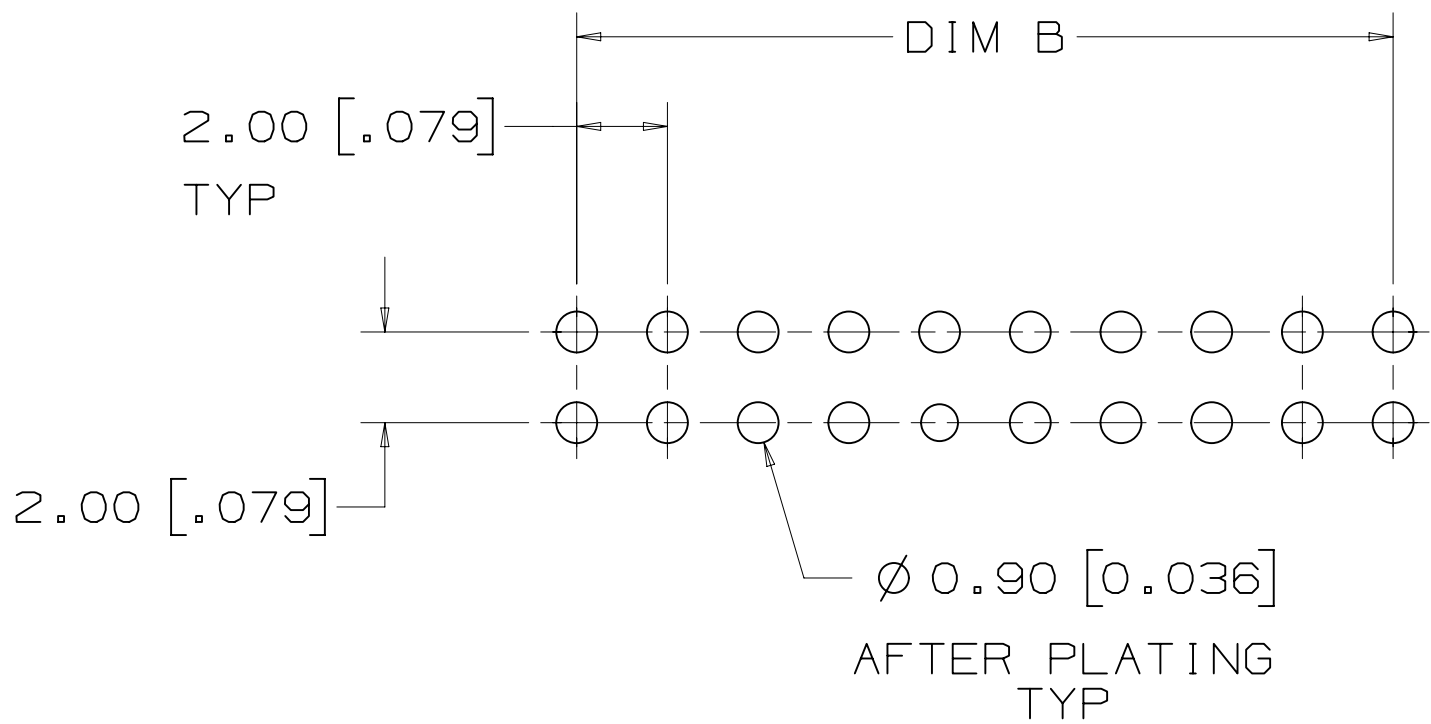
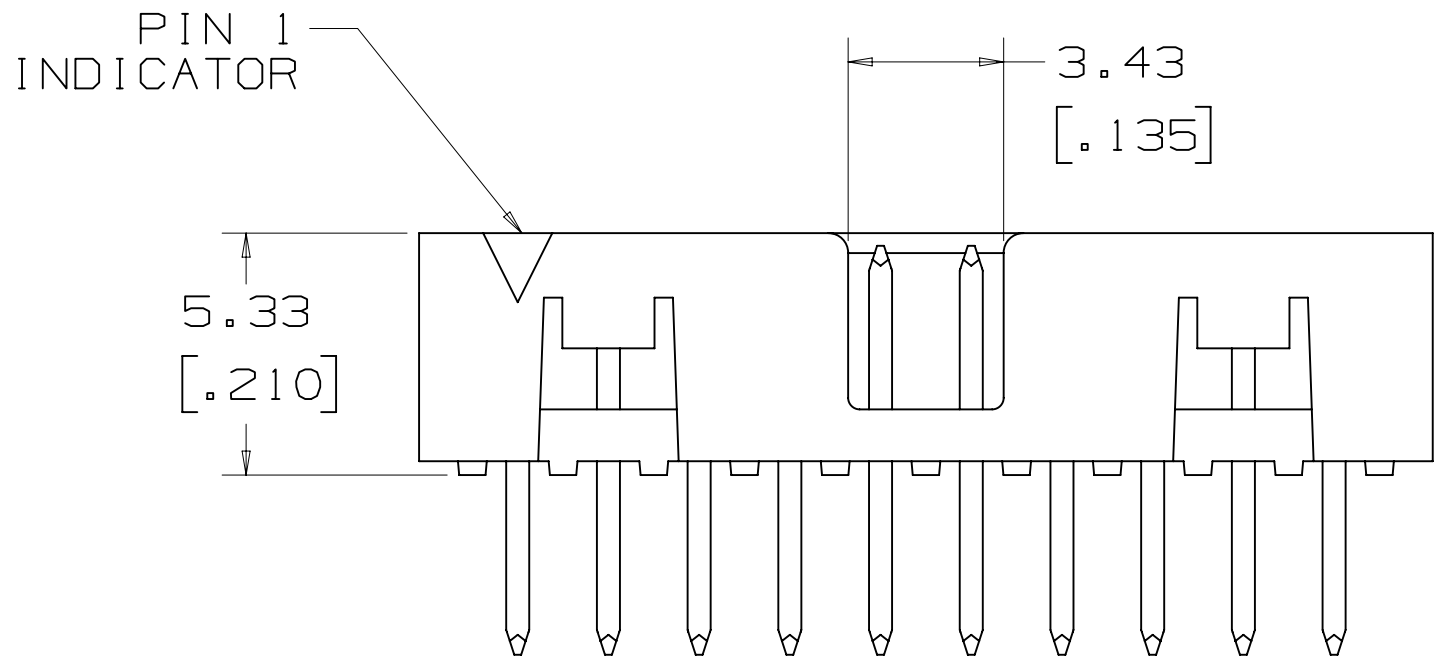
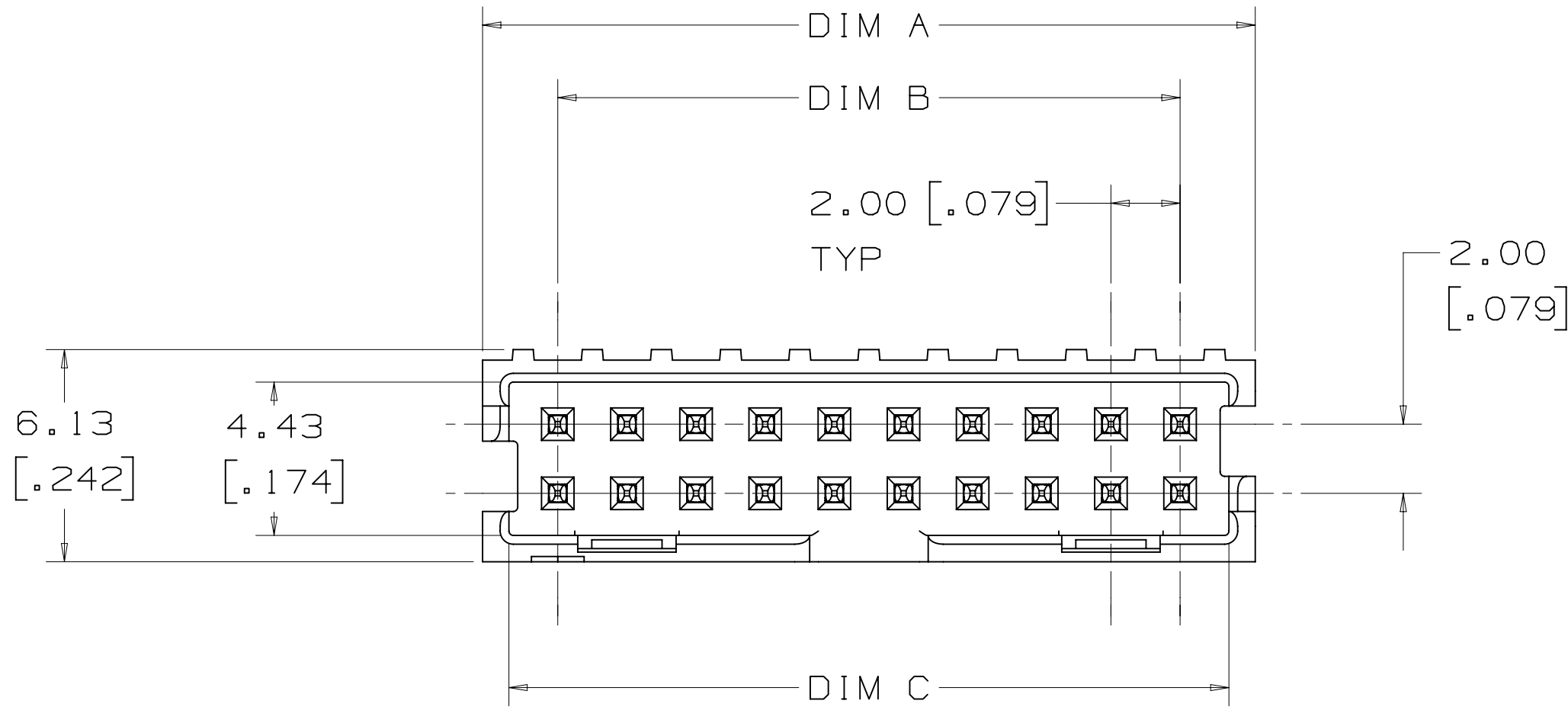
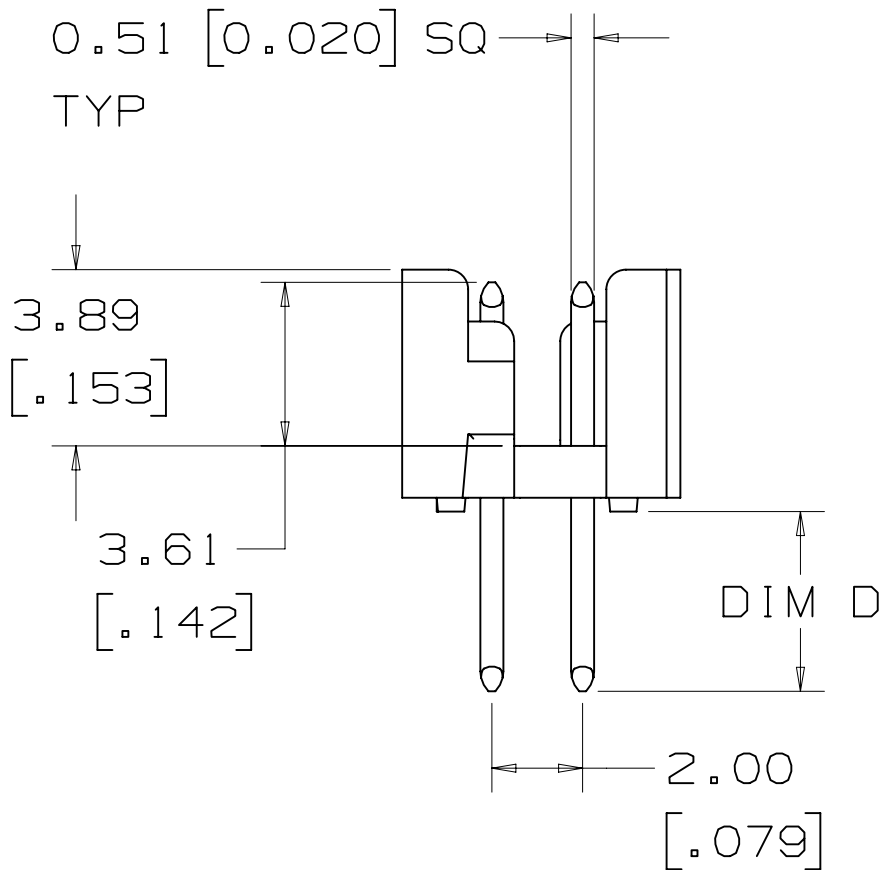
