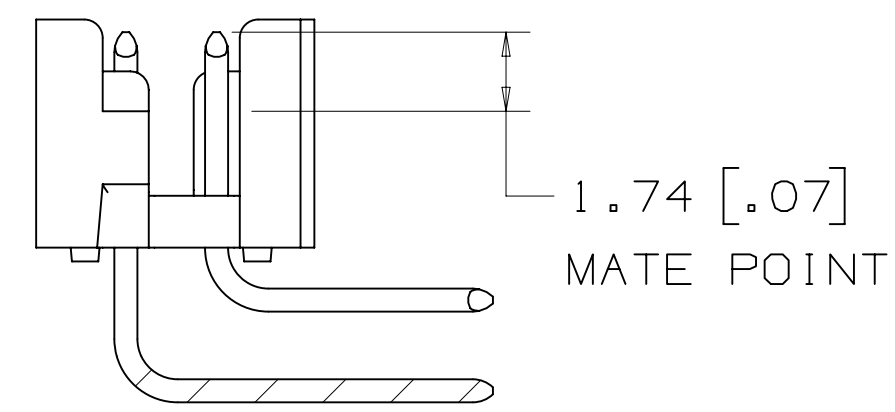
MODEL
D 78-5100-2359-7

SHEET 1 OF 5

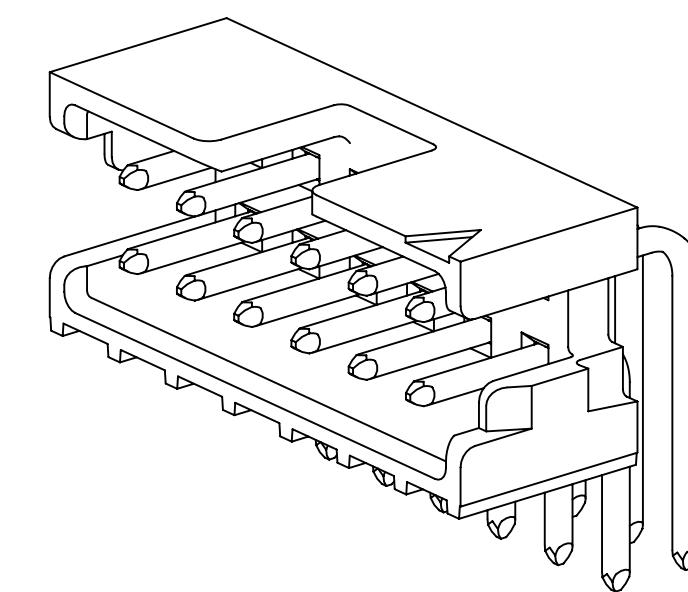
3M™ Shrouded Board Mount Header 2 mm X 2 mm Pitch 159 Series, Standard Length 3 and Extended Length 4



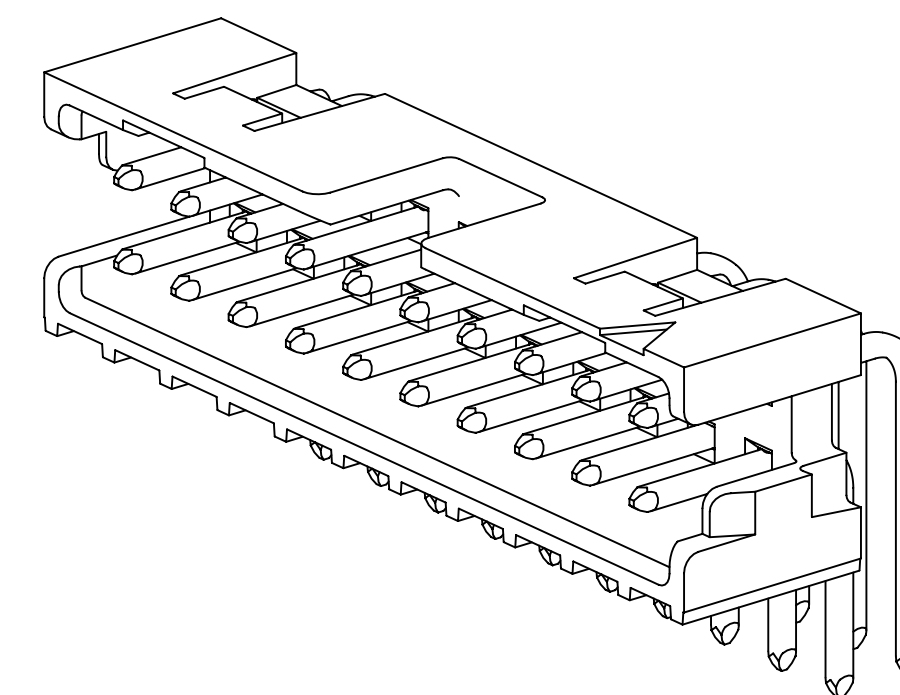
RECOMMENDED PCB HOLE PATTERN
TOLERANCE = ±0.05 [.002]



