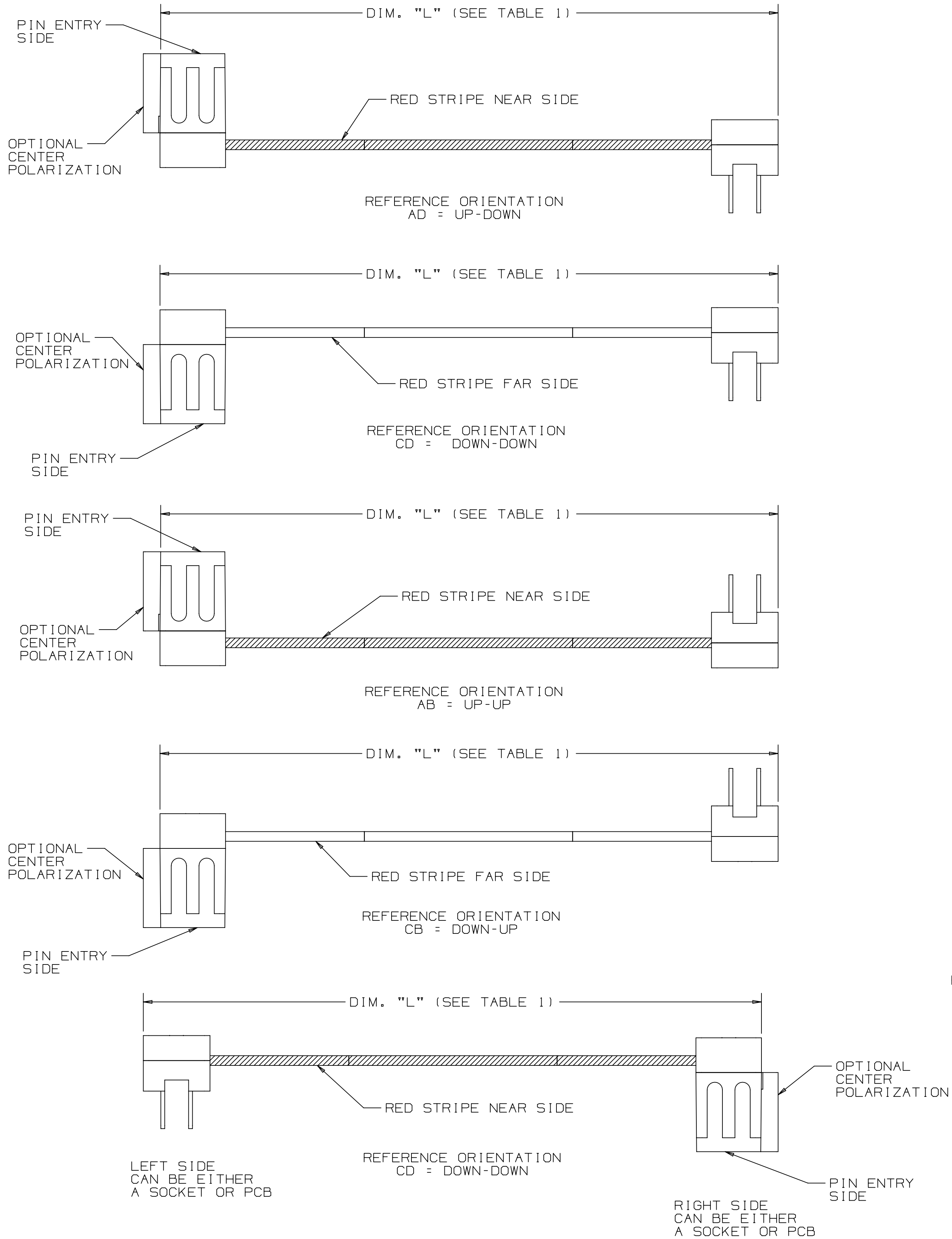


3M™ MOLDED ASSEMBLY, 1M SERIES  
.100" X .100" FOR .050" PITCH CABLE, CABLE ASSEMBLY CONNECTOR



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MOLDED SOCKET:

