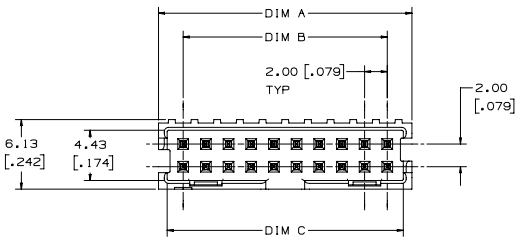
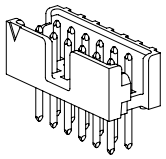
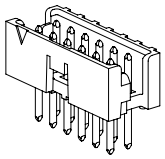
3M™ Shrouded Board Mount Header 2 mm X 2 mm Pitch 159 Series, Standard Length [3] and Extended Length [4]

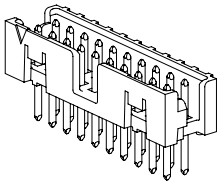




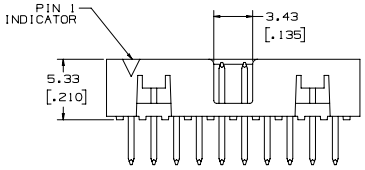
POLARIZATION SLOT
THRU-HOLE VERTICAL HEADER
6-12 POSITIONS ONLY

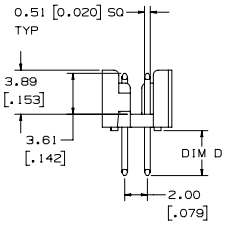


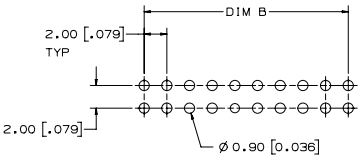
SINGLE FRICTION LATCH
THRU-HOLE VERTICAL HEADER
6-12 POSITIONS ONLY



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







RECOMMENDED PCB HOLE PATTERN
TOLERANCE = 0.05 [.002]

PERFORMANCE [5] [7]	
CURRENT:	1A, 6 LINES ENERGIZED
INSULATION RESISTANCE:	>1 X 10⁹ 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

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, 159 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.

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

DESIGN REFERENCE: STRAIGHT, GEN
NEXT ASSEMBLY:
DRF L. SCHMIDT DATE JUL 29,2010
CHKD S. FELDMAN DATE NOV 09,2010
DIVISION
DIVISION CODE
DO NOT SCALE DRAWING
SCALE 6 / 1
TOLERANCES EXCEPT AS NOTED: INCHES .X ±.1, .XX ±.05, .XXX ±.010, .XXXX ±.0050; MILLIMETERS .0 ±.1, .00 ±0.13, .000 ±.010; ANGLES ±1°
THIRD ANGLE PROJECTION
INTERPRET PER ASME Y14.5 - 1994
MAX SURFACE ROUGHNESS 125 ☐ ALL SURFACES ☒ MARKED ONLY

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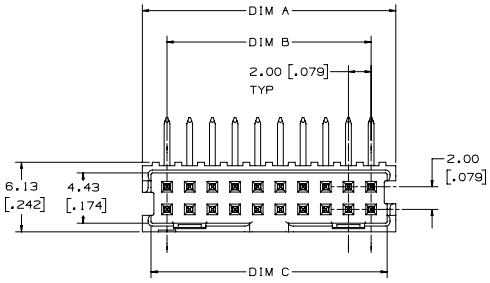
TITLE
3M SHROUDED BOARD MOUNT HEADER 2 MM X 2 MM PITCH 159 SERIES

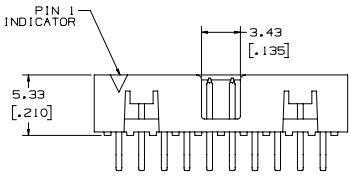
CAGE NUMBER 12970 SIZE D DRAWING NO. 78-5100-2359-7 REV. A
MODEL
REF: ☐ LISTS ☐ YES ☒ NO SHT 1 OF 4

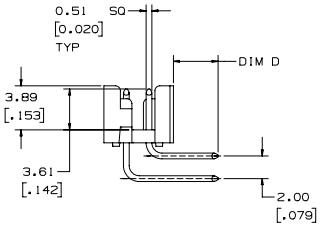
METRIC [ENGLISH]

