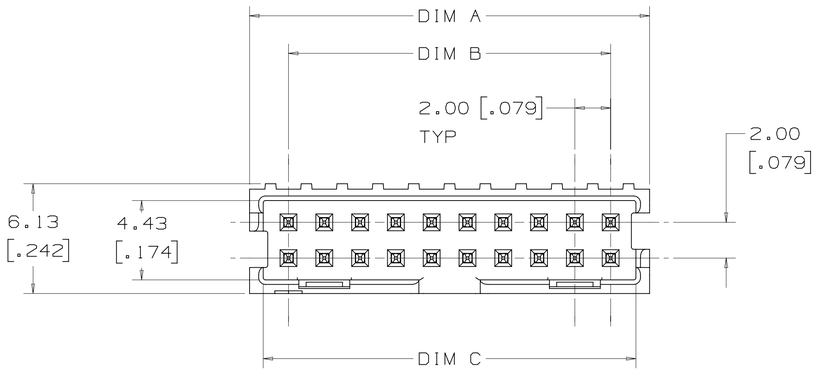
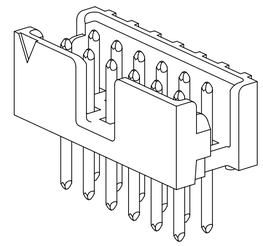
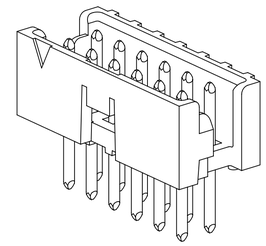
3M™ Shrouded Board Mount Header 2 mm X 2 mm Pitch 159 Series, Standard Length [3] and Extended Length [4]

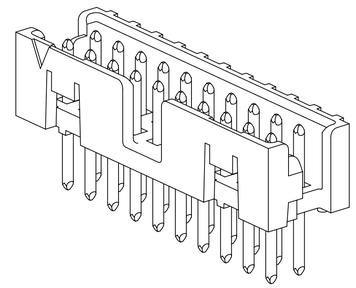




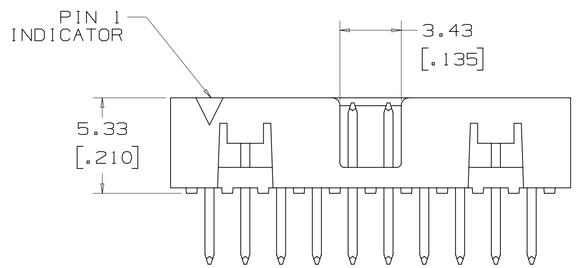
POLARIZATION SLOT
THRU-HOLE VERTICAL HEADER
6-12 POSITIONS ONLY

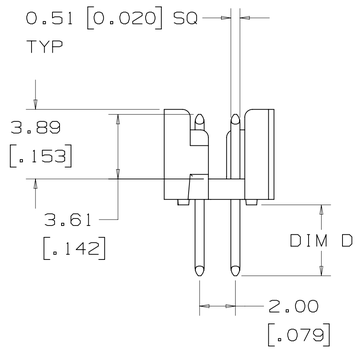


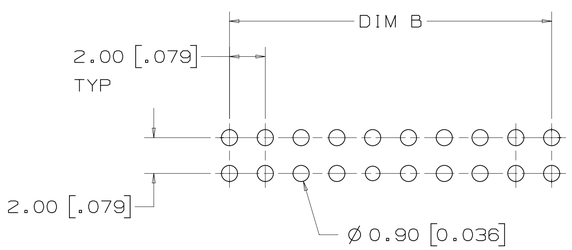
SINGLE FRICTION LATCH
THRU-HOLE VERTICAL HEADER
6-12 POSITIONS ONLY



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







RECOMMENDED PCB HOLE PATTERN
TOLERANCE = 0.05 [.002]

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 [30μin] 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.

