



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

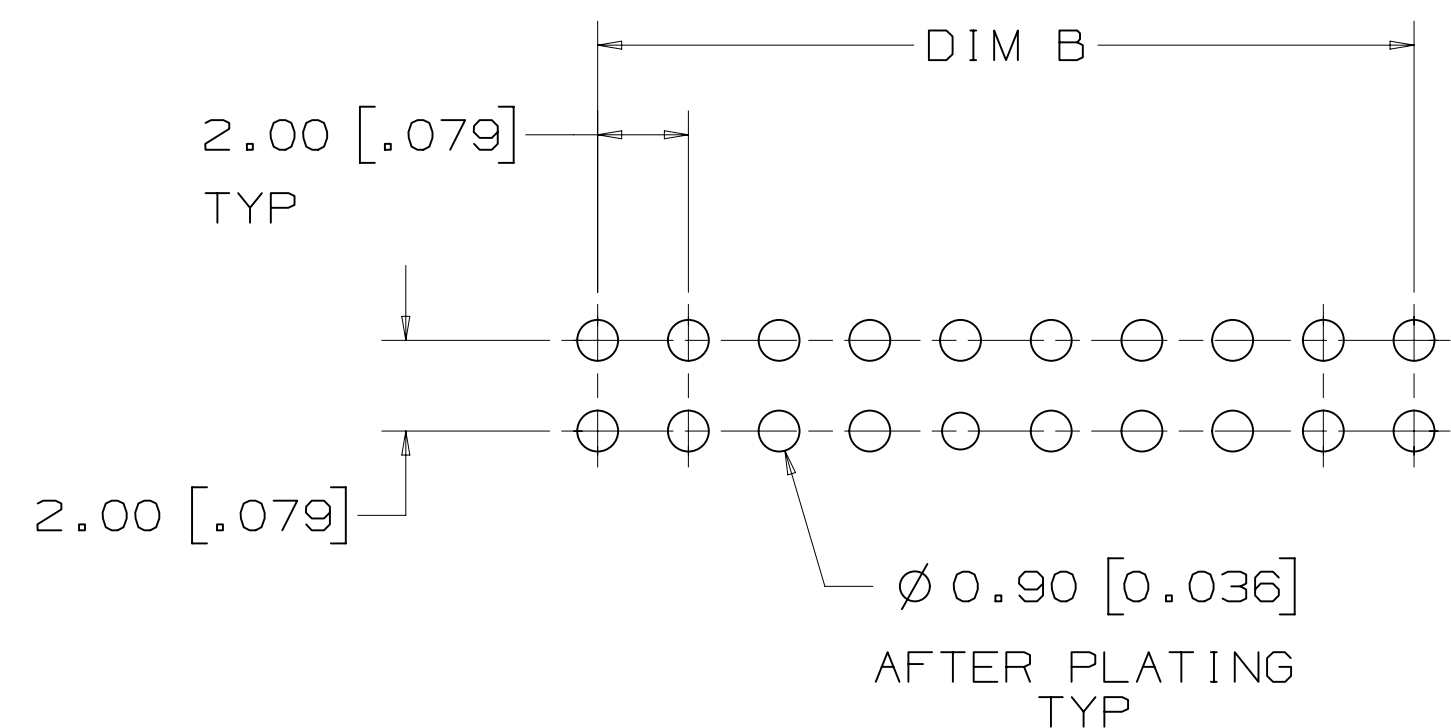
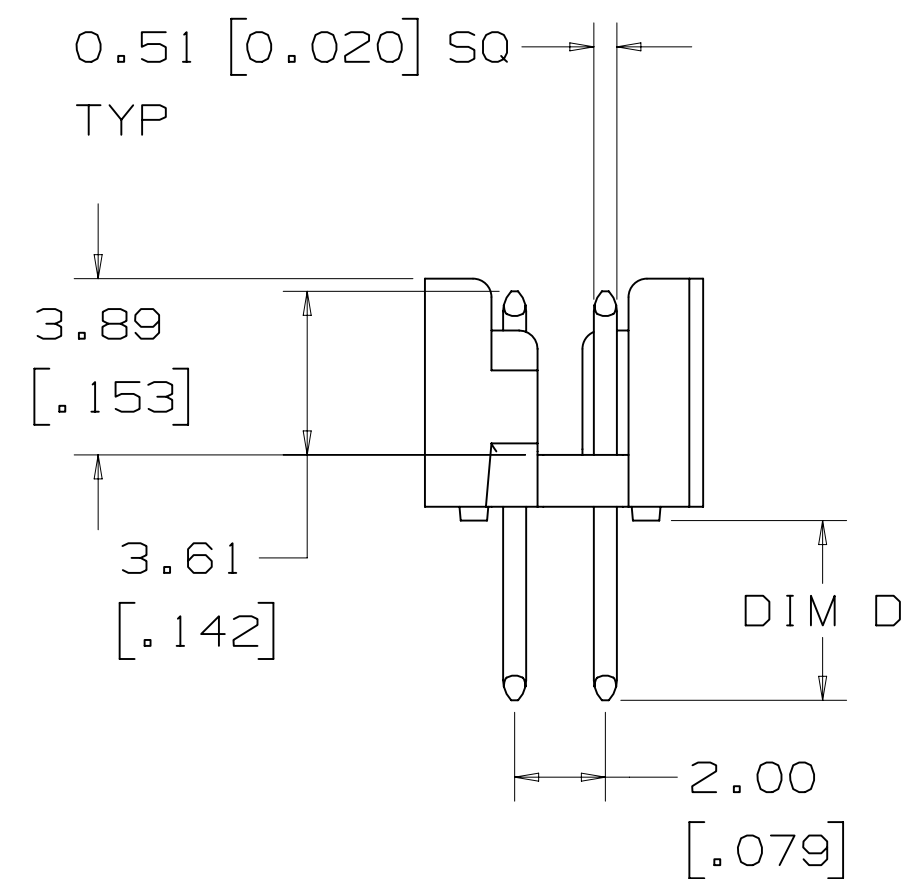
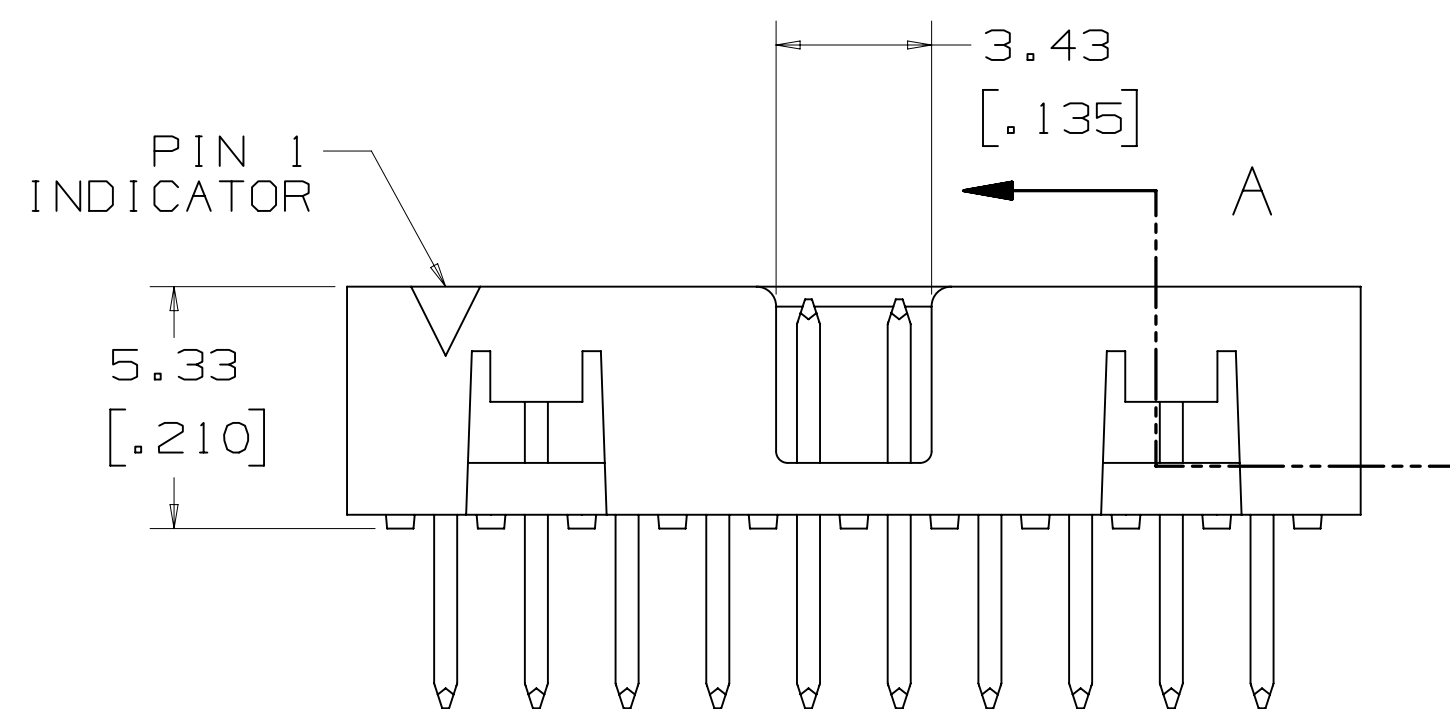
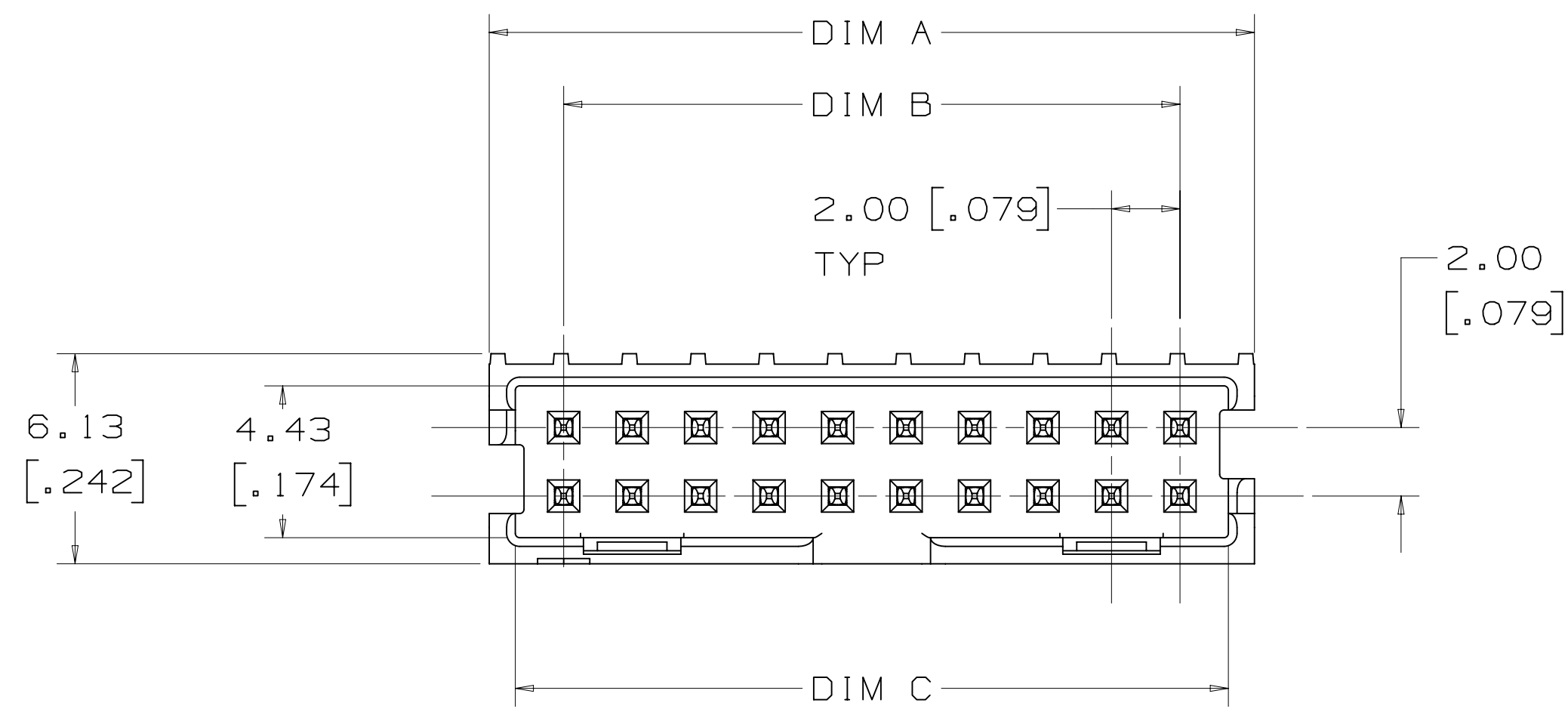
Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