- \* PART OF COMPLETE CABLE ASSEMBLY
- \* MATES WITH INDUSTRY STANDARD .025" SQUARE CONTACTS ON .100" BY .100" CENTERS
- \* ONE PIECE, MOLDED-ON CONSTRUCTION WITH INTEGRAL STRAIN RELIEF
- \* HIGH AND LOW PROFILES AVAILABLE, BOTH ACCOMMODATE TYPICAL HEADER LATCHES (SHORT AND LONG)
- \* SLOTTED ENDS ALLOW MATING TO CONTINUOUS ROW HEADERS
- \* INDUSTRY STANDARD POLARIZATION
- \* MOLDED-ON POLARITY KEYS AVAILABLE ON SELECTED CONNECTOR SIZES
- \* CLOSED END CONSTRUCTION
- \* MODULAR TOOLING ALLOWS CUSTOMIZED DESIGNS

MOLDED PCB:

- \* PART OF COMPLETE CABLE ASSEMBLY
- \* MATES WITH INDUSTRY STANDARD .100 INCH X .100 INCH BOARD PATTERN
- \* ONE PIECE, MOLDED-ON CONSTRUCTION WITH INTEGRAL STRAIN RELIEF
- \* STANDARD AND RETENTION CONTACTS AVAILABLE
- \* LOW PROFILE PERMITS CLOSE PC BOARD SPACING
- \* CLOSED END CONSTRUCTION

2 PHYSICAL:

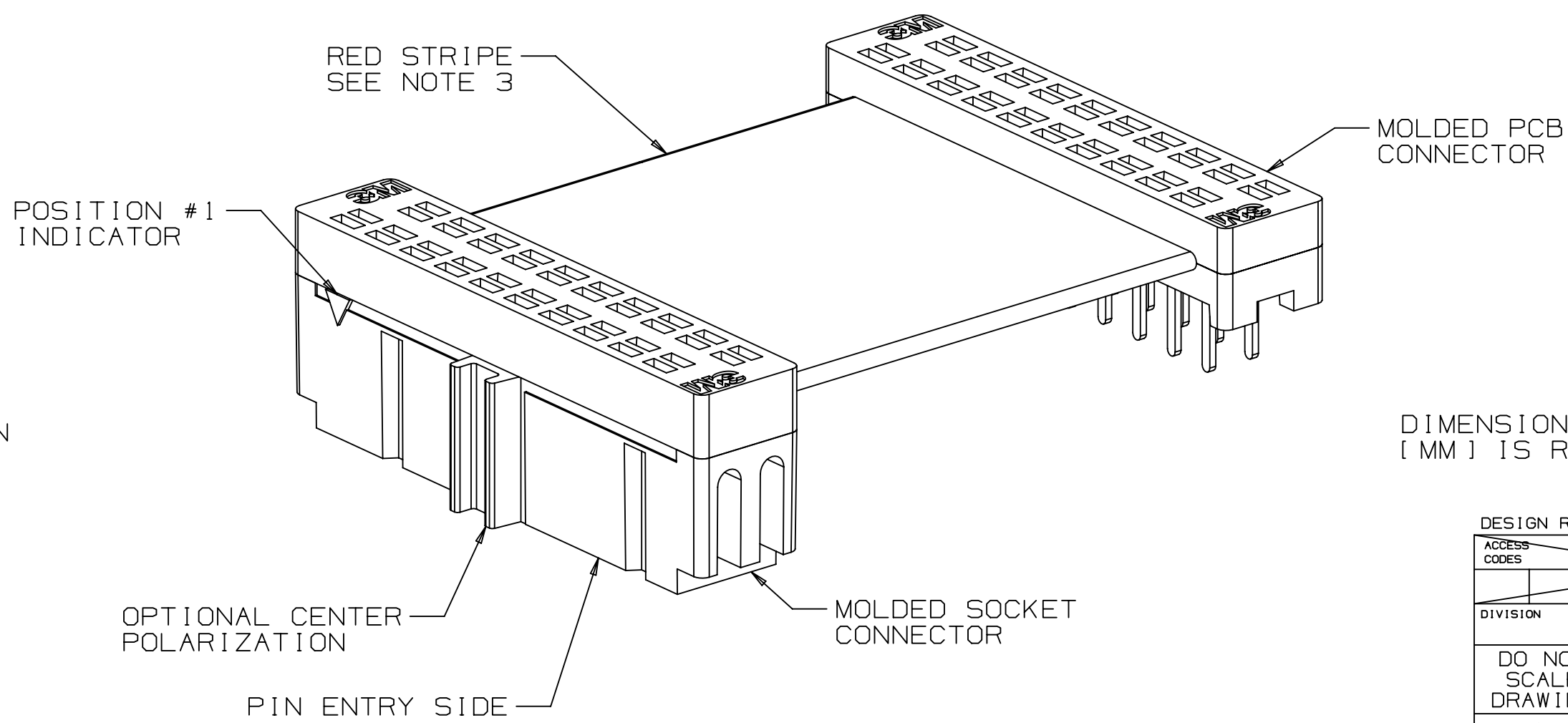
- INSULATOR: GLASS FILLED POLYESTER (PBT)  
MATERIAL: UL94V-0  
FLAMMABILITY: GREY  
COLOR: COPPER ALLOY  
CONTACT: COPPER ALLOY
- PLATING SOCKET:  
UNDERPLATING & U-SLOT: 50 - 150  $\mu$ " [1.27 - 3.81 $\mu$ m] NICKEL  
WIPING AREA: 30 $\mu$ " [0.76 $\mu$ m] GOLD AVG
- PLATING PCB:  
UNDERPLATING & U-SLOT: 50 - 150  $\mu$ " [1.27 - 3.81 $\mu$ m] NICKEL  
CONTACT TAIL: 300-400 $\mu$ " [7.62-10.16 $\mu$ m] MATTE TIN
- WIRE ACCOMMODATION: 26 AND 28 AWG SOLID AND STRANDED  
COVER/STRAIN RELIEF RETENTION: 5N MIN PER CONTACT
- MARKINGS: 3M LOGO AND ORIENTATION TRIANGLE (SOCKET ONLY)