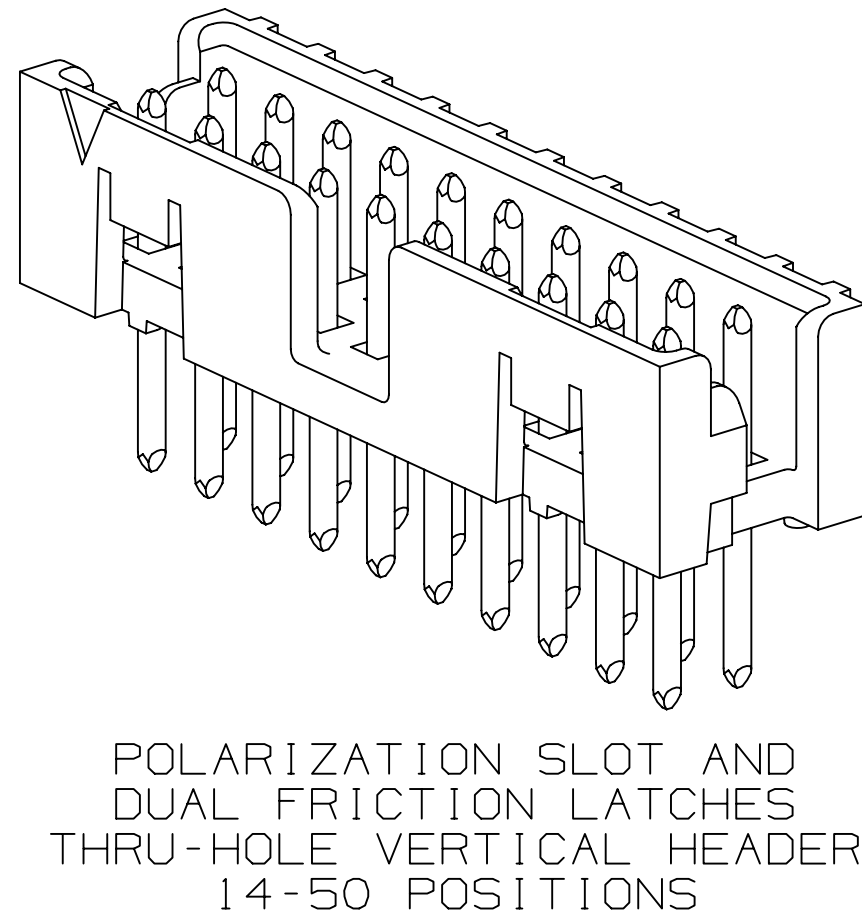
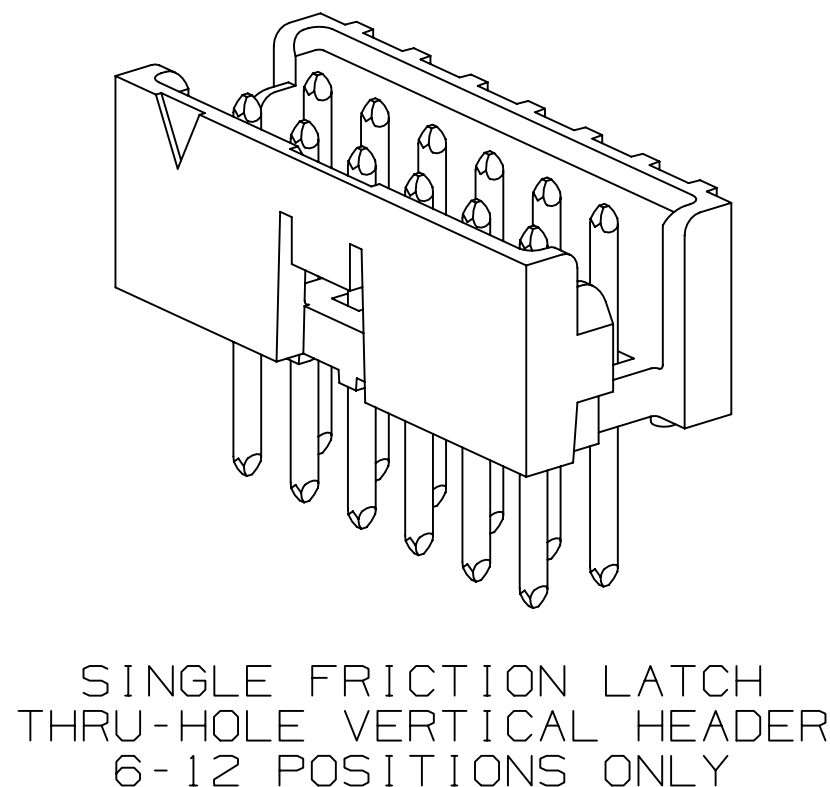
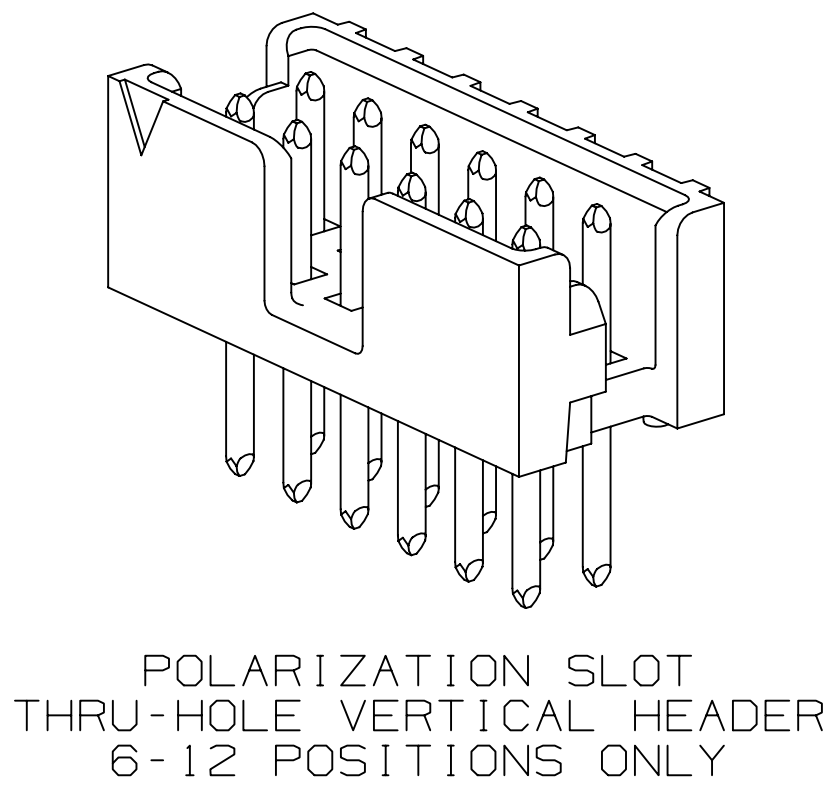