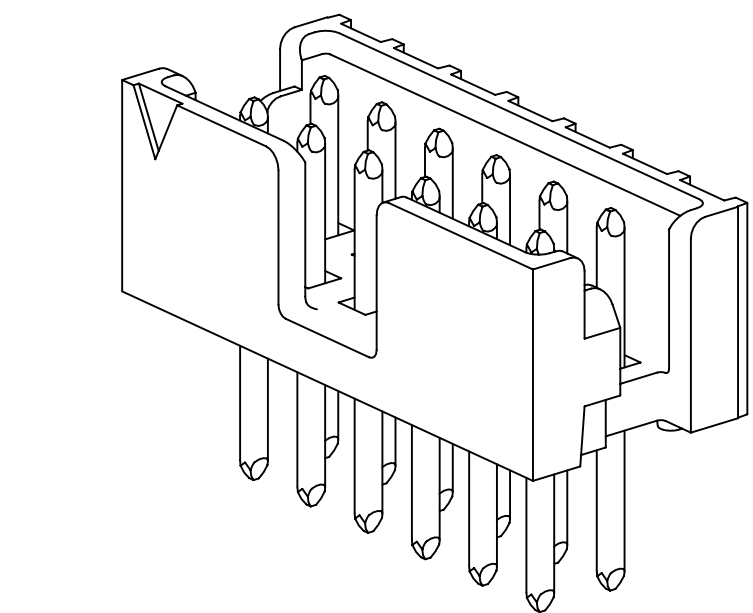
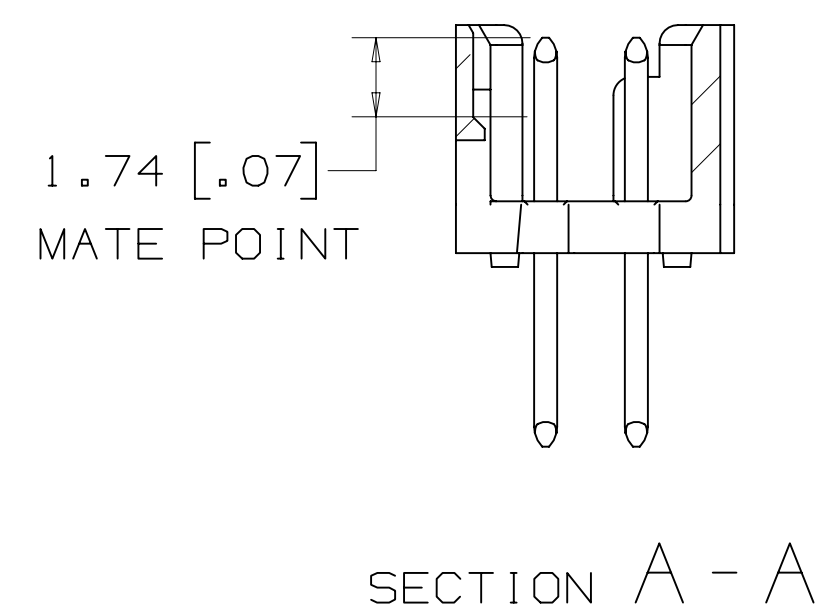
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



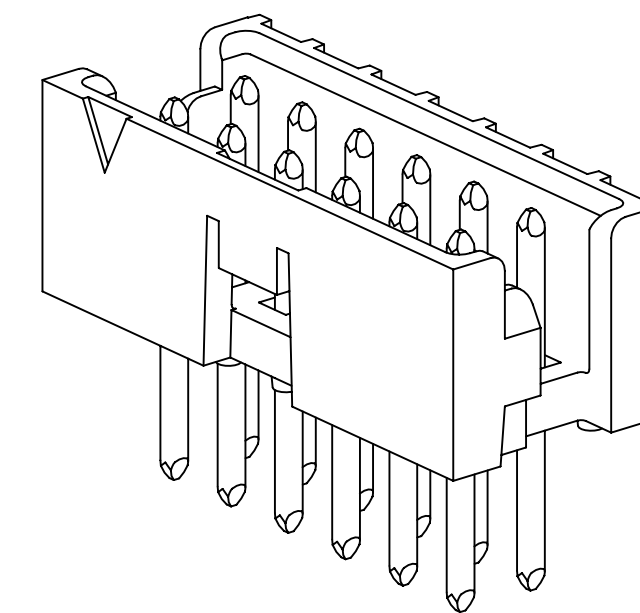
3M™ Shrouded Board Mount Header 2 mm X 2 mm Pitch 159 Series, Standard Length [3] and Extended Length [4]



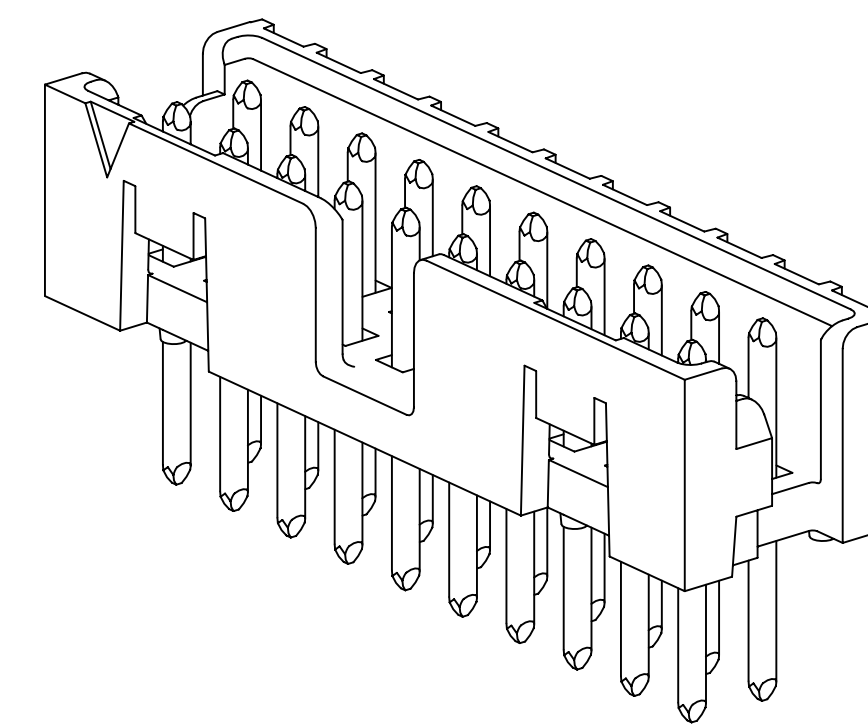
RECOMMENDED PCB HOLE PATTERN  
TOLERANCE = 0.05 [ .002 ]