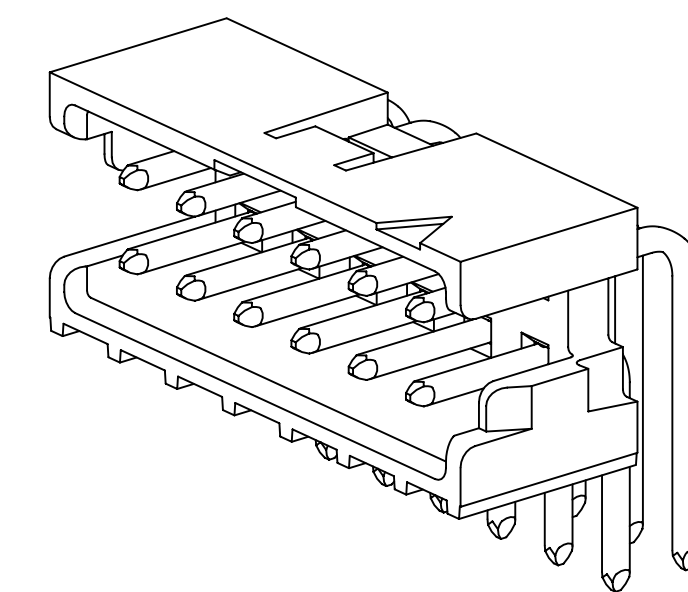
SECTION B-B



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

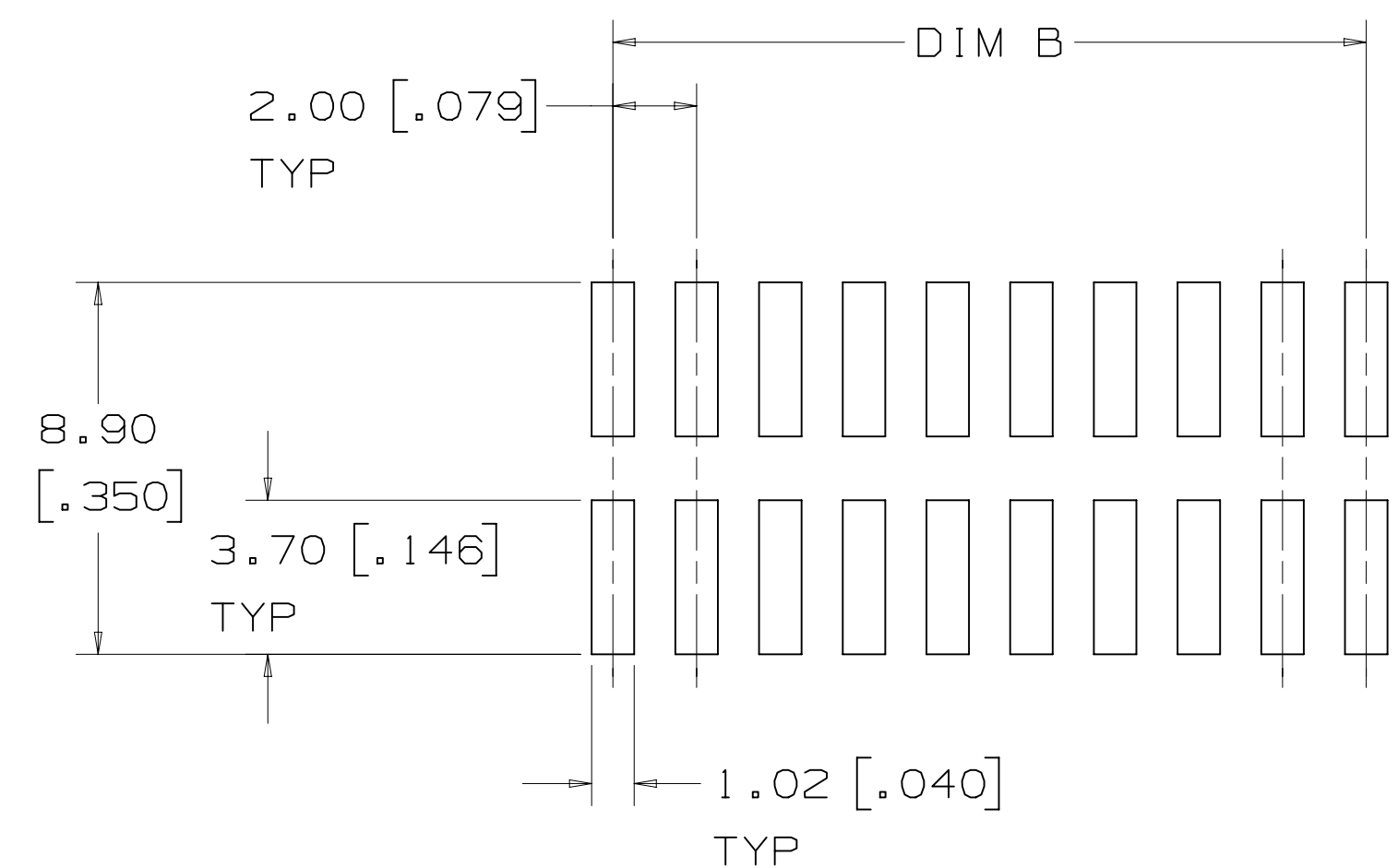
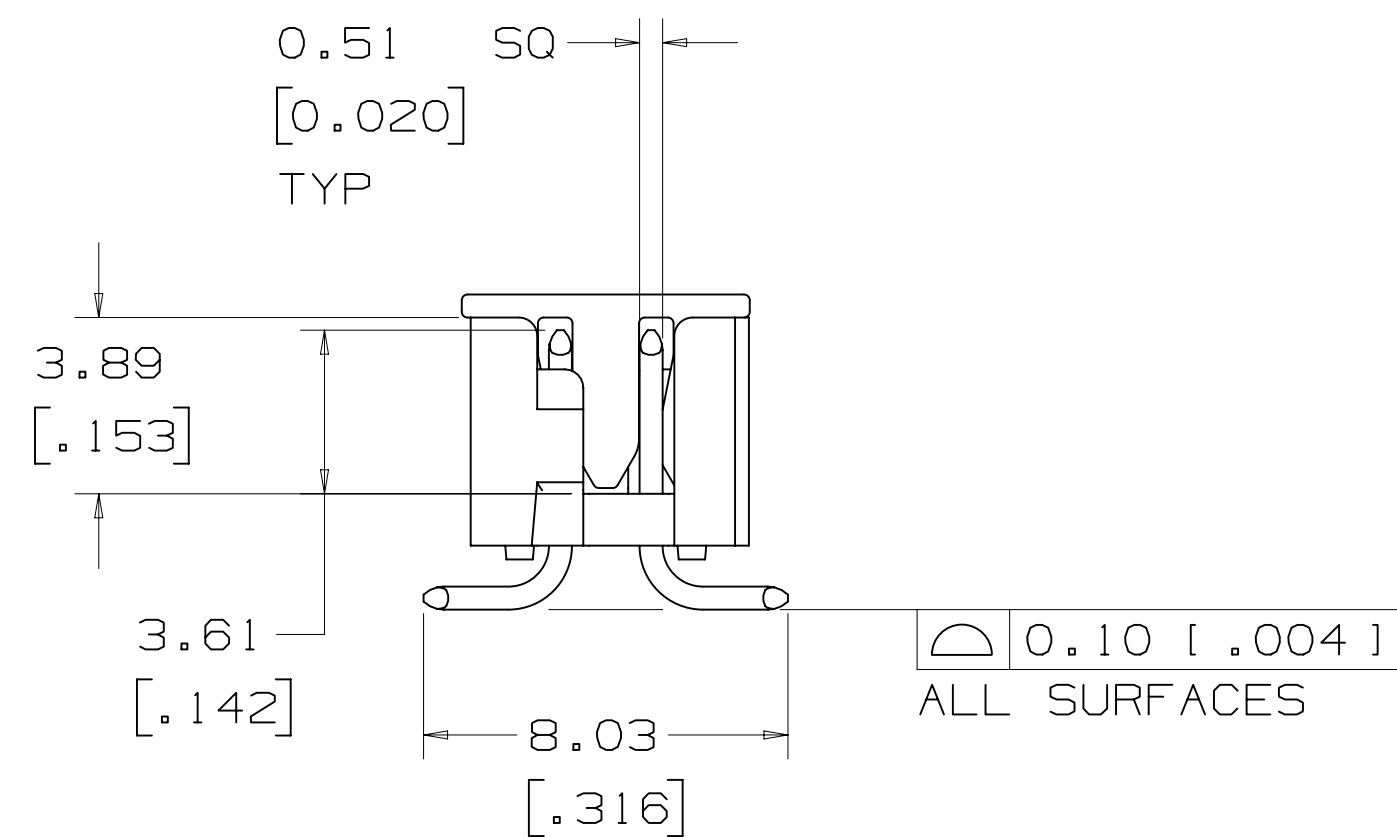
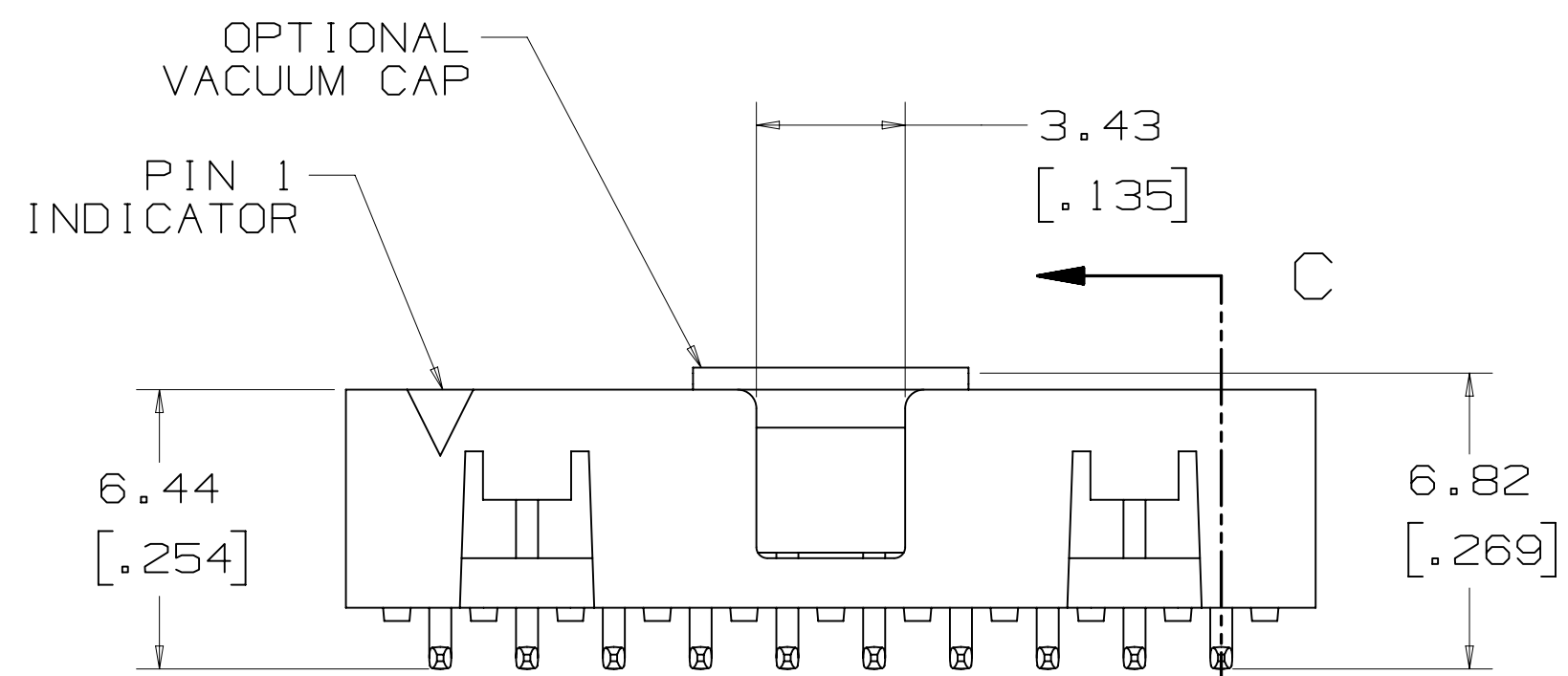
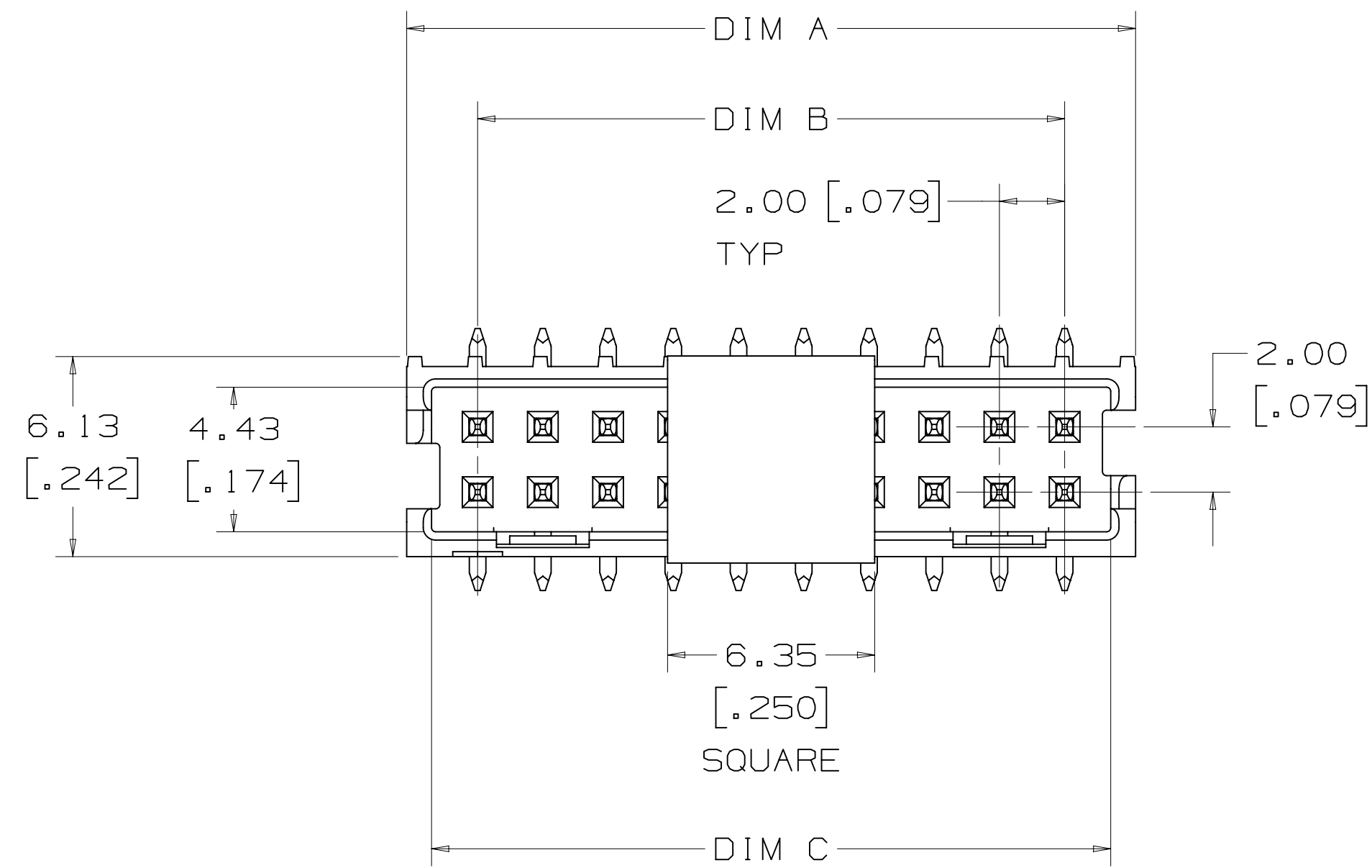
REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
F	52868	MAR 05, 2014 ADD TAPE & REEL, MATE PT, VOLTAGE RATING	SJS	SAN
E	51692	DEC 16, 2013 ADD UL SYMBOLS	SJS	SAN
D	41488	JUN 20, 2012 REVISED CURRENT RATING IN PERFORMANCE TABLE	LDS	SAN
C	39876	APR 18, 2012 REMOVED 32 POS FROM TABLE ON SHT 5	LDS	SAN
B	34080	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
DRW CODES		DRW	L. SCHMIDT	DATE	JUL 29, 2010	MFG
DIVISION	DIVISION CODE	CHKD	S FELDMAN	DATE	AUG 09, 2010	
DO NOT SCALE DRAWING	SCALE 4/1	TOLERANCES EXCEPT AS NOTED				
THIRD ANGLE PROJECTION		INCHES				
INTERPRET PER ASME Y14.5 - 1994		MILLIMETERS				
MAX SURFACE ROUGHNESS 125		ANGLES ±1°				
		TITLE 3M SHROUDED BOARD MOUNT HEADER 2 MM X 2 MM PITCH 159 SERIES				
		CAGE NUMBER	SIZE	DRAWING NO.	REV.	
		D		78-5100-2359-7	F	
		MODEL				