3M™ Shrouded Board Mount Header 2 mm X 2 mm Pitch 159 Series, Standard Length [3] and Extended Length [4]



RECOMMENDED PCB HOLE PATTERN  
TOLERANCE = 0.05 [ .002 ]



| PERFORMANCE [5] [7]         |                                      |
|-----------------------------|--------------------------------------|
| CURRENT:                    | 1A, 6 LINES ENERGIZED                |
| INSULATION RESISTANCE:      | >1 X 10 <sup>9</sup> 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 ]

- NOTES
- 1

MATERIAL:  
BODY: HIGH TEMPERATURE  
GLASS FILLED LCP, BLACK  
UL94V-0  
CONTACTS: COPPER ALLOY
- 2

PLATING:  
2.03-3.81  $\mu$ m [80-150  $\mu$ in]  
NICKEL UNDERPLATE.  
0.38  $\mu$ m [15  $\mu$ in] OR  
0.76  $\mu$ m [30 $\mu$ in] AVG GOLD  
ON WIPING AREA.  
5.08  $\mu$ m [200  $\mu$ in] 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

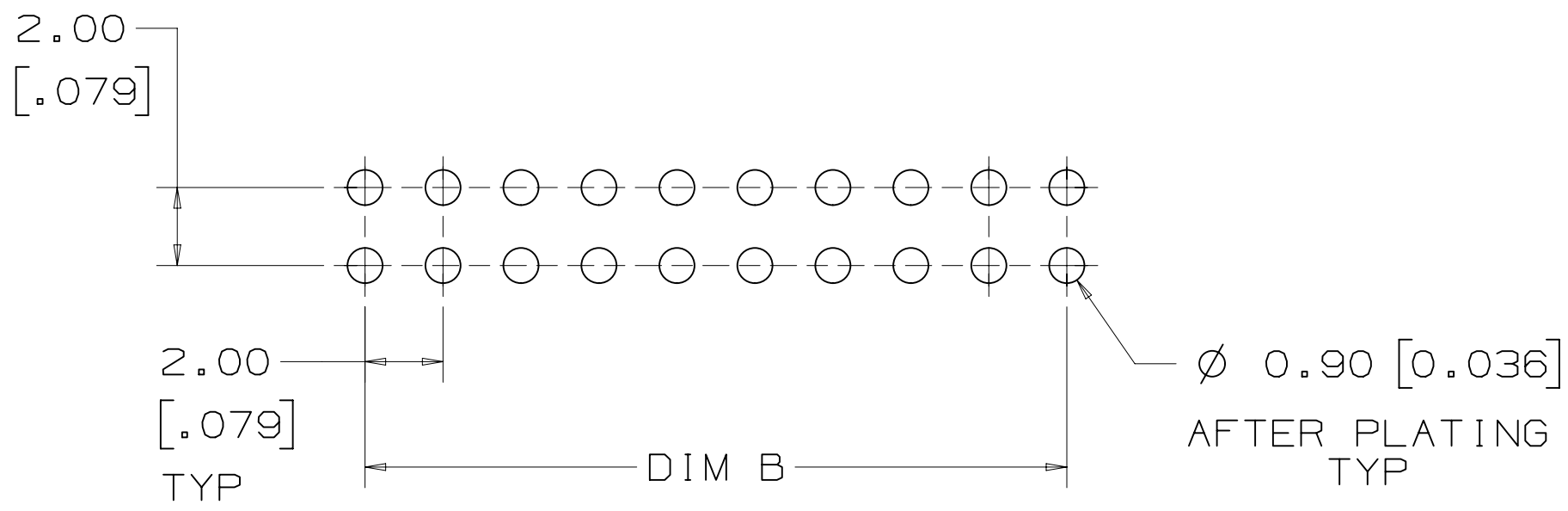
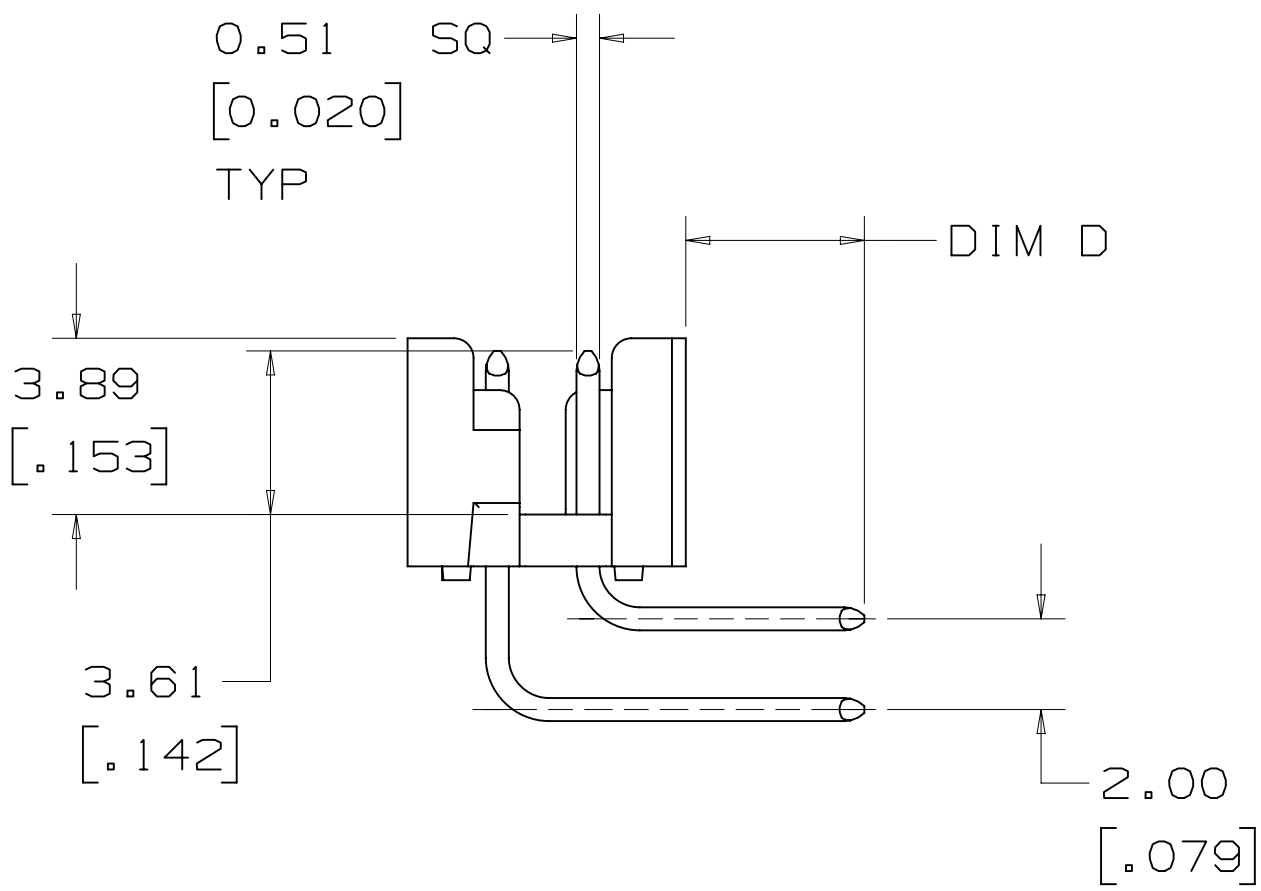
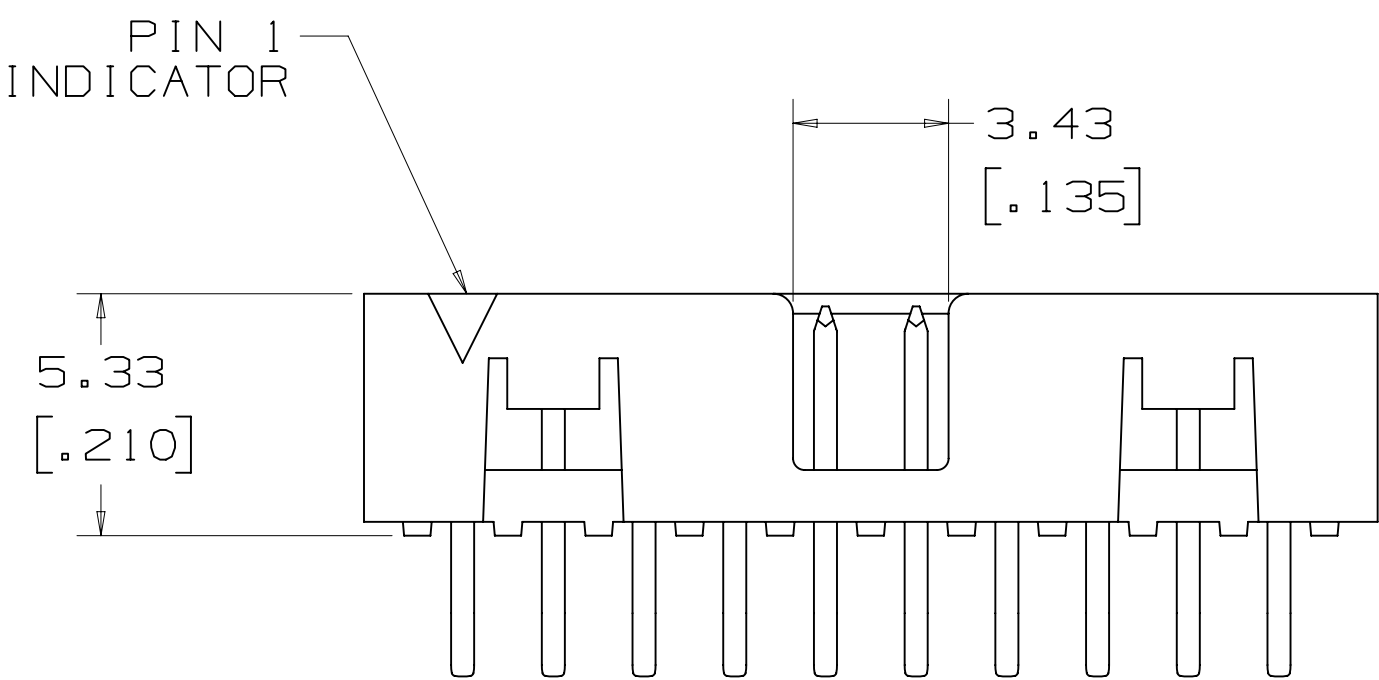
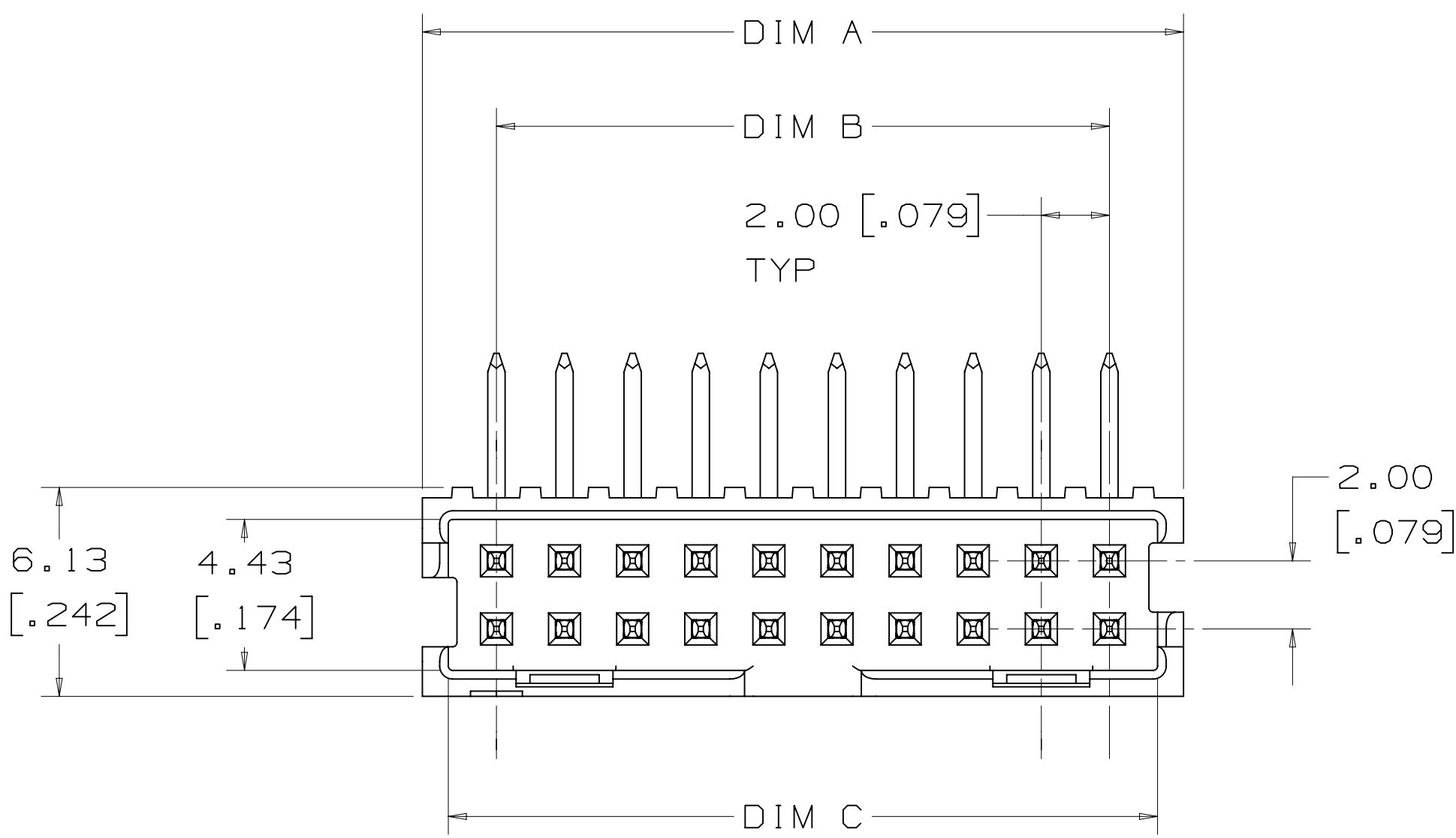
FOR PRODUCT  
SPECIFICATIONS AND  
WARRANTY INFORMATION SEE  
3M 78-5102-0078-1.
- 6

SEE THE REGULATORY  
INFORMATION APPENDIX (RIA)  
IN THE "RoHS COMPLIANCE"  
SECTION OF  
WWW.3MCONNECTOR.COM FOR  
COMPLIANCE INFORMATION  
(RIA E1 & C1 APPLY).
- 7