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 <sup>9</sup> 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

- MATERIAL:  
BODY: HIGH TEMPERATURE GLASS FILLED LCP, BLACK UL94V-0  
CONTACTS: COPPER ALLOY
- PLATING:  
2.03-3.81  $\mu\text{m}$  [80-150  $\mu\text{in}$ ] NICKEL UNDERPLATE.  
0.38  $\mu\text{m}$  [15  $\mu\text{in}$ ] OR 0.76  $\mu\text{m}$  [30  $\mu\text{in}$ ] AVG GOLD ON WIPING AREA.  
5.08  $\mu\text{m}$  [200  $\mu\text{in}$ ] 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

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
APPROVED	APPROVED	APPROVED	APPROVED	APPROVED	APPROVED	APPROVED

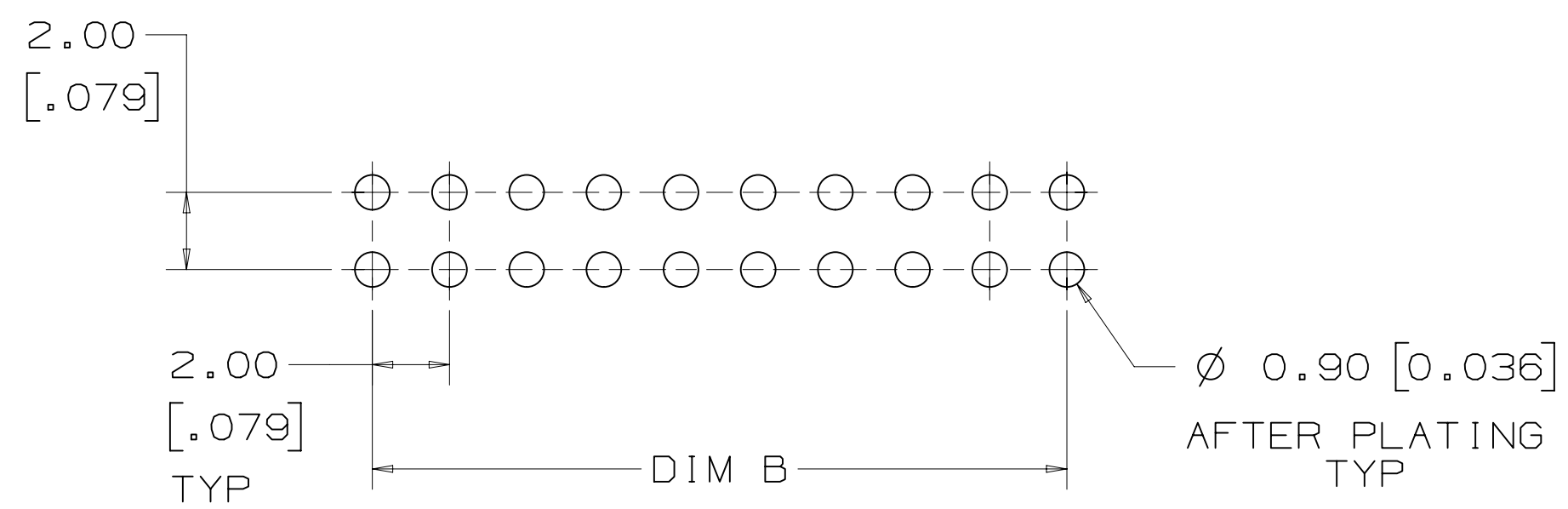
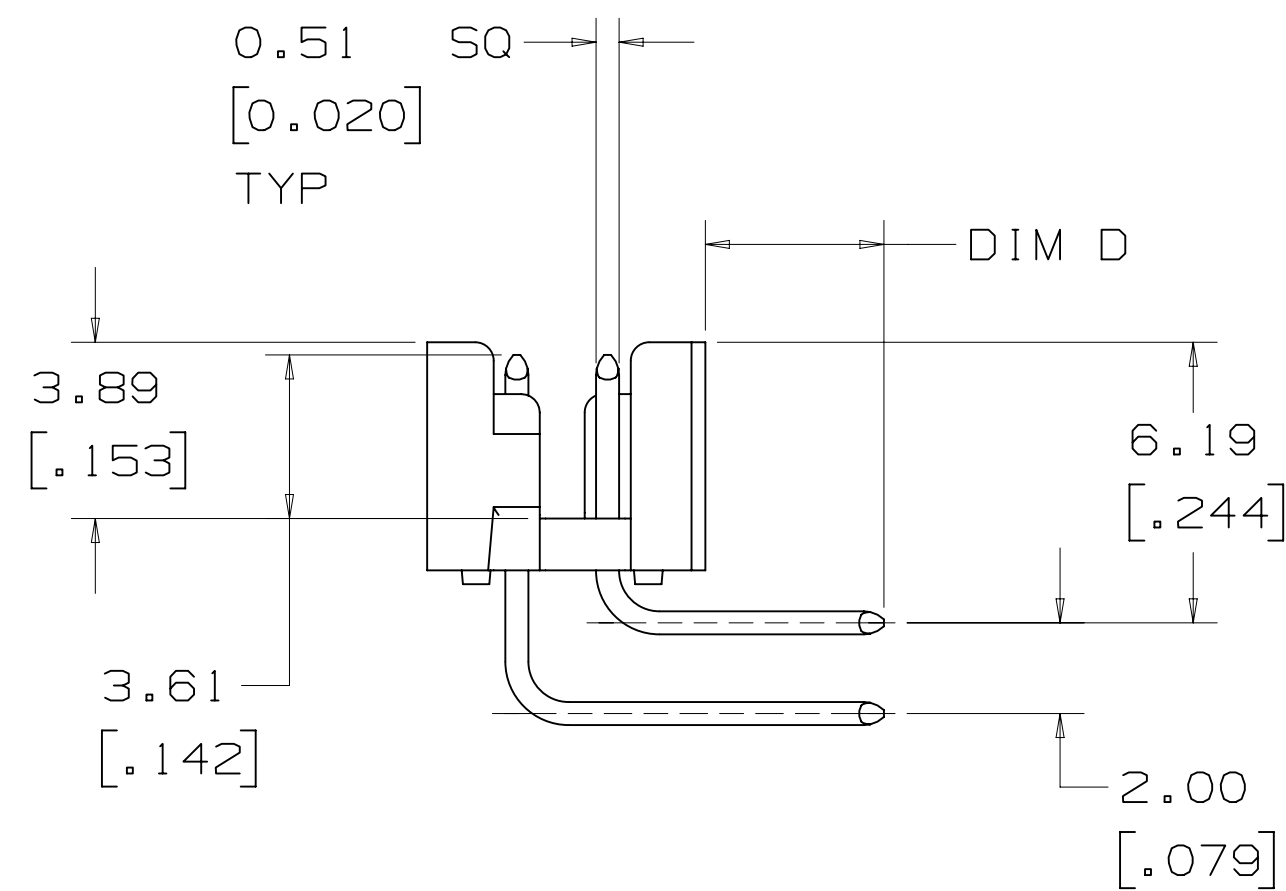
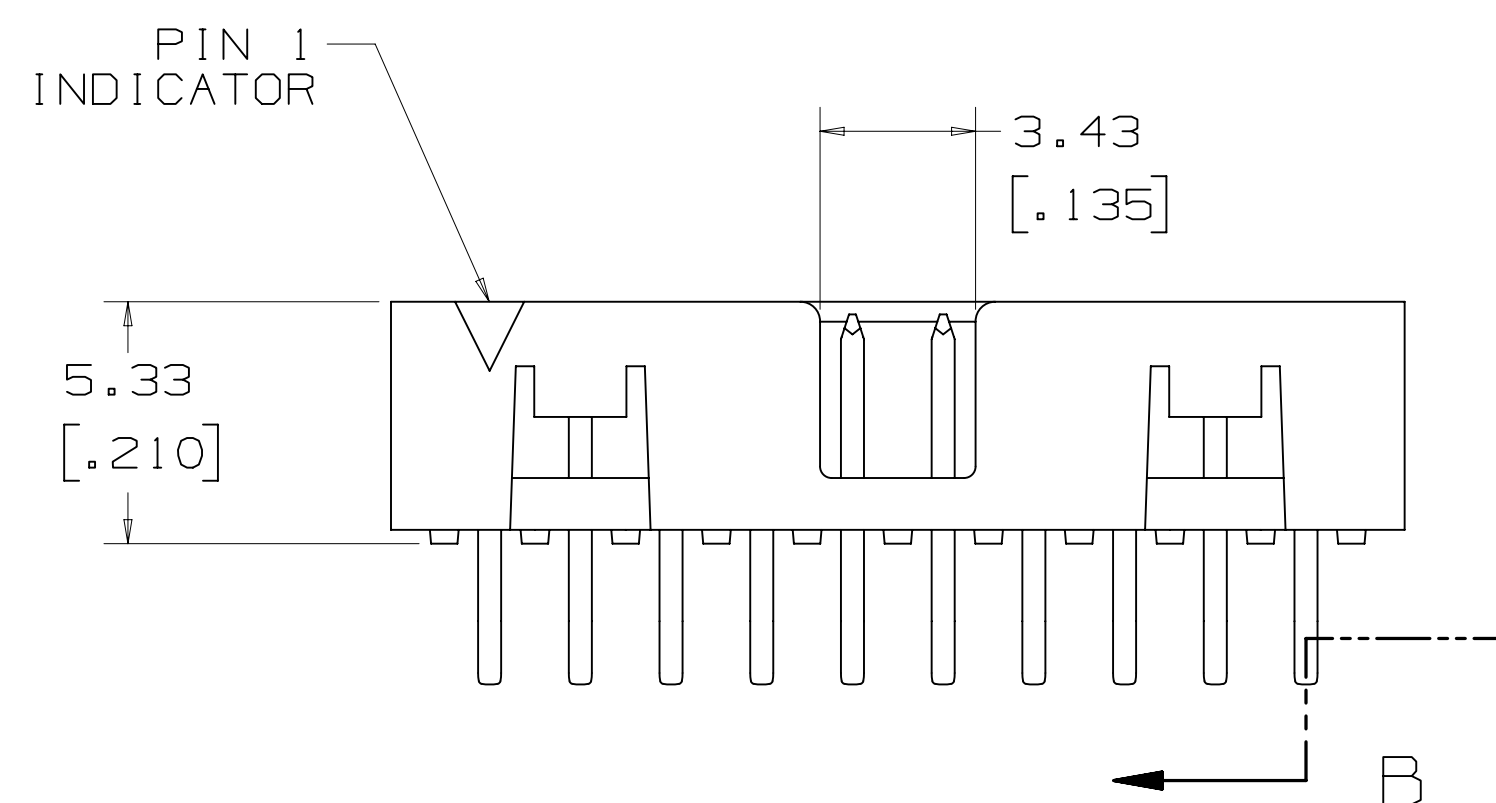
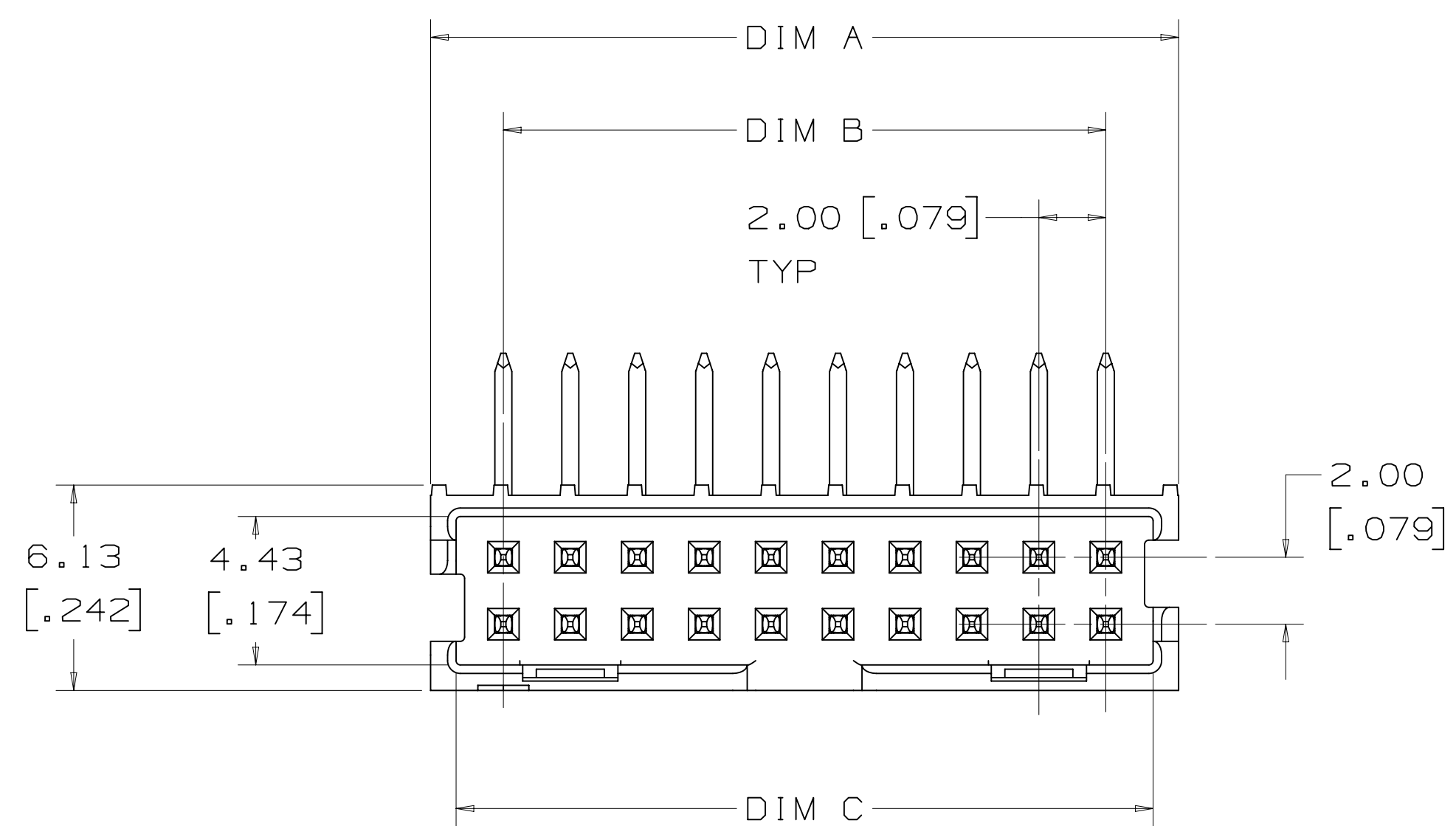
METRIC [ ENGLISH ]