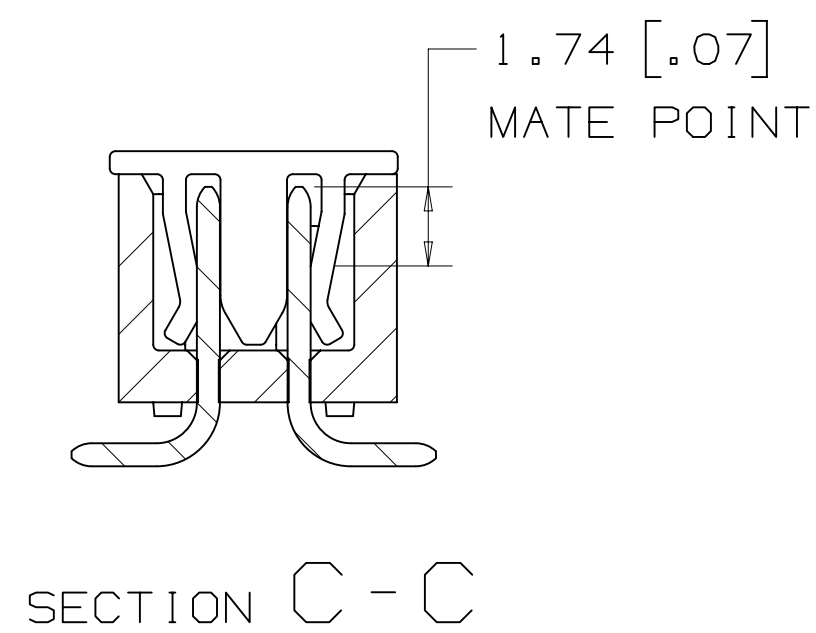
78-5100-2359-7
DRAWING NUMBER

A

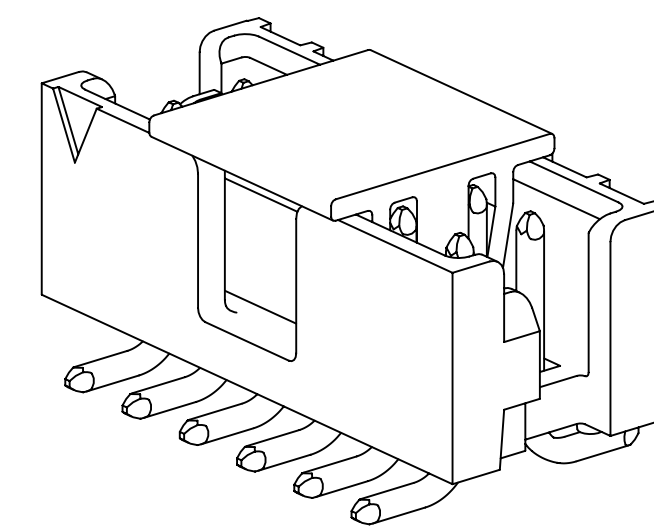
3M™ Shrouded Board Mount Header 2 mm X 2 mm Pitch 159 Series, Standard Length 3 and Extended Length 4



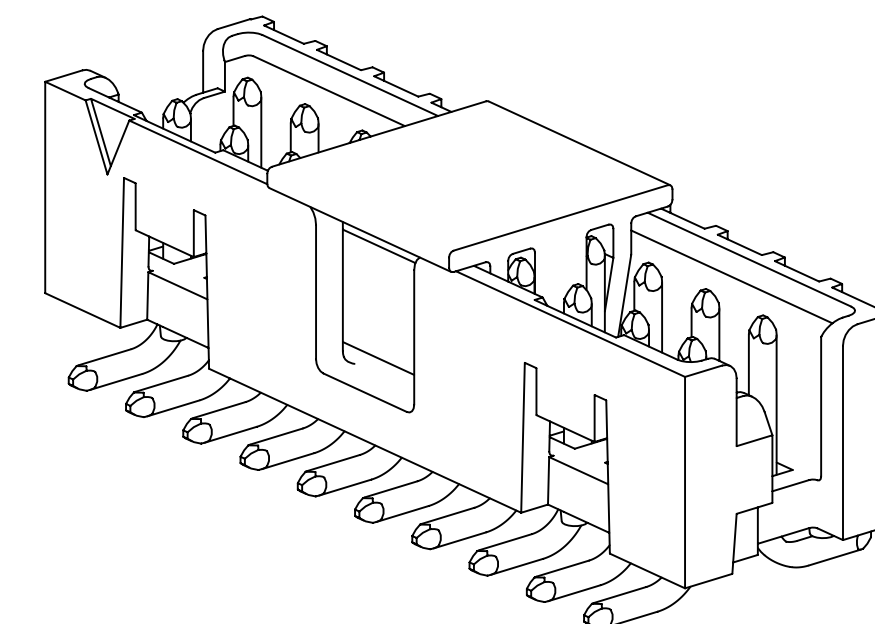
RECOMMENDED PCB PAD PATTERN
 TOLERANCE = ±0.08 [0.003]