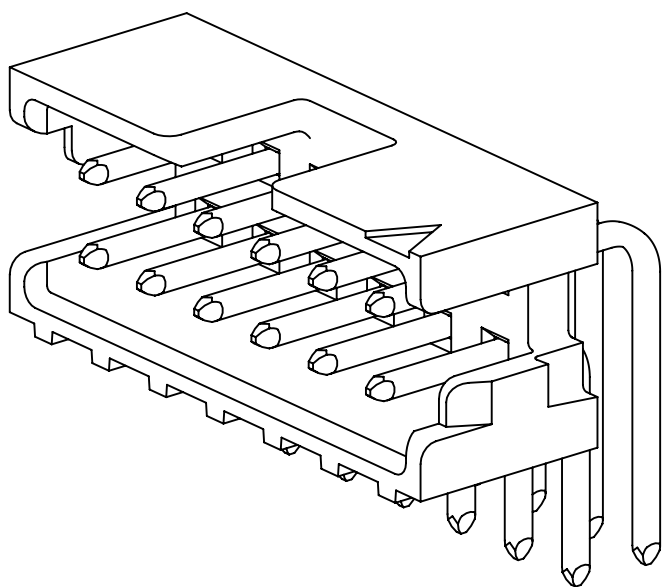
IN THE EVENT OF CONFLICT  
BETWEEN THIS DATA AND  
THAT CONTAINED IN THE  
PRODUCT SPECIFICATION,  
THE PRODUCT SPECIFICATION  
TAKES PRECEDENT.

|                                            |  |                                                             |  |                                                                                                                                                                                                    |                  |
|--------------------------------------------|--|-------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| A 30741                                    |  | OCT 28,2010                                                 |  | LDS                                                                                                                                                                                                | SF               |
| INITIAL RELEASE                            |  |                                                             |  |                                                                                                                                                                                                    |                  |
| DESIGN REFERENCE                           |  | NEXT ASSEMBLY                                               |  | REV                                                                                                                                                                                                | ECO              |
| DISTRIBUTION CODES                         |  | DRFT L. SCHMIDT                                             |  | DATE JUL 29,2010                                                                                                                                                                                   | MFG DATE         |
|                                            |  | CHKD                                                        |  | DATE                                                                                                                                                                                               | APPR S FELDMAN   |
|                                            |  |                                                             |  |                                                                                                                                                                                                    | DATE AUG 09,2010 |
| DIVISION                                   |  | DIVISION CODE                                               |  |                                                                                                                                                                                                    |                  |
| DO NOT SCALE DRAWING                       |  | SCALE 6 1                                                   |  | TOLERANCES EXCEPT AS NOTED                                                                                                                                                                         |                  |
|                                            |  |                                                             |  |                                                                                                                                                                                                    |                  |
| THIRD ANGLE PROJECTION                     |  |                                                             |  |                                                                                                                                                                                                    |                  |
| INTERPRET PER ASME Y14.5 - 1994            |  |                                                             |  |                                                                                                                                                                                                    |                  |
| MAX SURFACE ROUGHNESS 125 /                |  |                                                             |  |                                                                                                                                                                                                    |                  |
| ALL SURFACES MARKED                        |  |                                                             |  |                                                                                                                                                                                                    |                  |
| <input checked="" type="checkbox"/> MARKED |  |                                                             |  |                                                                                                                                                                                                    |                  |
| ANGLES ± 1°                                |  |                                                             |  |                                                                                                                                                                                                    |                  |
|                                            |  | 3M 3M Center St. Paul, MN 55144                             |  | © 3M COPYRIGHT 2010<br>3M property and the information it contains are either trademarked or 3M permission, or used or disclosed other than for 3M authorized sales purposes. All rights reserved. |                  |
| TITLE                                      |  | 3M SHROUDED BOARD MOUNT HEADER 2 MM X 2 MM PITCH 159 SERIES |  |                                                                                                                                                                                                    |                  |
| CAGE NUMBER                                |  | SIZE                                                        |  | DRAWING NO.                                                                                                                                                                                        |                  |
| D 78-5100                                  |  | 2                                                           |  | 2359-7                                                                                                                                                                                             |                  |
| REV.                                       |  | A                                                           |  |                                                                                                                                                                                                    |                  |
| MODEL                                      |  | DET. LISTS                                                  |  | YES <input checked="" type="checkbox"/> NO                                                                                                                                                         |                  |
|                                            |  | SHT                                                         |  | 1 OF 4                                                                                                                                                                                             |                  |

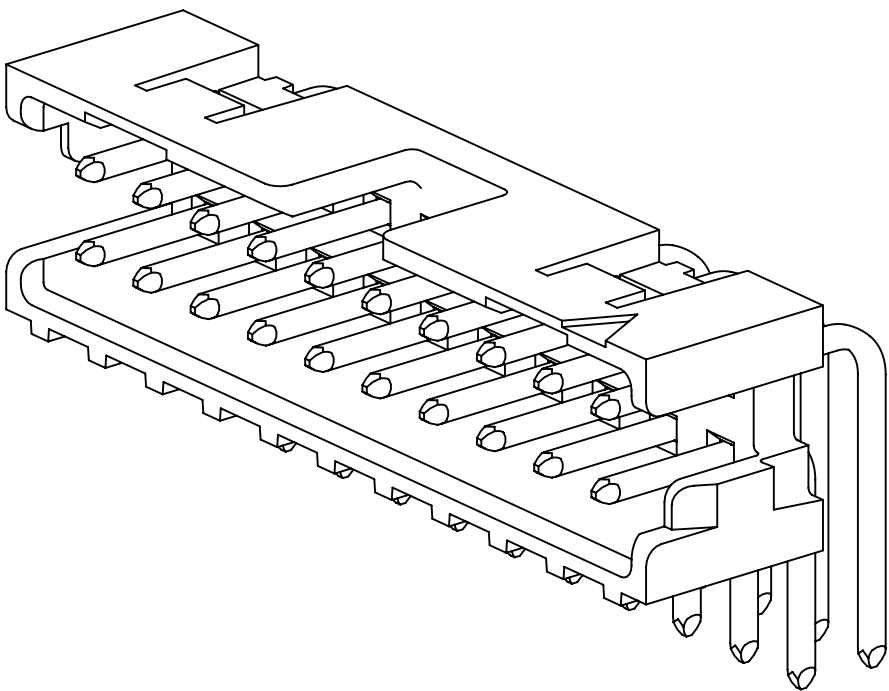
3M™ Shrouded Board Mount Header 2 mm X 2 mm Pitch 159 Series, Standard Length [3] and Extended Length [4]



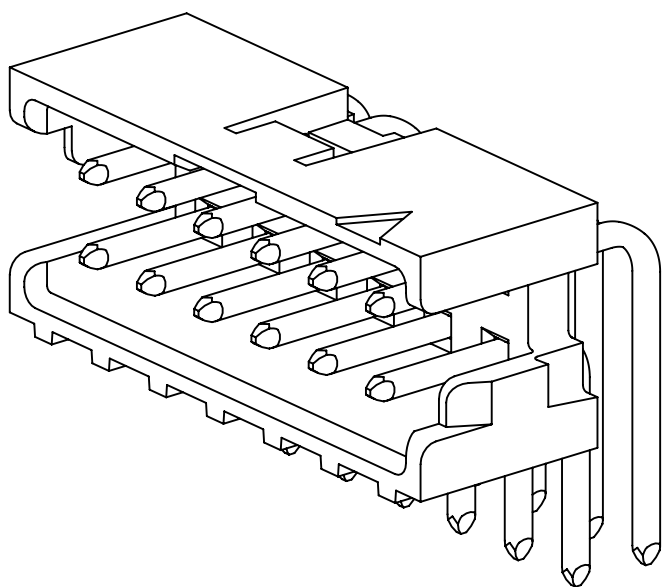
RECOMMENDED PCB HOLE PATTERN  
TOLERANCE = ±0.05 [ .002 ]