**3M**  
**US**  
UL FILE NO: E68080

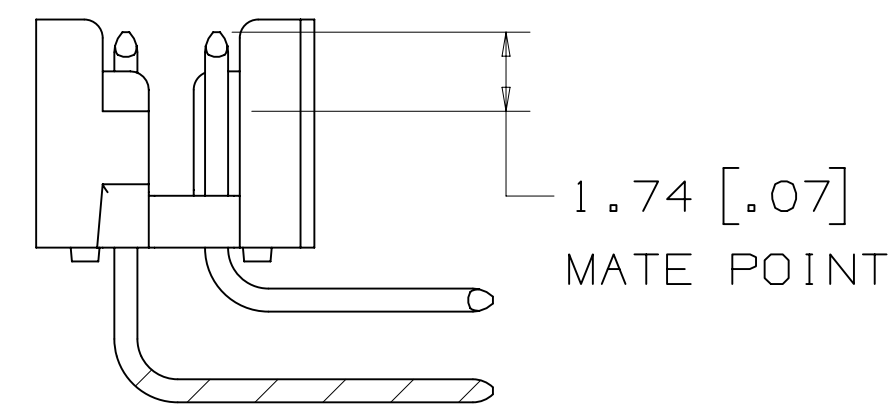
DO NOT SCALE DRAWING	SCALE 6/1	TOLERANCES EXCEPT AS NOTED		TOLERANCES EXCEPT AS NOTED INCHES .00 ± .000 ± .0000 ± MILLIMETERS 0 ± .00 ± .00 ± 0.13 .000 ± ANGLES ±1°
THIRD ANGLE PROJECTION	INTERPRET PER ASME Y14.5 - 1994	MAX SURFACE ROUGHNESS		
125	ALL SURFACES	MARKED ONLY		

TITLE <b>3M SHROUDED BOARD MOUNT HEADER 2 MM X 2 MM PITCH 159 SERIES</b>	
CAGE NUMBER	DRAWING NO.
125	<b>D</b> 78-5100-2359-7
REV.	F
MODEL	SHT 1 OF 5

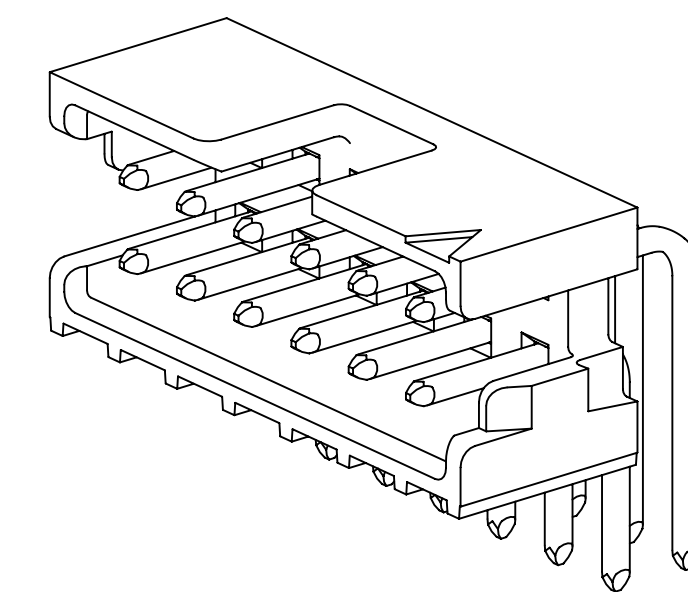
3M™ Shrouded Board Mount Header 2 mm X 2 mm Pitch 159 Series, Standard Length 3 and Extended Length 4