PERFORMANCE [5] [7]	
CURRENT:	1A, 6 LINES ENERGIZED
INSULATION RESISTANCE:	>1 X 10^9 OHMS AT 500 VDC
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 4
FOR AVAILABLE POSITIONS AND
SOLDER TAIL LENGTHS

METRIC [ENGLISH]

REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
A	30741	OCT 28,2010 INITIAL RELEASE	LDS	SF

DESIGN REFERENCE | NEXT ASSEMBLY | DISTRIBUTION CODES | DIVISION | DIVISION CODE

DRFT L. SCHMIDT DATE JUL 29,2010 | MFG | DATE
CHKD | DATE | APPVL S FELDMAN DATE AUG 09,2010

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

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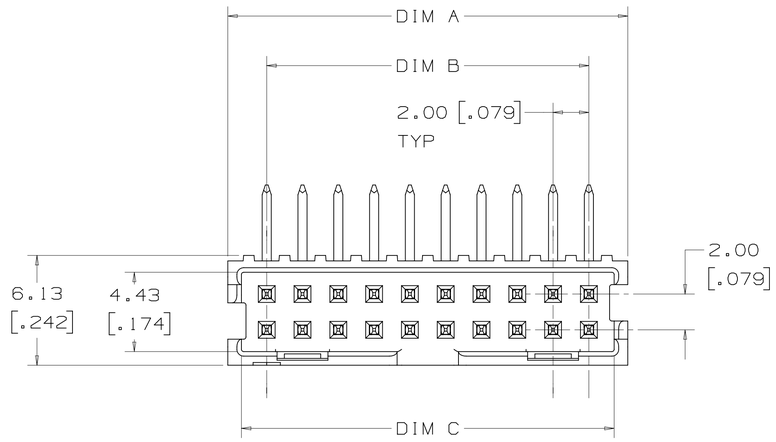
3M Center St. Paul, MN 55144

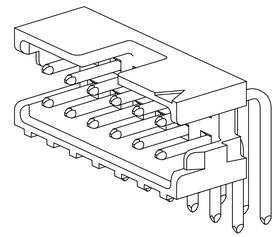
TITLE: 3M SHROUDED BOARD MOUNT HEADER 2 MM X 2 MM PITCH 159 SERIES

CAGE NUMBER | SIZE D | DRAWING NO. 78-5100-2359-7 | REV. A
MODEL | DET. LISTS ☐ YES ☒ NO | SHT 1 OF 4

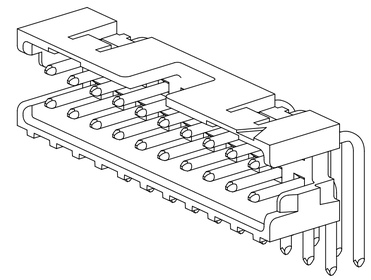
78-5100-2359-7 DRAWING NUMBER
A REVISION

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

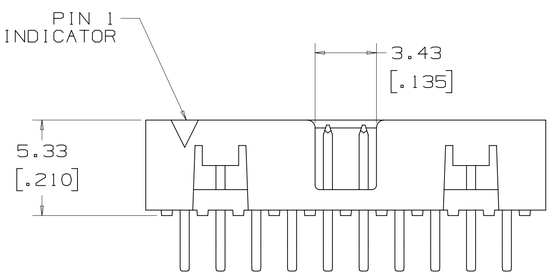


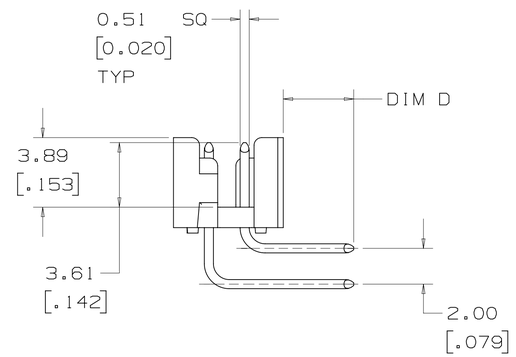


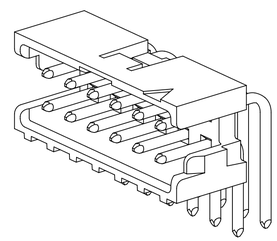
POLARIZATION SLOT
RIGHT ANGLE HEADER
6-12 POSITIONS ONLY