POLARIZATION SLOT  
RIGHT ANGLE HEADER  
6-12 POSITIONS ONLY



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



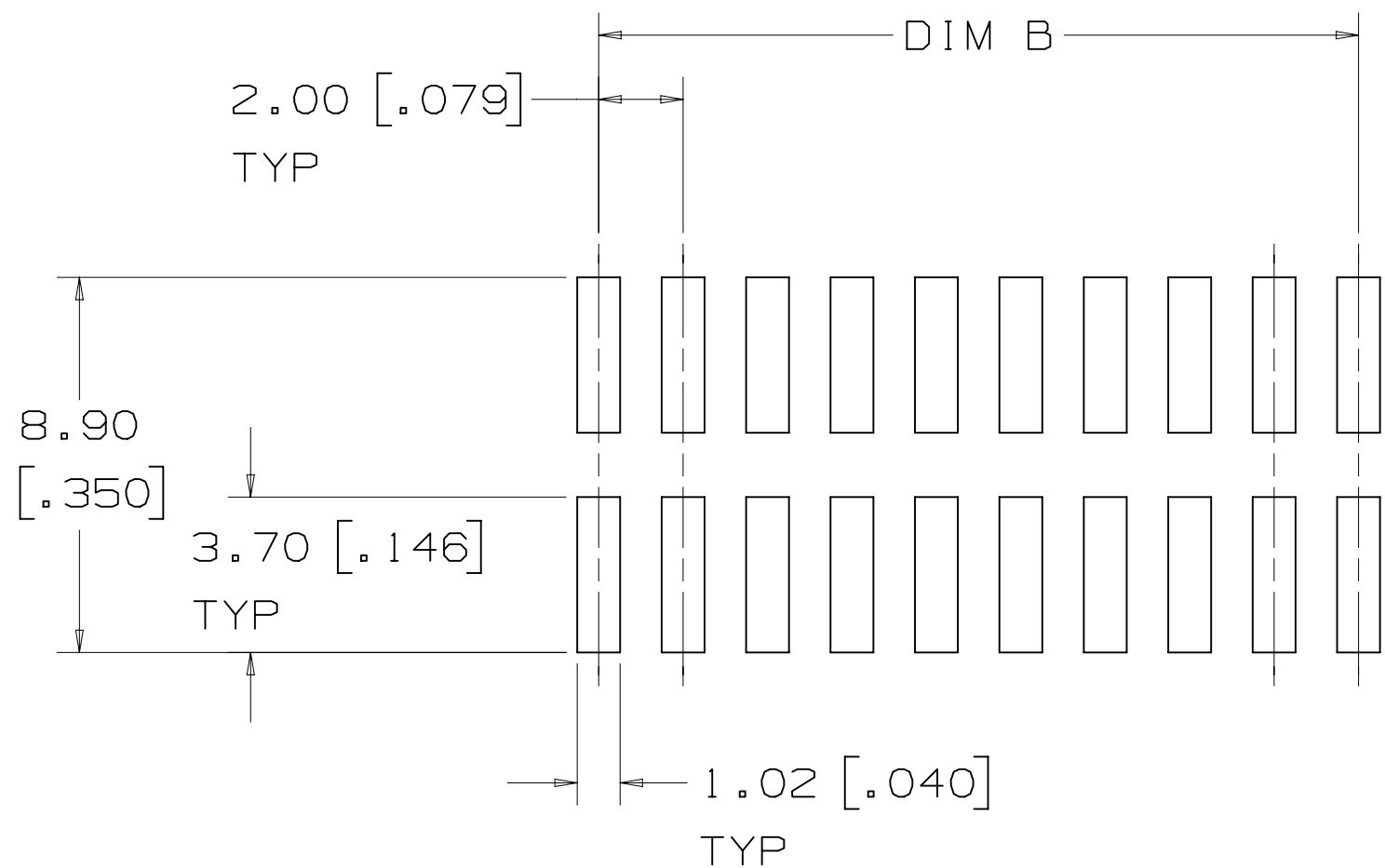