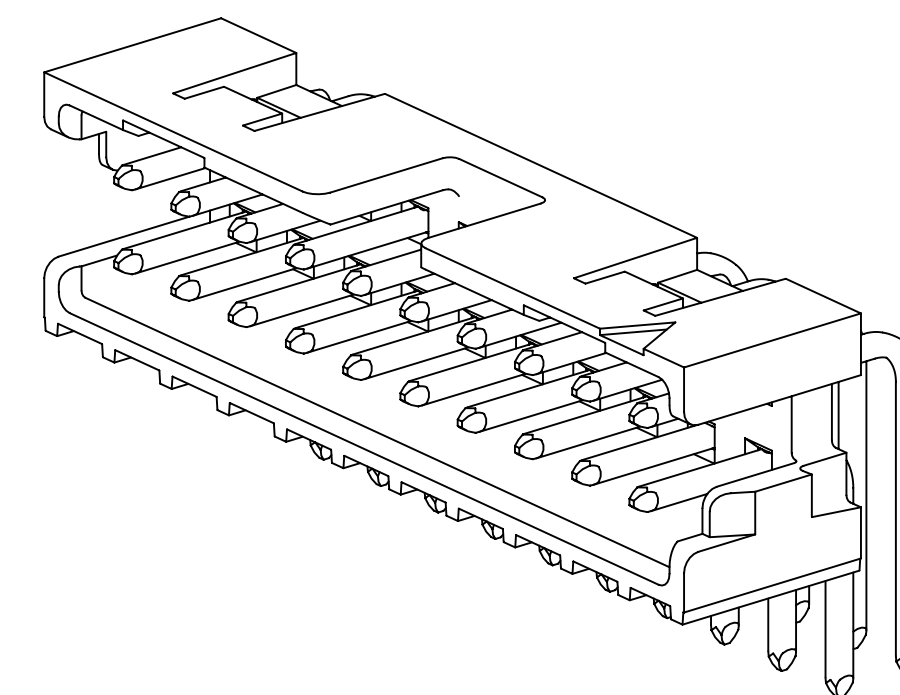
RECOMMENDED PCB HOLE PATTERN  
TOLERANCE = ±0.05 [.002]