2 ELECTRICAL:

- CURRENT RATING: 1A  
INSULATION RESISTANCE:  $>1 \times 10^9 \Omega$  AT 500V<sub>DC</sub>  
WITHSTANDING VOLTAGE: 1000V<sub>RMS</sub> AT SEA LEVEL  
VOLTAGE RATING: 30V

2 ENVIRONMENTAL:

- TEMPERATURE RATING: -55C TO 105°C  
NOTE: THE TEMPERATURE RANGE CAN BE LIMITED BY THE SELECTED CABLE.



DIMENSIONS: INCHES [MM]  
[MM] IS REFERENCE ONLY

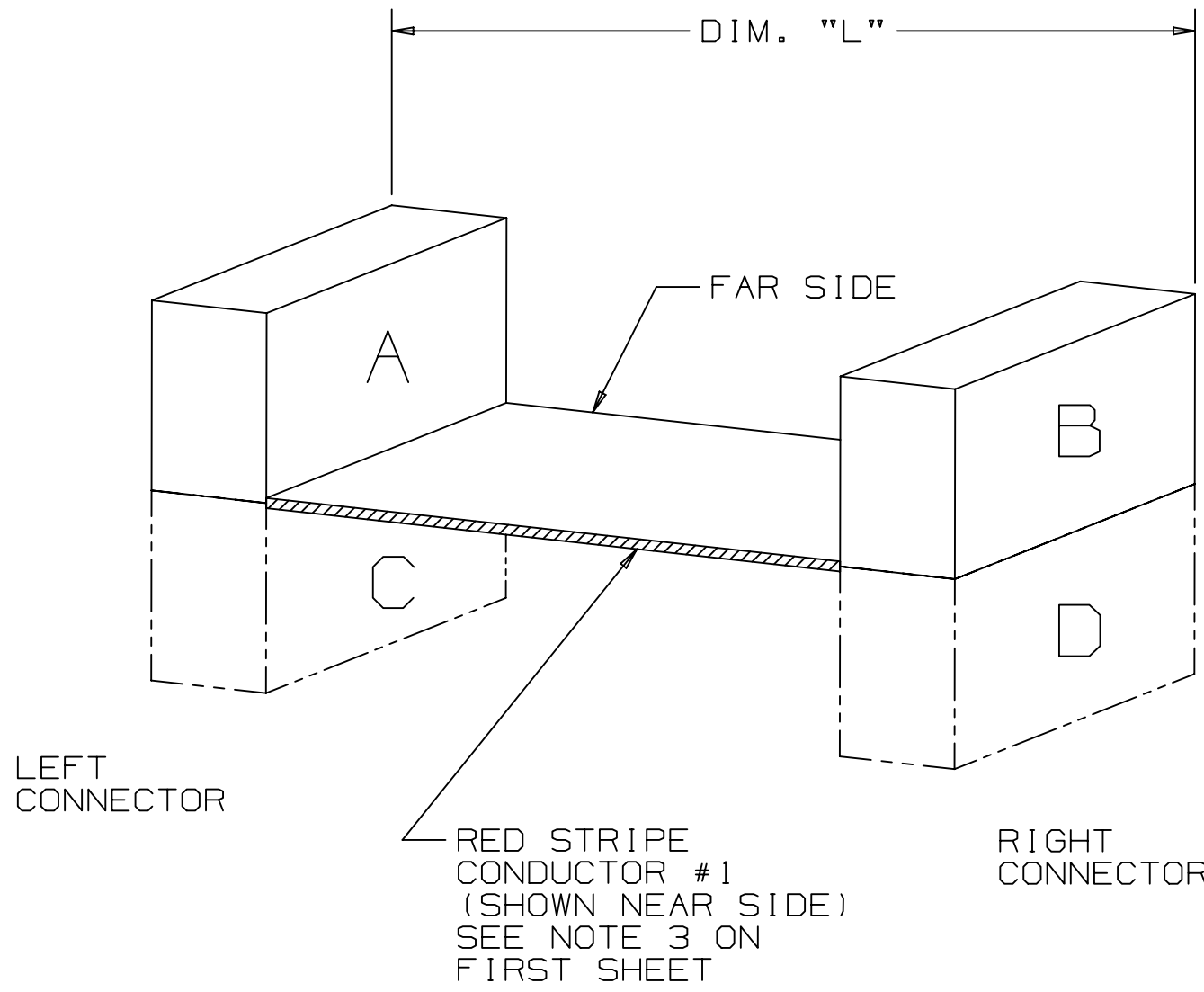
| DESIGN REFERENCE       | NEXT ASSEMBLY                   |
|------------------------|---------------------------------|
| XXXXXX                 | XXXXXX                          |
| DO NOT SCALE DRAWING   | SCALE 4/1                       |
| THIRD ANGLE PROJECTION | INTERPRET PER ASME Y14.5 - 2018 |
| MAX. SURFACE ROUGHNESS | ALL SURFACES                    |
| MARKED ONLY            | ANGLES                          |

|                                                                                                                                                                                                                        |                |                            |       |                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------|-------|-------------------|
| B                                                                                                                                                                                                                      | 108514         | JAN 19, 2023               | JNC   | JC                |
| A                                                                                                                                                                                                                      | 0104943        | MAY 27, 2022               | LDS   | JG                |
| REV                                                                                                                                                                                                                    | ECO            | ISSUE DATE AND DESCRIPTION | DRFT  | CHKD              |
| DRFT                                                                                                                                                                                                                   | L SCHMIDT      | DATE MAR 04, 2022          | MFG   | DATE              |