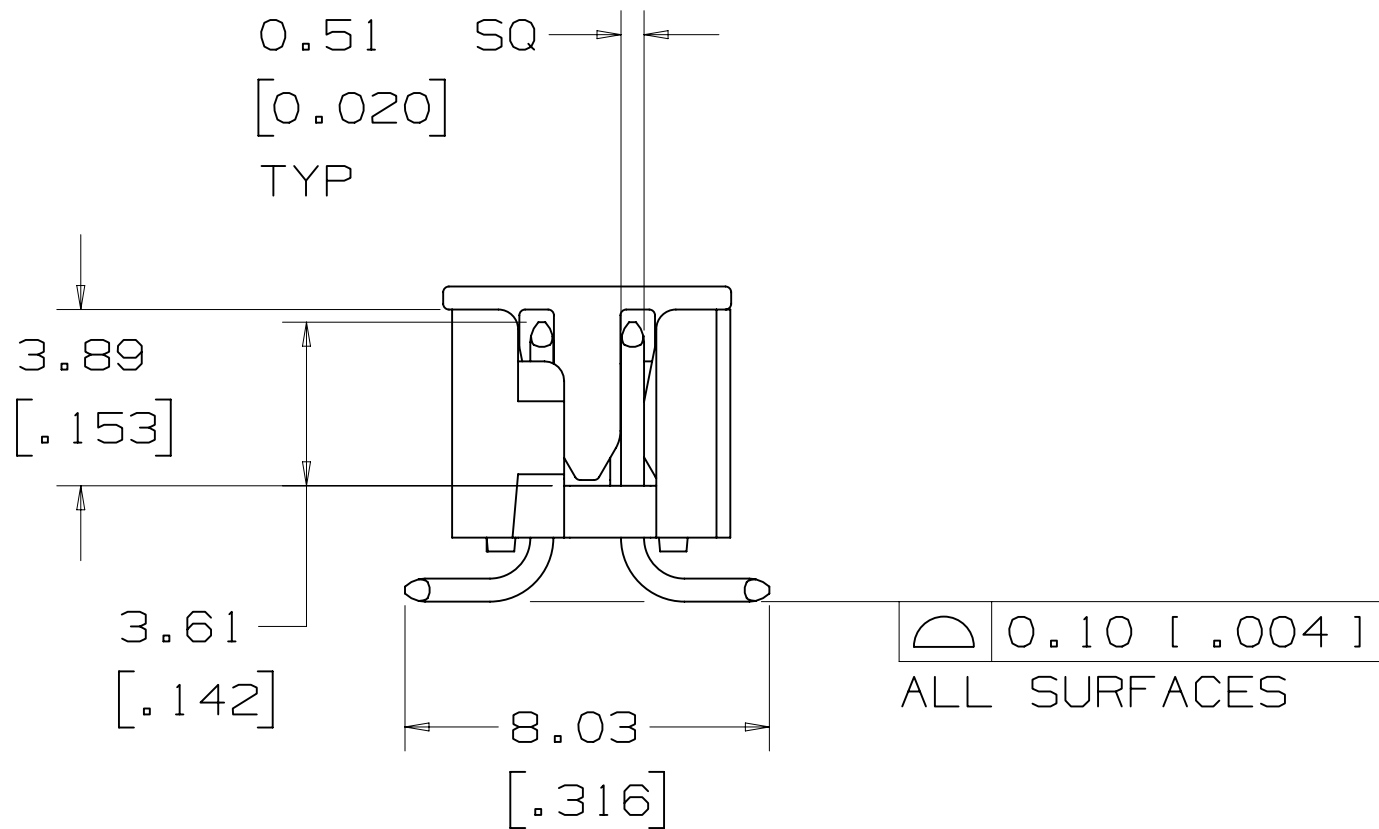
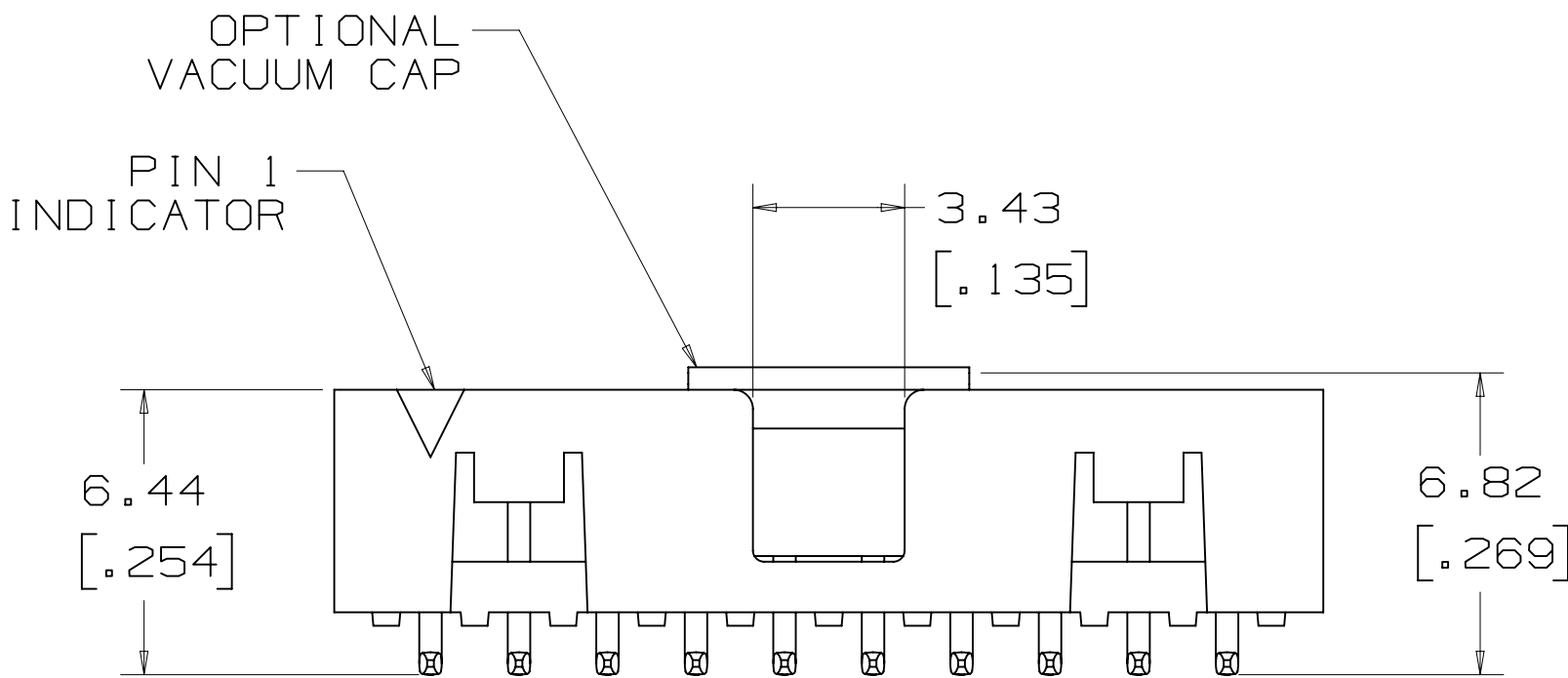
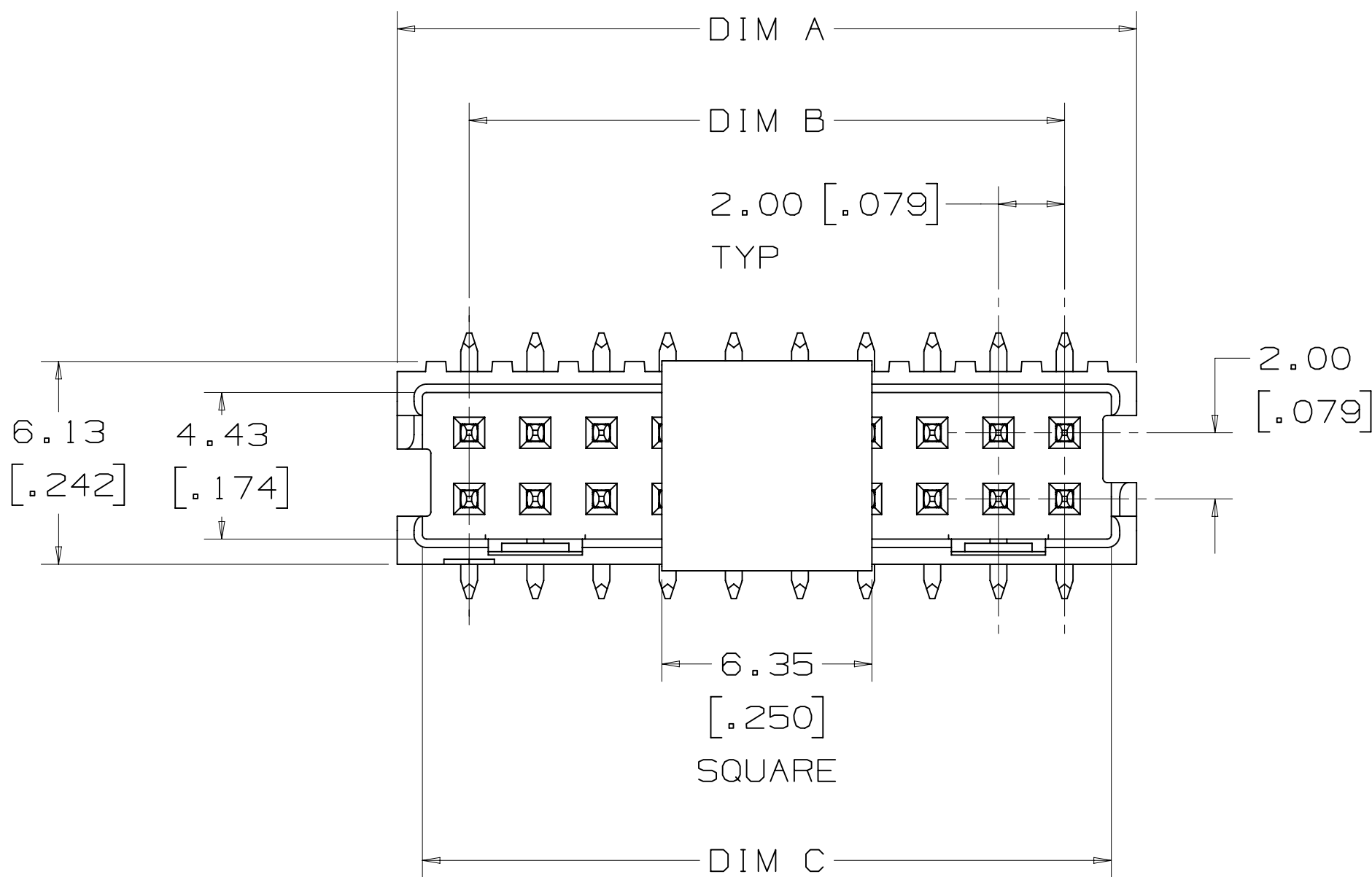
SINGLE FRICTION LATCH  
RIGHT ANGLE HEADER  
6-12 POSITIONS ONLY