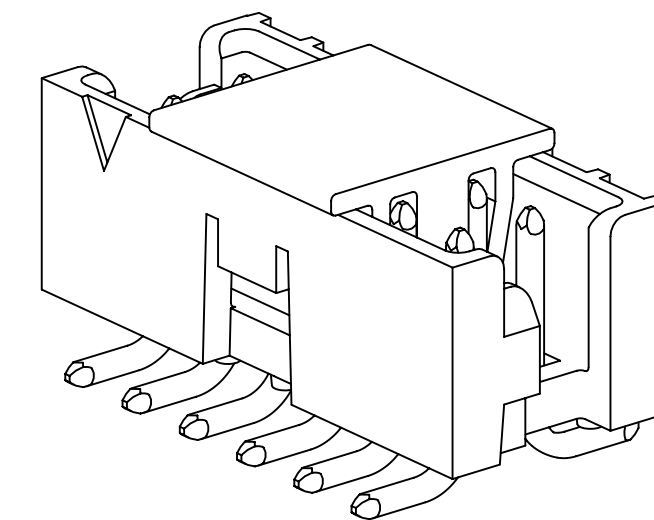
REFERENCE TABLE ON SHEET 5
 FOR AVAILABLE POSITIONS



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

METRIC (ENGLISH)

REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
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

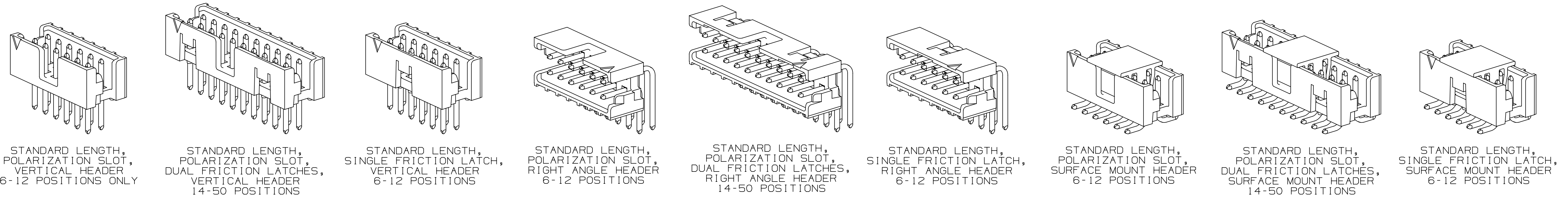
DESIGN REFERENCE	NEXT ASSEMBLY	REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD	
DIVISION		DIVISION CODE		DATE			
DO NOT SCALE DRAWING		SCALE	TOLERANCES EXCEPT AS NOTED		INCHES		
THIRD ANGLE PROJECTION		4	0 ±		0 ±		
INTERPRET PER ASME Y14.5 - 1994		MILLIMETERS		0 ±		0 ±	
MAX SURFACE ROUGHNESS		125		0 ±		0 ±	
ALL SURFACES		X MARKED ONLY		ANGLES ±1°			
CAGE NUMBER		SIZE	DRAWING NO.	REV.			
D			D78-5100-2359-7	F			
MODEL		LISTS		YES		NO	
		SHT		3		OF 5	

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 St. Paul, MN 55144
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3M SHROUDED BOARD MOUNT HEADER 2 MM X 2 MM PITCH 159 SERIES