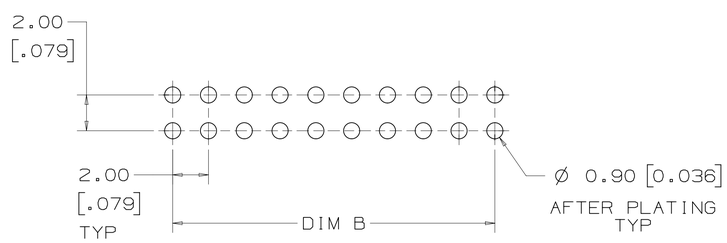
POLARIZATION SLOT AND
DUAL FRICTION LATCHES
RIGHT ANGLE HEADER
14-50 POSITIONS







SINGLE FRICTION LATCH
RIGHT ANGLE HEADER
6-12 POSITIONS ONLY



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

REFERENCE TABLE ON SHEET 4
FOR AVAILABLE POSITIONS AND
SOLDER TAIL LENGTHS

METRIC [ENGLISH]

REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
A	30741	OCT 28,2010 INITIAL RELEASE	LDS	SF

DESIGN REFERENCE | NEXT ASSEMBLY | DISTRIBUTION CODES | DIVISION | DIVISION CODE

DRFT: L. SCHMIDT — DATE: JUL 29,2010 — MFG — DATE
CHKD — DATE — APPV: S FELDMAN — DATE: AUG 09,2010

DO NOT SCALE DRAWING — SCALE 4/1

THIRD ANGLE PROJECTION

INTERPRET PER ASME Y14.5 - 1994

MAX SURFACE ROUGHNESS 125 ☐ ALL SURFACES ☒ MARKED ONLY

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

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3M Center St. Paul, MN 55144

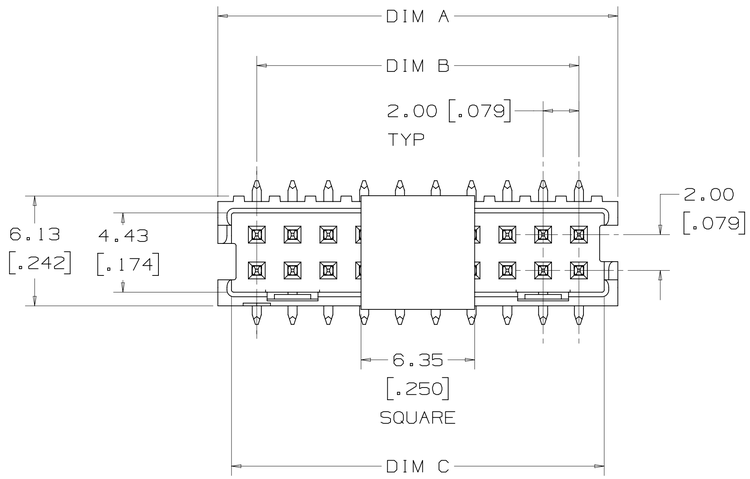
TITLE: 3M SHROUDED BOARD MOUNT HEADER 2 MM X 2 MM PITCH 159 SERIES

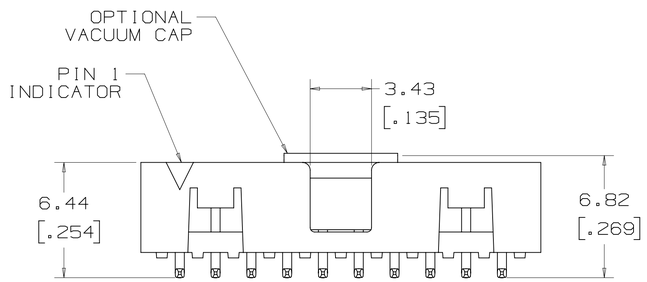
CAGE NUMBER — SIZE D — DRAWING NO. 78-5100-2359-7 — REV. A

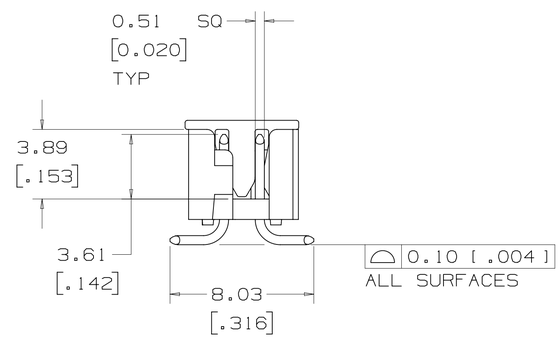
MODEL — DET. LISTS ☐ YES ☒ NO — SHT 2 OF 4