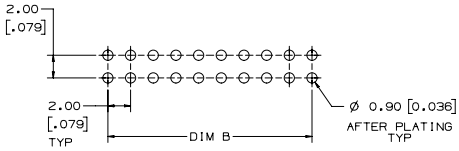
Downloaded from Elcodis.com electronic components distributor

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

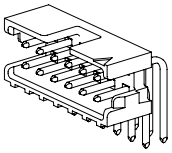




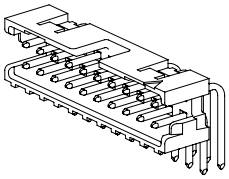




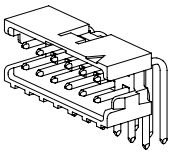
RECOMMENDED PCB HOLE PATTERN
TOLERANCE = ±0.05 [.002]



POLARIZATION SLOT
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

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: STRAIGHT, 6SRS — NEXT ASSEMBLY
DRF L. SCHMIDT DATE JUL 29,2010
CHKD S. FELDMAN DATE NOV 09,2010
DIVISION — DIVISION CODE

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3M Center, St. Paul, MN 55144

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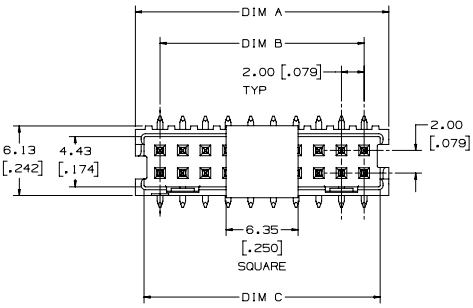
THIRD ANGLE PROJECTION
INTERPRET PER ASME Y14.5 - 1994
MAX SURFACE ROUGHNESS 125 ALL SURFACES MARKED ONLY

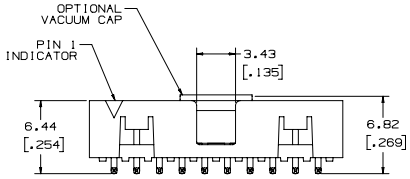
TITLE: 3M SHROUDED BOARD MOUNT HEADER 2 MM X 2 MM PITCH 159 SERIES

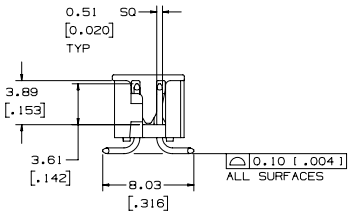
CAGE NUMBER — STYLE D — DRAWING NO. 78-5100-2359-7 — REV. A
MODEL — DRFT LISTS YES NO — SHT 2 OF 4

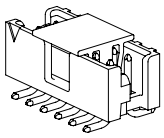
Downloaded from Elcodis.com electronic components distributor

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

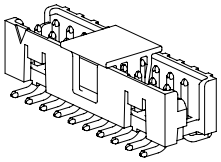




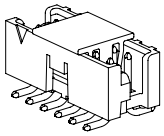




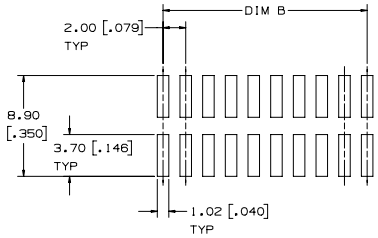
POLARIZATION SLOT
SURFACE MOUNT HEADER
6-12 POSITIONS ONLY



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



SINGLE FRICTION LATCH
SURFACE MOUNT HEADER
6-12 POSITIONS ONLY



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

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: STANDARD CODE
NEXT ASSEMBLY
DRF: L. SCHMIDT DATE: JUL 29,2010
CHKD: S. FELDMAN DATE: NOV 09,2010
DIVISION
DIVISION CODE

DO NOT SCALE DRAWING
SCALE 4/1
TOLERANCES EXCEPT AS NOTED: INCHES .X ±.10, .XX ±.05, .XXX ±.010, .XXXX ±.0050; MILLIMETERS .0 ±, .00 ±0.13, .000 ±
THIRD ANGLE PROJECTION
INTERPRET PER ASME Y14.5 - 1994
MAX SURFACE ROUGHNESS 125 ALL SURFACES MARKED ONLY
ANGLES ±1°

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3M Center St. Paul, MN 55144

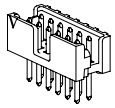
TITLE: 3M SHROUDED BOARD MOUNT HEADER 2 MM X 2 MM PITCH 159 SERIES