78-5100-2359-7
 DRAWING NUMBER

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

STANDARD LENGTH HEADERS ARE AVAILABLE



STANDARD LENGTH, POLARIZATION SLOT, VERTICAL HEADER, 6-12 POSITIONS ONLY

STANDARD LENGTH, POLARIZATION SLOT, DUAL FRICTION LATCHES, VERTICAL HEADER, 14-50 POSITIONS

STANDARD LENGTH, SINGLE FRICTION LATCH, VERTICAL HEADER, 6-12 POSITIONS

STANDARD LENGTH, POLARIZATION SLOT, RIGHT ANGLE HEADER, 6-12 POSITIONS

STANDARD LENGTH, POLARIZATION SLOT, DUAL FRICTION LATCHES, RIGHT ANGLE HEADER, 14-50 POSITIONS

STANDARD LENGTH, SINGLE FRICTION LATCH, RIGHT ANGLE HEADER, 6-12 POSITIONS

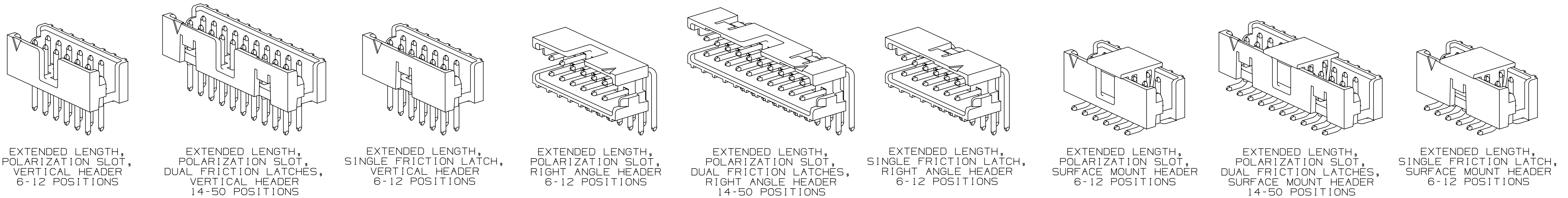
STANDARD LENGTH, POLARIZATION SLOT, SURFACE MOUNT HEADER, 6-12 POSITIONS

STANDARD LENGTH, POLARIZATION SLOT, DUAL FRICTION LATCHES, SURFACE MOUNT HEADER, 14-50 POSITIONS

STANDARD LENGTH, SINGLE FRICTION LATCH, SURFACE MOUNT HEADER, 6-12 POSITIONS

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



EXTENDED LENGTH, POLARIZATION SLOT, VERTICAL HEADER, 6-12 POSITIONS

EXTENDED LENGTH, POLARIZATION SLOT, DUAL FRICTION LATCHES, VERTICAL HEADER, 14-50 POSITIONS

EXTENDED LENGTH, SINGLE FRICTION LATCH, VERTICAL HEADER, 6-12 POSITIONS

EXTENDED LENGTH, POLARIZATION SLOT, RIGHT ANGLE HEADER, 6-12 POSITIONS

EXTENDED LENGTH, POLARIZATION SLOT, DUAL FRICTION LATCHES, RIGHT ANGLE HEADER, 14-50 POSITIONS

EXTENDED LENGTH, SINGLE FRICTION LATCH, RIGHT ANGLE HEADER, 6-12 POSITIONS

EXTENDED LENGTH, POLARIZATION SLOT, SURFACE MOUNT HEADER, 6-12 POSITIONS

EXTENDED LENGTH, POLARIZATION SLOT, DUAL FRICTION LATCHES, SURFACE MOUNT HEADER, 14-50 POSITIONS

EXTENDED LENGTH, SINGLE FRICTION LATCH, SURFACE MOUNT HEADER, 6-12 POSITIONS

ORDERING INFORMATION

TIER 1 - BEST
 1591XX-XXXX

TIER _____
 1 = BEST 0.76 μm [30 μin] GOLD

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

POSITION COUNT _____
 (SEE TABLE)

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

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)

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

TIER 2 - BETTER
 1592XX-XXXX

TIER _____
 2 = BETTER 0.38 μm [15 μin] GOLD

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

POSITION COUNT _____
 (SEE TABLE)

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

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)

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

METRIC (ENGLISH)

REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
F	52868	MAR 05, 2014 ADD TAPE & REEL, MATE PT, VOLTAGE RATING	SJS	SAN
E	51692	DEC 16, 2013 ADD UL SYMBOLS	SJS	SAN
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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
SCALE	DIVISION CODE
DO NOT SCALE DRAWING	SCALE 4/1
TOLERANCES EXCEPT AS NOTED	INCHES
THIRD ANGLE PROJECTION	MILLIMETERS
INTERPRET PER ASME Y14.5 - 1994	0 ±
MAX SURFACE ROUGHNESS	.00 ± 0.13
125	ALL SURFACES
125	MARKED ONLY
ANGLES ±1°	