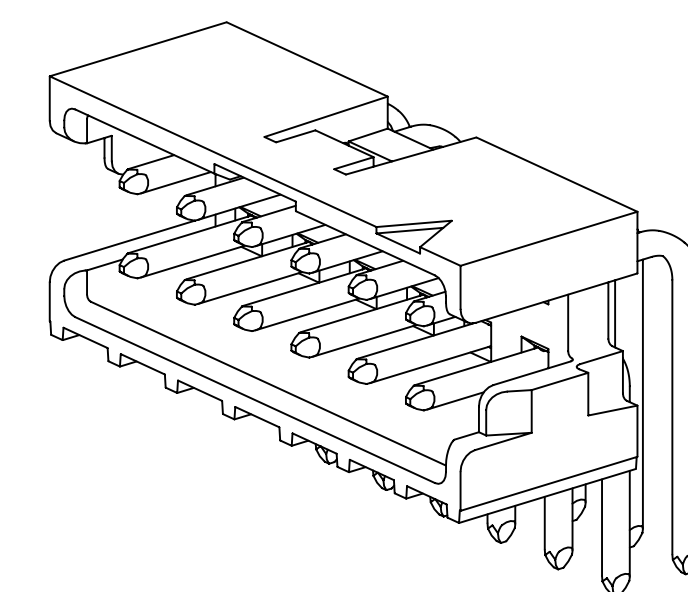
SECTION B-B



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

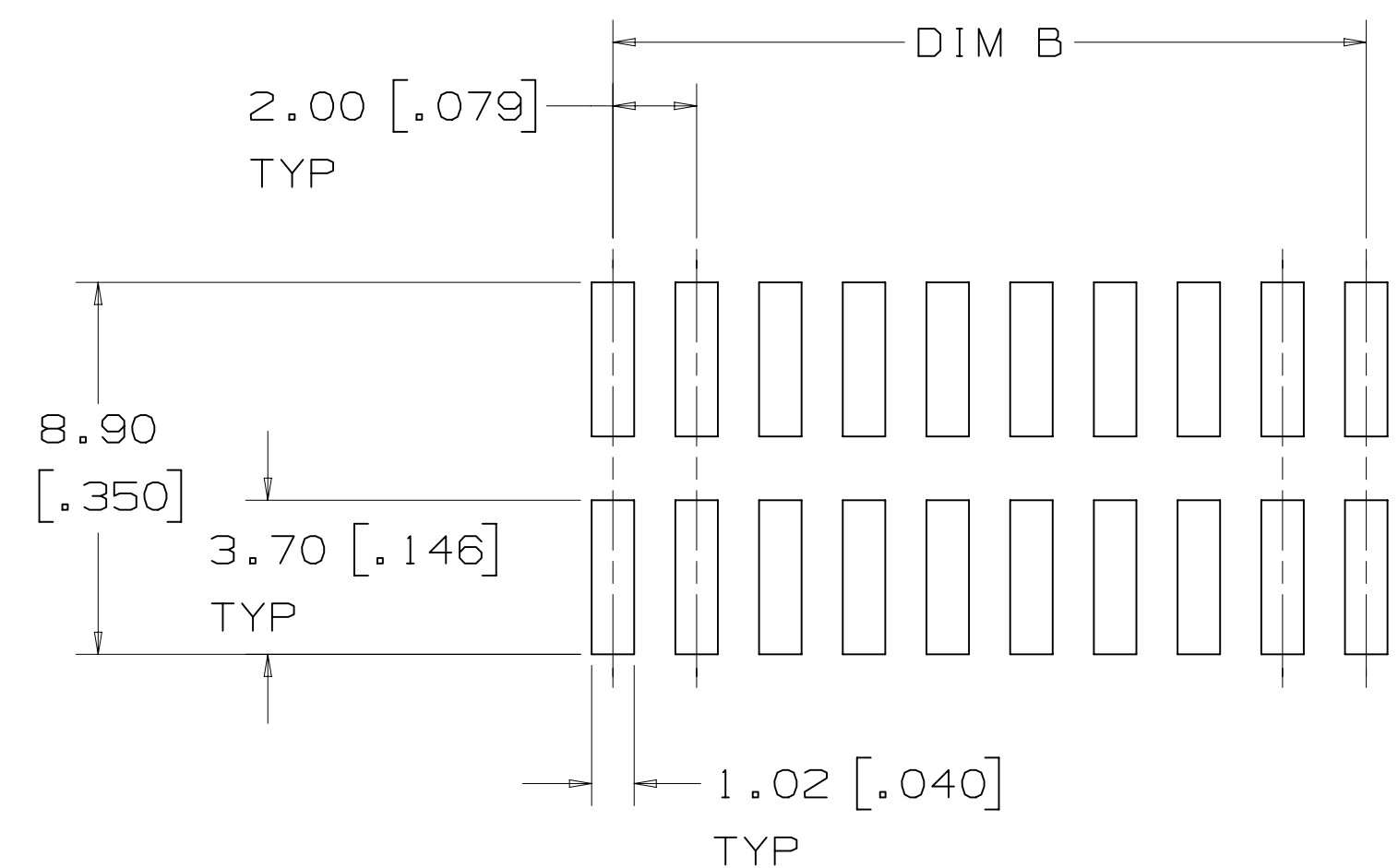
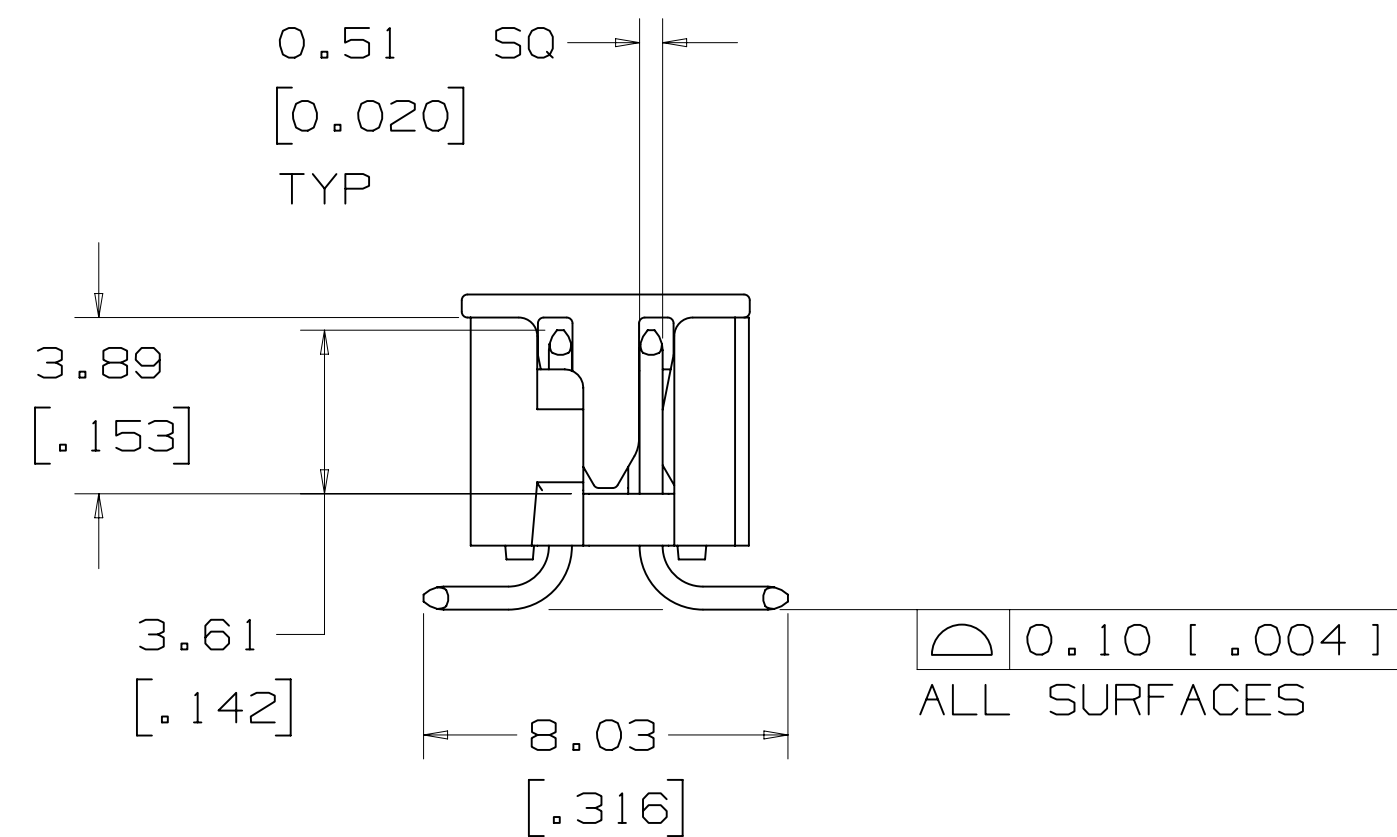
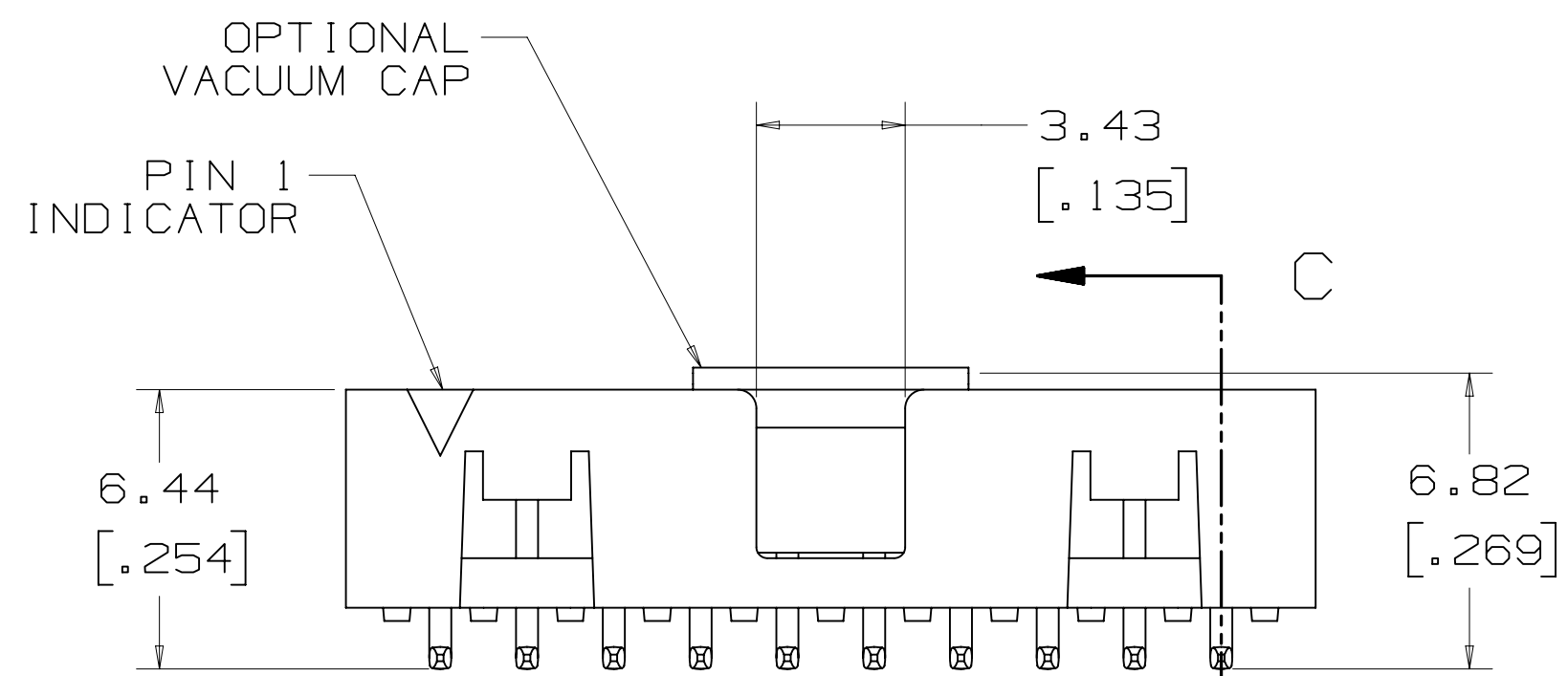
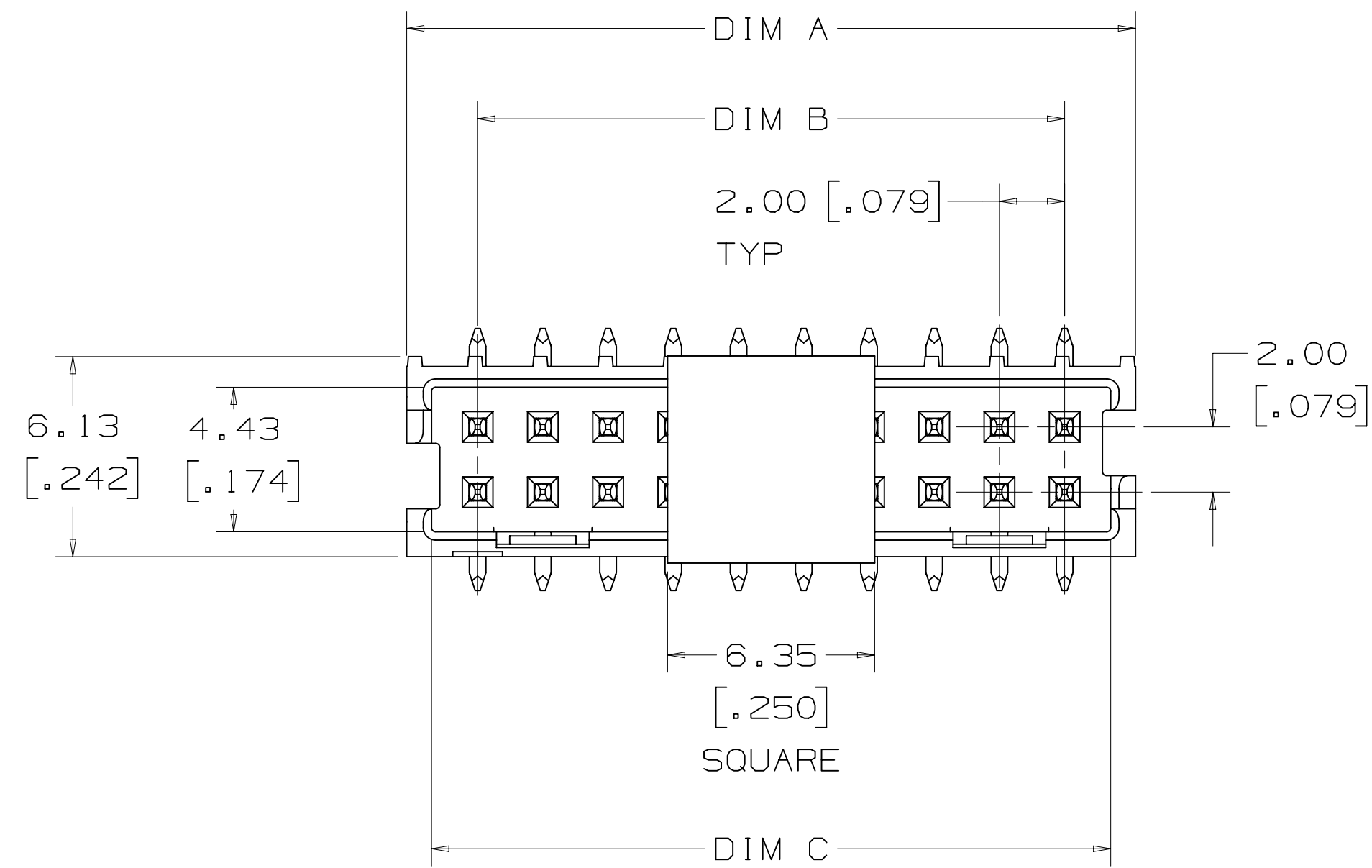
DESIGN REFERENCE	NEXT ASSEMBLY	REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
DRW CODES		DRW	L. SCHMIDT	DATE	JUL 29, 2010	MFG
DIVISION	DIVISION CODE	CHKD	S FELDMAN	DATE	AUG 09, 2010	

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TITLE <b>3M SHROUDED BOARD MOUNT HEADER 2 MM X 2 MM PITCH 159 SERIES</b>		
CAGE NUMBER	SIZE	DRAWING NO.
125	D	78-5100-2359-7
MODEL	REV.	
	F	