CAGE NUMBER: 12 STYLE: D DRAWING NO. 78-5100-2359-7 REV. A
MODEL: Lists YES NO SHT 3 OF 4

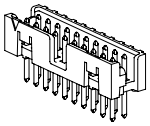
Downloaded from Elcodis.com electronic components distributor

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

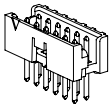
STANDARD LENGTH HEADERS ARE AVAILABLE



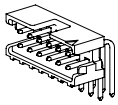
STANDARD LENGTH, POLARIZATION SLOT, VERTICAL HEADER 6-12 POSITIONS ONLY



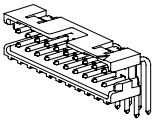
STANDARD LENGTH, POLARIZATION SLOT, DUAL FRICTION LATCHES, VERTICAL HEADER 14-50 POSITIONS



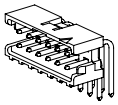
STANDARD LENGTH, SINGLE FRICTION LATCH, VERTICAL HEADER 6-12 POSITIONS



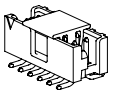
STANDARD LENGTH, POLARIZATION SLOT, RIGHT ANGLE HEADER 6-12 POSITIONS



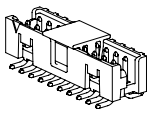
STANDARD LENGTH, POLARIZATION SLOT, DUAL FRICTION LATCHES, RIGHT ANGLE HEADER 14-50 POSITIONS



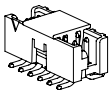
STANDARD LENGTH, SINGLE FRICTION LATCH, RIGHT ANGLE HEADER 6-12 POSITIONS



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



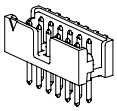
STANDARD LENGTH, POLARIZATION SLOT, DUAL FRICTION LATCHES, SURFACE MOUNT HEADER 14-50 POSITIONS



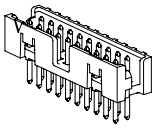
STANDARD LENGTH, SINGLE FRICTION LATCH, SURFACE MOUNT HEADER 6-12 POSITIONS

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

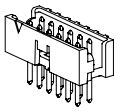
CALL 3M INTERCONNECT SOLUTIONS AT 800-225-5373 FOR AVAILABILITY OF EXTENDED LENGTH HEADERS



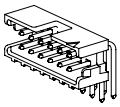
EXTENDED LENGTH, POLARIZATION SLOT, VERTICAL HEADER 6-12 POSITIONS



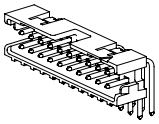
EXTENDED LENGTH, POLARIZATION SLOT, DUAL FRICTION LATCHES, VERTICAL HEADER 14-50 POSITIONS



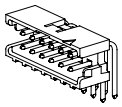
EXTENDED LENGTH, SINGLE FRICTION LATCH, VERTICAL HEADER 6-12 POSITIONS



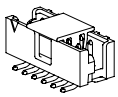
EXTENDED LENGTH, POLARIZATION SLOT, RIGHT ANGLE HEADER 6-12 POSITIONS



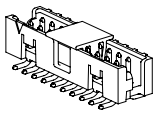
EXTENDED LENGTH, POLARIZATION SLOT, DUAL FRICTION LATCHES, RIGHT ANGLE HEADER 14-50 POSITIONS



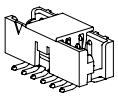
EXTENDED LENGTH, SINGLE FRICTION LATCH, RIGHT ANGLE HEADER 6-12 POSITIONS



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

DESIGN REFERENCE: STANDARD, CUSTOM
NEXT ASSEMBLY:
DRF: L. SCHMIDT DATE: JUL 29,2010
CHKD: DATE:
APR: S. FELDMAN DATE: NOV 09,2010
DIVISION:
DIVISION CODE:

DO NOT SCALE DRAWING
SCALE 4/1
TOLERANCES EXCEPT AS NOTED: INCHES .X ±.03, .XX ±.010, .XXX ±.005, .XXXX ±.0020
THIRD ANGLE PROJECTION
INTERPRET PER ASME Y14.5 - 1994
MILLIMETERS .0 ±, .00 ±0.13, .000 ±
MAX SURFACE ROUGHNESS 125 ALL SURFACES, MARKED ONLY
ANGLES ±1°

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: 12345
STYLE: D
DRAWING NO.: 78-5100-2359-7
REV.: A
MODEL:
PARTS LISTS: YES NO
SHT 4 OF 4

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