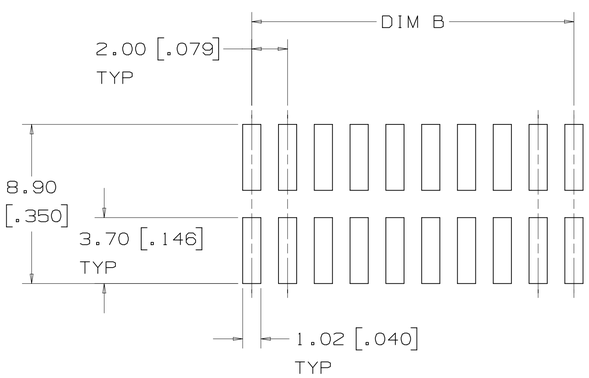
78-5100-2359-7 (DRAWING NUMBER) A (REVISION)

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

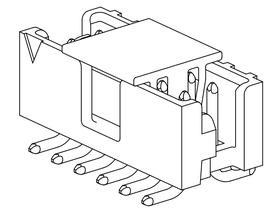




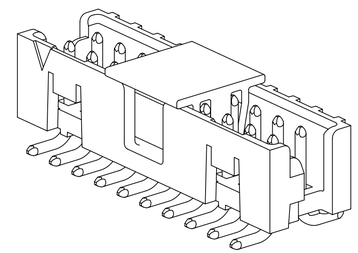




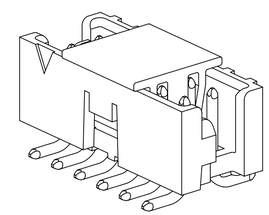
RECOMMENDED PCB PAD PATTERN
TOLERANCE = ±0.08 [.003]



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 4
FOR AVAILABLE POSITIONS

METRIC [ENGLISH]

REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
A	30741	OCT 28,2010 INITIAL RELEASE	LDS	SF

DESIGN REFERENCE | NEXT ASSEMBLY
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DRFT: L. SCHMIDT — DATE: JUL 29,2010 — MFG — DATE
CHKD — DATE — APPVL: S FELDMAN — DATE: AUG 09,2010
DIVISION | DIVISION CODE

DO NOT SCALE DRAWING — SCALE 4/1

THIRD ANGLE PROJECTION

INTERPRET PER ASME Y14.5 - 1994

MAX SURFACE ROUGHNESS 125 ☐ ALL SURFACES ☒ MARKED ONLY

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

3M — 3M Center, St. Paul, MN 55144

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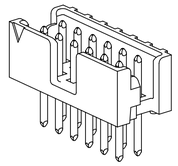
TITLE: 3M SHROUDED BOARD MOUNT HEADER 2 MM X 2 MM PITCH 159 SERIES

CAGE NUMBER — SIZE D — DRAWING NO. 78-5100-2359-7 — REV. A
MODEL — DET. LISTS ☐ YES ☒ NO — SHT 3 OF 4

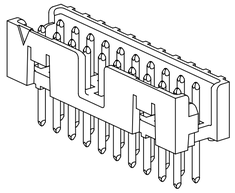
78-5100-2359-7 (DRAWING NUMBER) — A (REVISION)

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

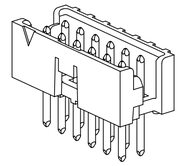
STANDARD LENGTH HEADERS
ARE AVAILABLE



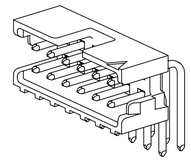
STANDARD LENGTH,
POLARIZATION SLOT,
VERTICAL HEADER
6-12 POSITIONS ONLY



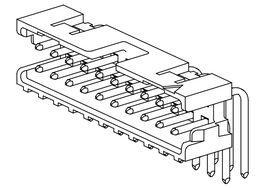
STANDARD LENGTH,
POLARIZATION SLOT,
DUAL FRICTION LATCHES,
VERTICAL HEADER
14-50 POSITIONS