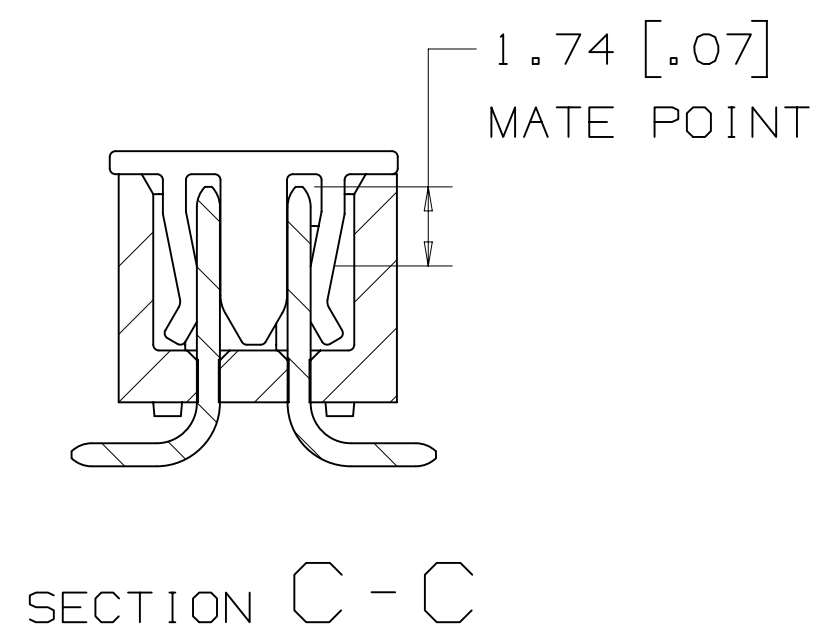
78-5100-2359-7  
DRAWING NUMBER

A

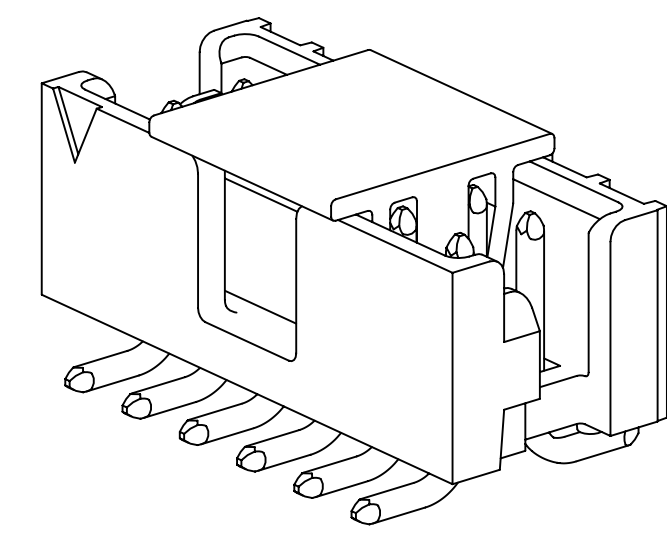
3M™ Shrouded Board Mount Header 2 mm X 2 mm Pitch 159 Series, Standard Length [3] and Extended Length [4]



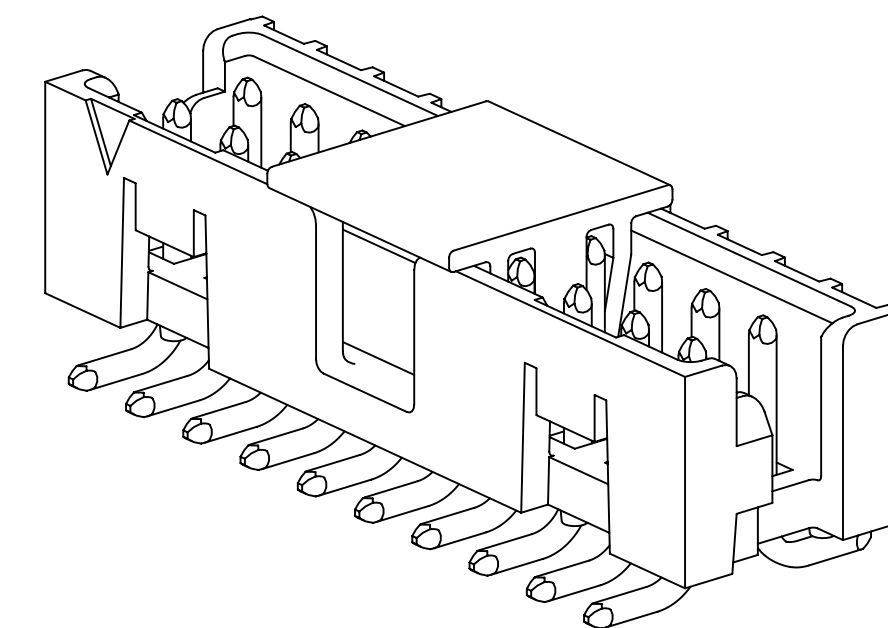
RECOMMENDED PCB PAD PATTERN  
TOLERANCE = ±0.08 [0.003]



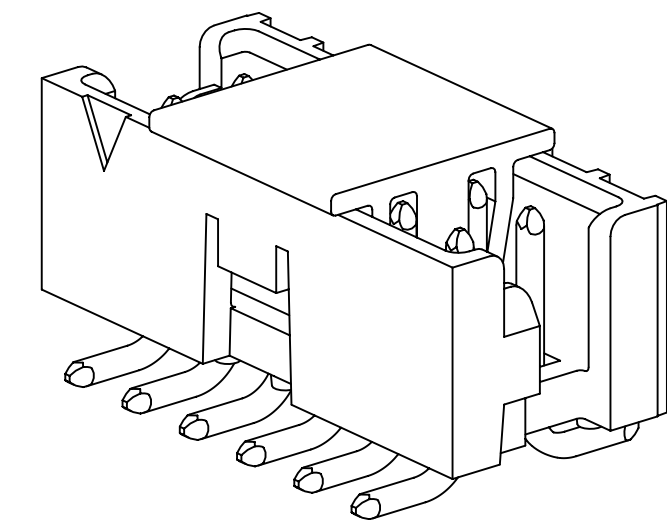
REFERENCE TABLE ON SHEET 5  
FOR AVAILABLE POSITIONS



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)

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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 4/1		TOLERANCES EXCEPT AS NOTED		
THIRD ANGLE PROJECTION		INCHES		MILLIMETERS		
INTERPRET PER ASME Y14.5 - 1994		0 ±		0 ±		
MAX SURFACE ROUGHNESS		0.00 ± 0.13		0.00 ±		
125 / ALL SURFACES		✓ MARKED ONLY		ANGLES ±1°		
CAGE NUMBER		DRAWING NO.		REV.		
D78-5100-2359-7		D78-5100-2359-7		F		
MODEL		SHT		3 OF 5		

3M Center  
St. Paul,  
MN 55144

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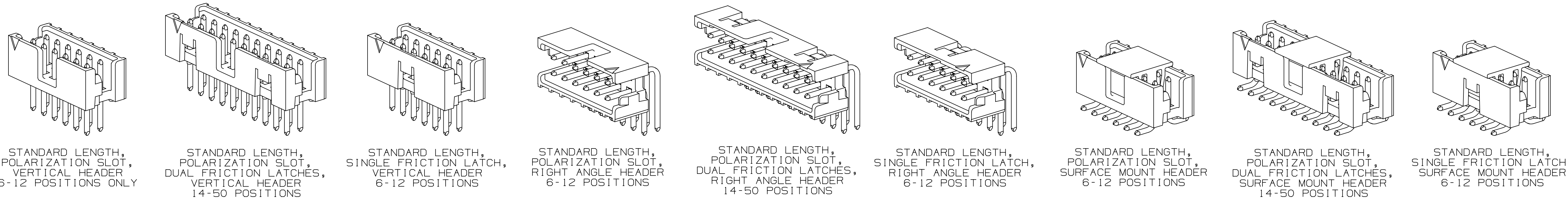
TITLE  
3M SHROUDED BOARD  
MOUNT HEADER 2 MM X 2  
MM PITCH 159 SERIES

78-5100-2359-7  
DRAWING NUMBER

A

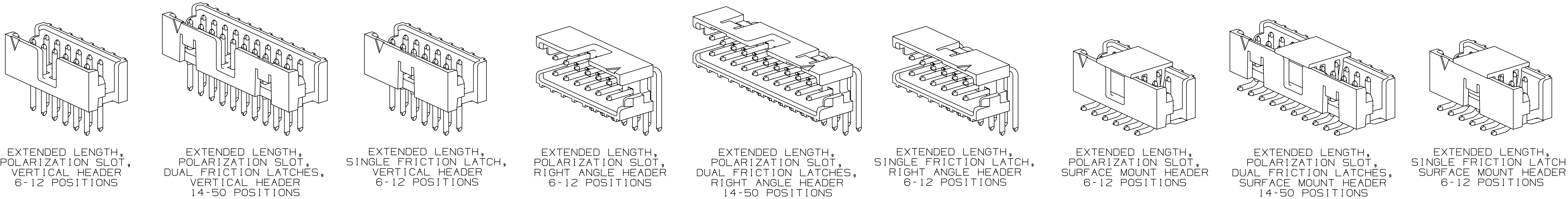
3M™ Shrouded Board Mount Header 2 mm X 2 mm Pitch 159 Series, Standard Length 3

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  $\mu\text{m}$  [30  $\mu\text{in}$ ] GOLD

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)

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)

**TIER 2 - BETTER**  
 1592XX-XXXX

TIER 2 = BETTER 0.38  $\mu\text{m}$  [15  $\mu\text{in}$ ] GOLD

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)

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)

METRIC (ENGLISH)