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

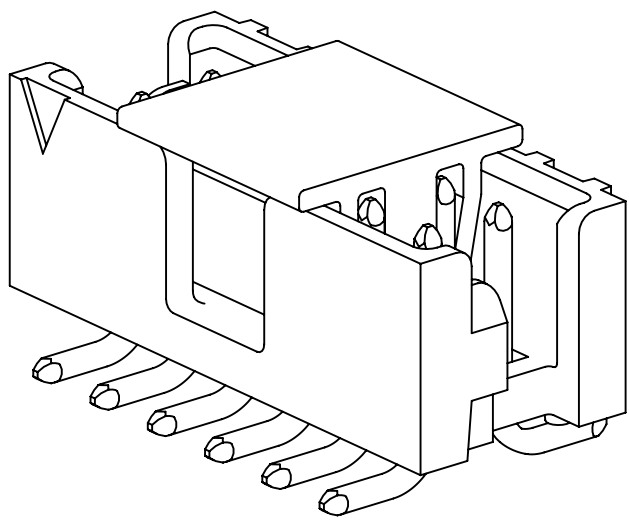
METRIC [ ENGLISH ]

|                        |  |                                 |  |                            |      |                            |  |                     |      |
|------------------------|--|---------------------------------|--|----------------------------|------|----------------------------|--|---------------------|------|
| DESIGN REFERENCE       |  | NEXT ASSEMBLY                   |  | REV                        | ECO  | ISSUE DATE AND DESCRIPTION |  | DRFT                | CHKD |
| DISTANCE               |  | DISTANCE                        |  | DRFT                       | ECO  | DATE                       |  | DATE                | DATE |
| L. SCHMIDT             |  | JUL 29, 2010                    |  | DATE                       | DATE | APPROVAL                   |  | DATE                | DATE |
| CHKD                   |  | S. FELDMAN                      |  | DATE                       | DATE | DATE                       |  | DATE                | DATE |
| DIVISION               |  | DIVISION CODE                   |  | 3M Center                  |      | St. Paul, MN 55144         |  | © 3M COPYRIGHT 2010 |      |
| DO NOT SCALE DRAWING   |  | SCALE 4/1                       |  | TOLERANCES EXCEPT AS NOTED |      | INCHES                     |  | MILLIMETERS         |      |
| THIRD ANGLE PROJECTION |  | INTERPRET PER ASME Y14.5 - 1994 |  | MAX SURFACE ROUGHNESS      |      | ALL SURFACES               |  | MARKED ONLY         |      |
| 125                    |  | X                               |  | ANGLES ±1°                 |      | CAGE NUMBER                |  | DRAWING NO.         |      |
| 125                    |  | X                               |  | MODEL                      |      | DET                        |  | YES NO              |      |
| 125                    |  | X                               |  | SHT 2 OF 4                 |      | REV. A                     |  | REV. A              |      |