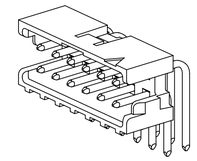
STANDARD LENGTH,
SINGLE FRICTION LATCH,
VERTICAL HEADER
6-12 POSITIONS



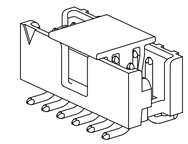
STANDARD LENGTH,
POLARIZATION SLOT,
RIGHT ANGLE HEADER
6-12 POSITIONS



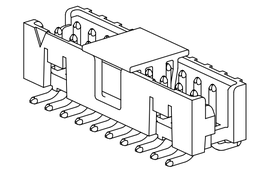
STANDARD LENGTH,
POLARIZATION SLOT,
DUAL FRICTION LATCHES,
RIGHT ANGLE HEADER
14-50 POSITIONS



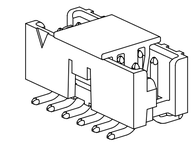
STANDARD LENGTH,
SINGLE FRICTION LATCH,
RIGHT ANGLE HEADER
6-12 POSITIONS



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



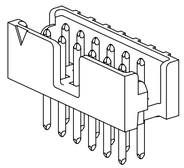
STANDARD LENGTH,
POLARIZATION SLOT,
DUAL FRICTION LATCHES,
SURFACE MOUNT HEADER
14-50 POSITIONS



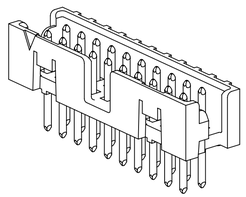
STANDARD LENGTH,
SINGLE FRICTION LATCH,
SURFACE MOUNT HEADER
6-12 POSITIONS

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

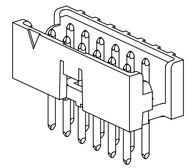
CALL 3M INTERCONNECT SOLUTIONS
AT 800-225-5373 FOR AVAILABILITY
OF EXTENDED LENGTH HEADERS



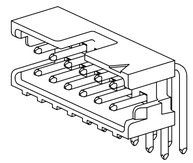
EXTENDED LENGTH,
POLARIZATION SLOT,
VERTICAL HEADER
6-12 POSITIONS



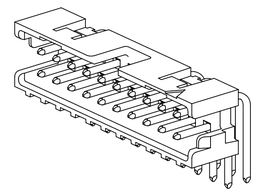
EXTENDED LENGTH,
POLARIZATION SLOT,
DUAL FRICTION LATCHES,
VERTICAL HEADER
14-50 POSITIONS



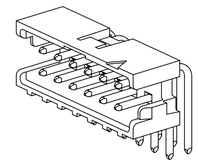
EXTENDED LENGTH,
SINGLE FRICTION LATCH,
VERTICAL HEADER
6-12 POSITIONS



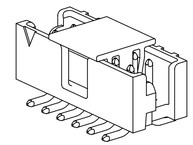
EXTENDED LENGTH,
POLARIZATION SLOT,
RIGHT ANGLE HEADER
6-12 POSITIONS



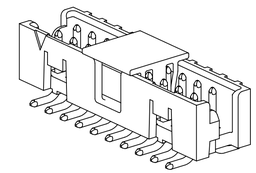
EXTENDED LENGTH,
POLARIZATION SLOT,
DUAL FRICTION LATCHES,
RIGHT ANGLE HEADER
14-50 POSITIONS



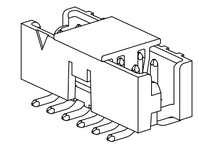
EXTENDED LENGTH,
SINGLE FRICTION LATCH,
RIGHT ANGLE HEADER
6-12 POSITIONS



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

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 μm
[15 μin] 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)

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	16.36 [.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]

METRIC [ENGLISH]

REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
A	30741	OCT 28,2010 INITIAL RELEASE	LDS	SF

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CHKD DATE APPV. S FELDMAN DATE AUG 09,2010
DIVISION | DIVISION CODE

DO NOT SCALE DRAWING | SCALE 4/1
THIRD ANGLE PROJECTION
INTERPRET PER ASME Y14.5 - 1994
MAX SURFACE ROUGHNESS 125 ☐ ALL SURFACES ☒ MARKED ONLY

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

3M 3M Center St. Paul, MN 55144

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

CAGE NUMBER | SIZE D | DRAWING NO. 78-5100-2359-7 | REV. A
MODEL | DET. LISTS ☐ YES ☒ NO | SHT 4 OF 4

78-5100-2359-7 DRAWING NUMBER | A REVISION

OCEAN CHIPS
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Web: http://oceanchips.ru/
Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А