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DESIGN REFERENCE	NEXT ASSEMBLY
SCALE	DIVISION CODE
DO NOT SCALE DRAWING	SCALE 4/1
TOLERANCES EXCEPT AS NOTED	TOLERANCES EXCEPT AS NOTED
INCHES	INCHES
MILLIMETERS	MILLIMETERS
INTERPRET PER ASME Y14.5 - 1994	INTERPRET PER ASME Y14.5 - 1994
MAX SURFACE ROUGHNESS	MAX SURFACE ROUGHNESS
125	125
ALL SURFACES	ALL SURFACES
MARKED ONLY	MARKED ONLY
ANGLES $\pm 1^\circ$	ANGLES $\pm 1^\circ$

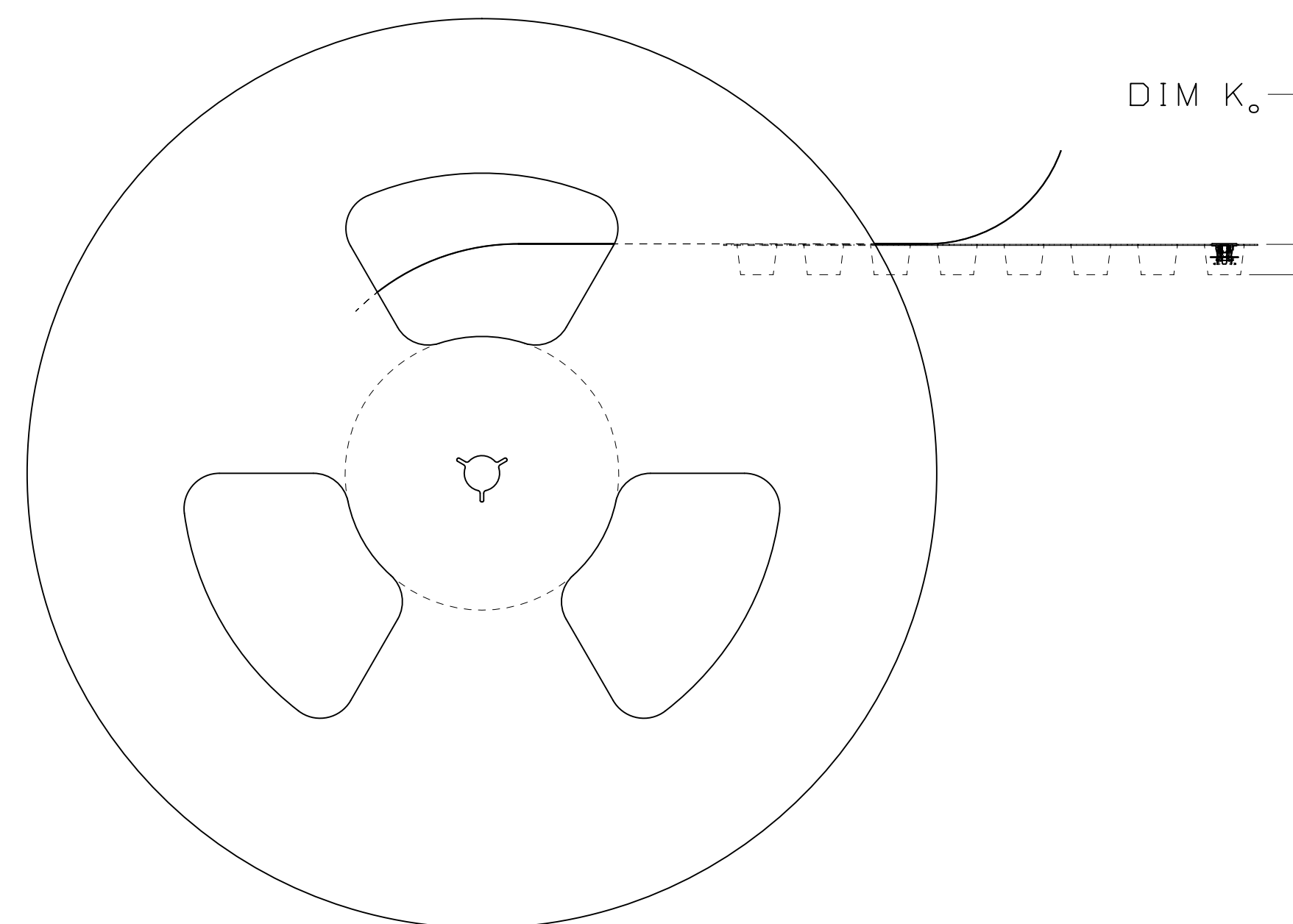
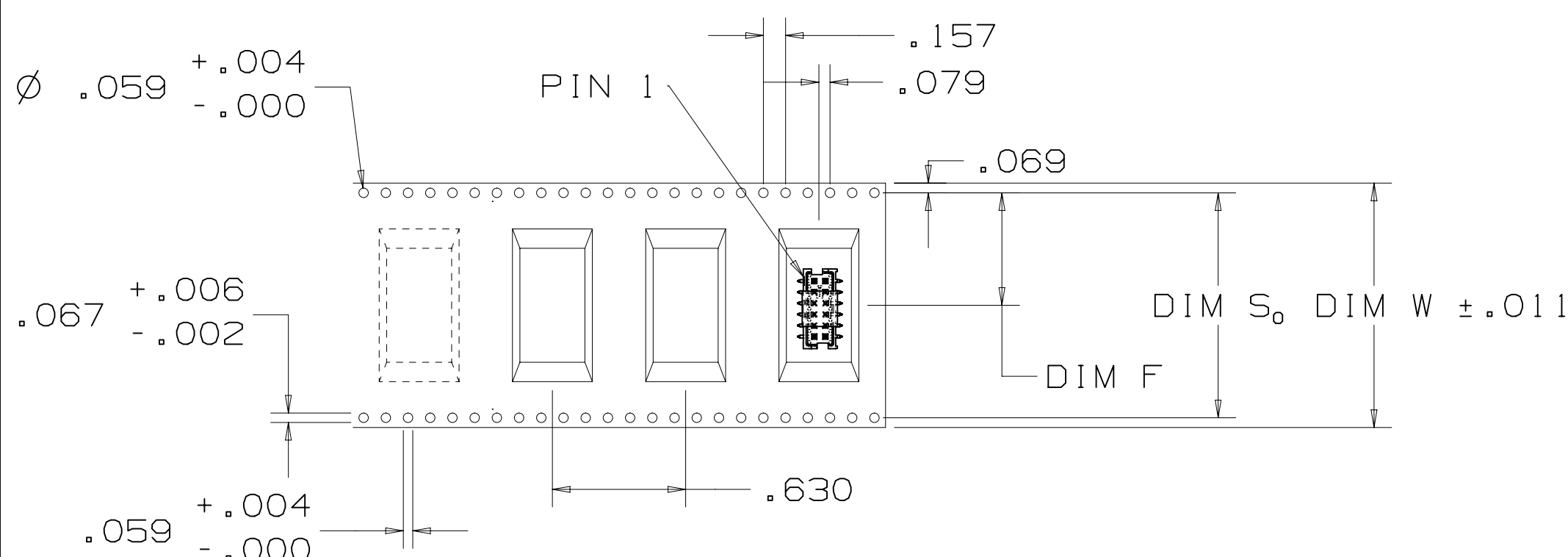
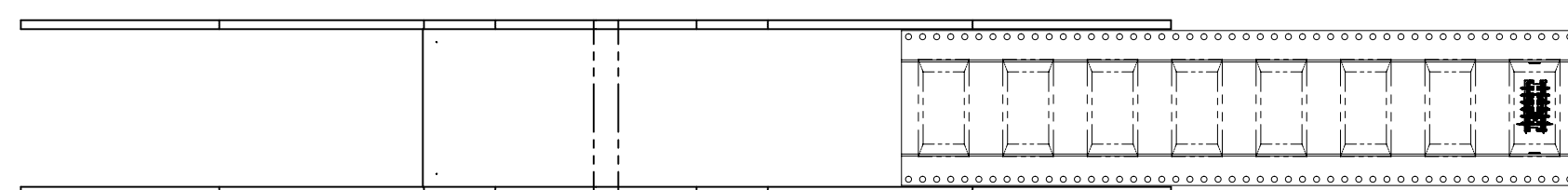
TITLE	3M SHROUDED BOARD MOUNT HEADER 2 MM X 2 MM PITCH 159 SERIES
CAGE NUMBER	D 78-5100-2359-7
DRAWING NO.	78-5100-2359-7
REV.	F
MODEL	1591XX-XXXX

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 <sub>0</sub> +/- 0.10	DIM S <sub>0</sub> +/- 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	MFG		
THIRD ANGLE PROJECTION	TOLERANCES EXCEPT AS NOTED	APPR	S FELDMAN	DATE	AUG 09, 2010	
INTERPRET PER ASME Y14.5 - 1994	INCHES					
MAX SURFACE ROUGHNESS	MILLIMETERS	© 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.				
<input type="checkbox"/> ALL SURFACES <input checked="" type="checkbox"/> MARKED ONLY	.00 ± .000 ± .0000 ±	TITLE <b>3M SHROUDED BOARD MOUNT HEADER 2 MM X 2 MM PITCH 159 SERIES</b>				
	.0 ± .0 ± .00 ± .000 ±	CAGE NUMBER	SIZE	DRAWING NO.	REV.	
	.0 ± .00 ± .000 ±	125	D	78-5100-2359-7	F	
	.00 ± .000 ±	MODEL				
	.000 ±					
	ANGLES ±1°					

78-5100-2359-7  
DRAWING NUMBER

A

SHT 5 OF 5