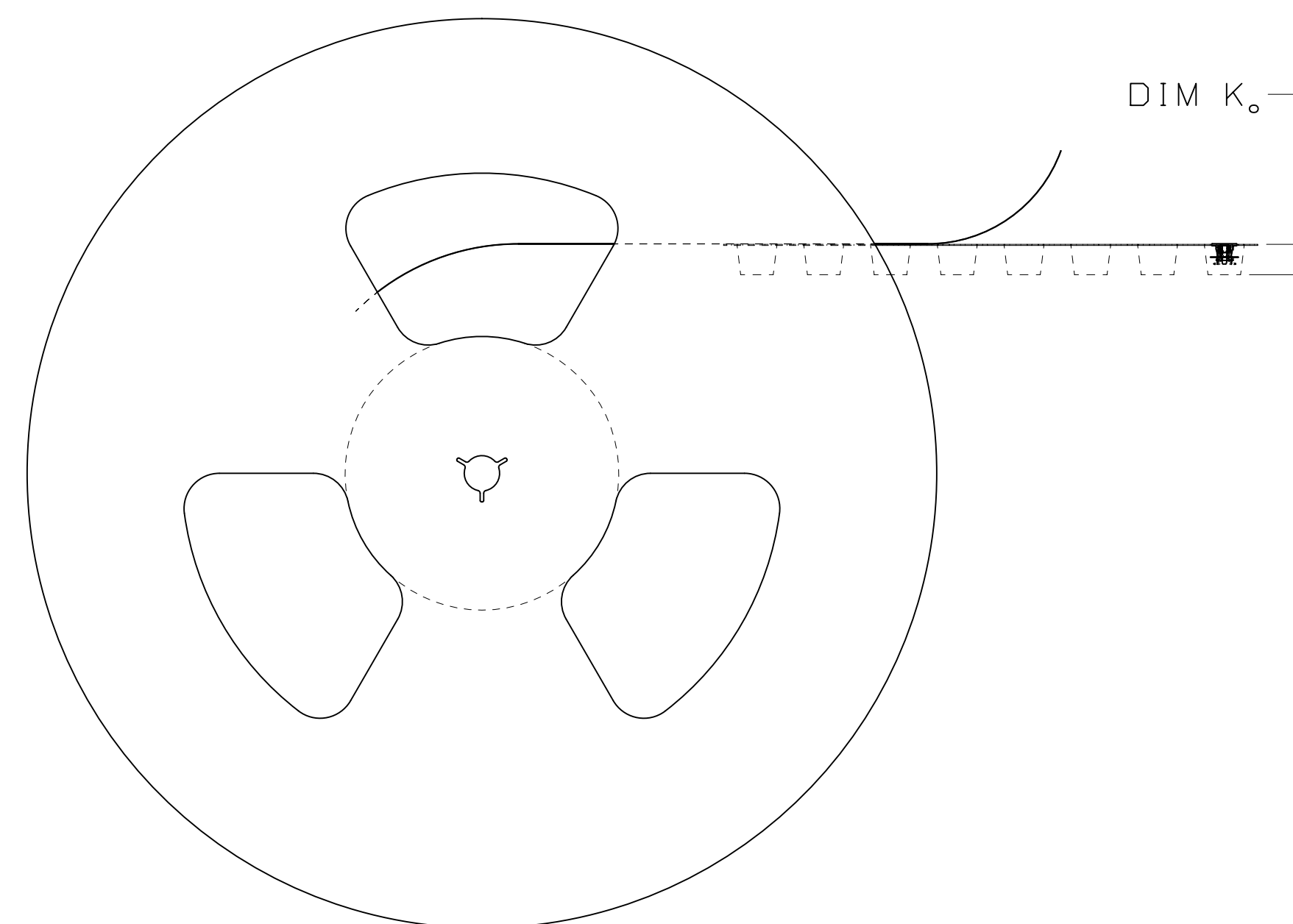
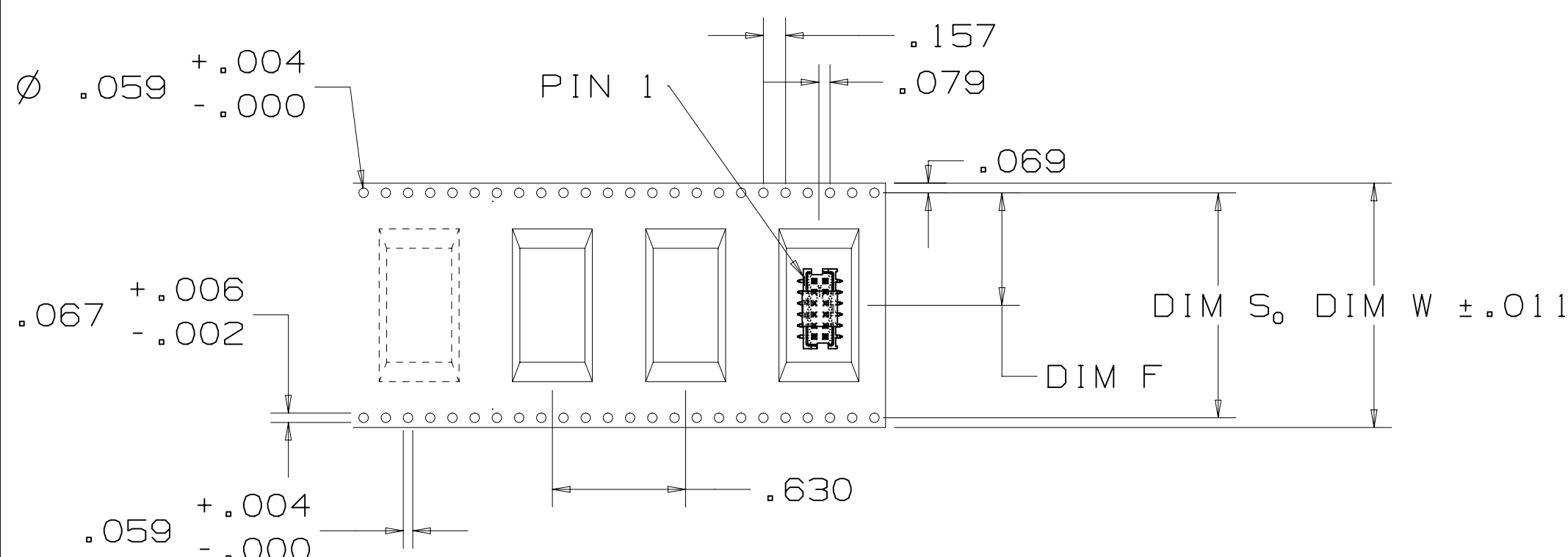
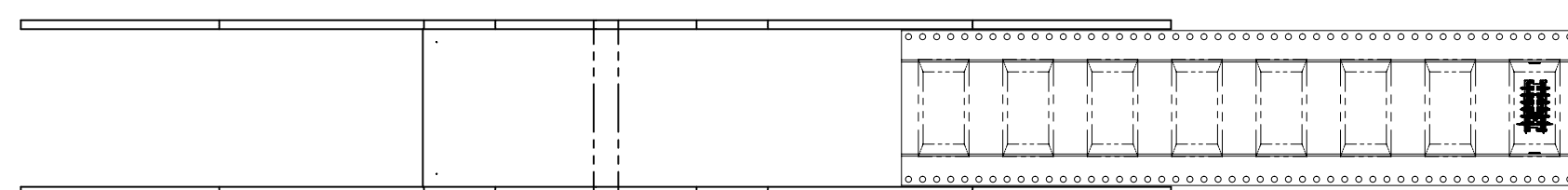
TITLE	3M SHROUDED BOARD MOUNT HEADER 2 MM X 2 MM PITCH 159 SERIES
CAGE NUMBER	D 78-5100-2359-7
DRAWING NO.	78-5100-2359-7
REV.	F
MODEL	SHT 4 OF 5

78-5100-2359-7
DRAWING NUMBER
REVISION

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

NUMBER OF POSITIONS	SHROUDED BOX HEADER						
	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 ₀ +/- 0.10	DIM S ₀ +/- 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]

REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
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
SCALE	SCALE	DATE	DATE	DATE	DATE	DATE
DO NOT SCALE DRAWING	SCALE 1/1	L. SCHMIDT	JUL 29, 2010	S FELDMAN	AUG 09, 2010	
THIRD ANGLE PROJECTION	TOLERANCES EXCEPT AS NOTED	© 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.				
INTERPRET PER ASME Y14.5 - 1994	INCHES	TITLE 3M SHROUDED BOARD MOUNT HEADER 2 MM X 2 MM PITCH 159 SERIES				
MAX SURFACE ROUGHNESS	MILLIMETERS	CAGE NUMBER D78-5100-2359-7				
<input type="checkbox"/> ALL SURFACES <input checked="" type="checkbox"/> MARKED ONLY	.00 ± .000 ± .0000 ±	DRAWING NO. D78-5100-2359-7				
	0 ± .0 ± .00 ± .000 ±	MODEL [] YES [X] NO SHT 5 OF 5				

78-5100-2359-7 DRAWING NUMBER