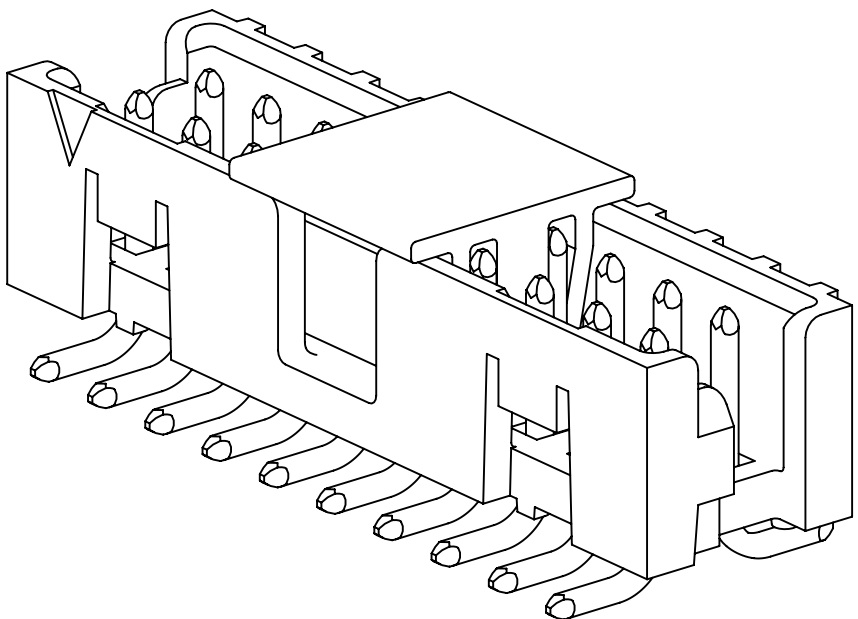
3M™ Shrouded Board Mount Header 2 mm X 2 mm Pitch 159 Series, Standard Length [3] and Extended Length [4]



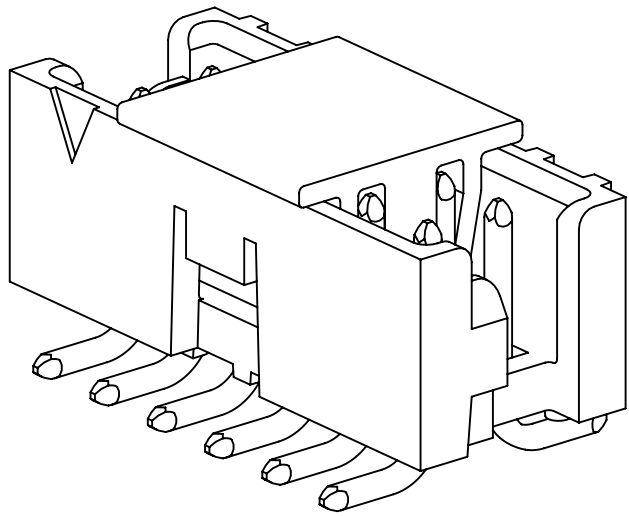
RECOMMENDED PCB PAD PATTERN  
TOLERANCE = ±0.08 [0.003]



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

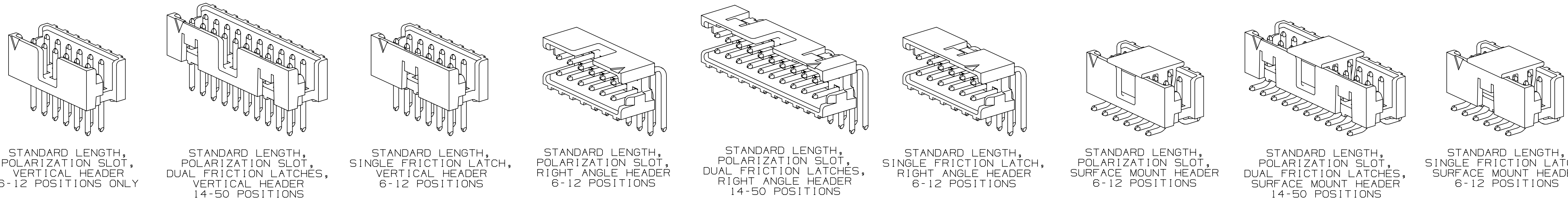
REFERENCE TABLE ON SHEET 4  
FOR AVAILABLE POSITIONS

METRIC [ENGLISH]

|                        |  |                                 |  |                            |      |                            |  |              |      |
|------------------------|--|---------------------------------|--|----------------------------|------|----------------------------|--|--------------|------|
| DESIGN REFERENCE       |  | NEXT ASSEMBLY                   |  | REV                        | ECO  | ISSUE DATE AND DESCRIPTION |  | DRFT         | CHKD |
| DISTANCE               |  | DISTANCE                        |  | DATE                       | DATE | DATE                       |  | DATE         | DATE |
| L. SCHMIDT             |  | JUL 29, 2010                    |  | DATE                       | DATE | JUL 29, 2010               |  | DATE         | DATE |
| DIVISION               |  | DIVISION CODE                   |  | APPROV                     | DATE | S. FELDMAN                 |  | DATE         | DATE |
| DO NOT SCALE DRAWING   |  | SCALE 4/1                       |  | TOLERANCES EXCEPT AS NOTED |      | INCHES                     |  | MILLIMETERS  |      |
| THIRD ANGLE PROJECTION |  | INTERPRET PER ASME Y14.5 - 1994 |  | MAX SURFACE ROUGHNESS      |      | ALL SURFACES               |  | MARKED ONLY  |      |
| 125                    |  | 0.00 ± 0.13                     |  | 0.00 ± 0.000               |      | 0.00 ± 0.000               |  | 0.00 ± 0.000 |      |
| ANGLES ±1°             |  | CAGE NUMBER                     |  | DRAWING NO.                |      | REV.                       |  | SHT 3 OF 4   |      |
| 125                    |  | D                               |  | 78-5100-2359-7             |      | A                          |  |              |      |

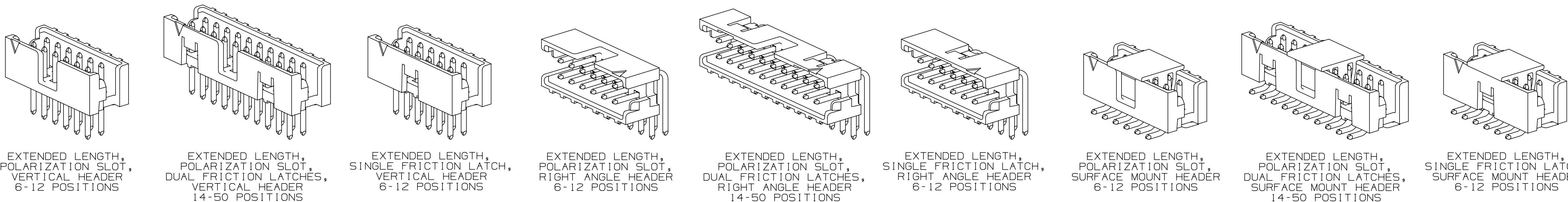
3M™ Shrouded Board Mount Header 2 mm X 2 mm Pitch 159 Series, Standard Length 3

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  $\mu$ m  
[30  $\mu$ 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  $\mu$ m  
[15  $\mu$ 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)

| 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                  | 16.36 [ .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 ]

|                             |  |                                 |  |                            |     |                            |              |            |      |
|-----------------------------|--|---------------------------------|--|----------------------------|-----|----------------------------|--------------|------------|------|
| DESIGN REFERENCE            |  | NEXT ASSEMBLY                   |  | REV                        | ECO | ISSUE DATE AND DESCRIPTION |              | DRFT       | CHKD |
| 101                         |  | 102                             |  | L. SCHMIDT                 |     | DATE                       | JUL 29, 2010 | DATE       |      |
| DIVISION                    |  | DIVISION CODE                   |  | CHKD                       |     | DATE                       |              | DATE       |      |
| DO NOT SCALE DRAWING        |  | SCALE 4/1                       |  | TOLERANCES EXCEPT AS NOTED |     | INCHES                     |              |            |      |
| THIRD ANGLE PROJECTION      |  | INTERPRET PER ASME Y14.5 - 1994 |  | MILLIMETERS                |     | MILLIMETERS                |              |            |      |
| MAX SURFACE ROUGHNESS 125/1 |  | ALL SURFACES MARKED ONLY        |  | CAGE NUMBER                |     | DRAWING NO.                |              | REV.       |      |
| 125/1                       |  | ALL SURFACES MARKED ONLY        |  | D78-5100-2359-7            |     | A                          |              | A          |      |
| MODEL                       |  | LISTS                           |  | YES                        |     | NO                         |              | SHT 4 OF 4 |      |