| CHKD                                                                                                                                                                                                                   | J GOERTZ       | DATE APR 29, 2022          | APPL  | DATE              |
| 3M Center St. Paul, MN 55144                                                                                                                                                                                           |                |                            |       |                   |
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| TITLE                                                                                                                                                                                                                  |                |                            |       |                   |
| MOLDED CABLE ASSY .100 WITH SOCKET AND PCB CONNECTORS                                                                                                                                                                  |                |                            |       |                   |
| CAGE NUMBER                                                                                                                                                                                                            | SIZE           | DRAWING NO.                | REV.  |                   |
| D                                                                                                                                                                                                                      | 78-5100-2754-9 | B                          |       |                   |
| MODEL                                                                                                                                                                                                                  | 1M             | DET                        | LISTS | YES NO SHT 1 OF 5 |

UL FILE NO: E86982



3M™ MOLDED ASSEMBLY, 1M SERIES  
.100" X .100" FOR .050" PITCH CABLE, CABLE ASSEMBLY CONNECTOR



NOTE:  
1. A FANOUT ASSEMBLY, WITH MULTIPLE CONNECTORS ON ONE END, REQUIRES A DRAWING SUBMITTAL AND REVIEW.  
2. SEE ORDERING INFORMATION FOR CONNECTOR ORIENTATION OPTIONS.

ORDERING INFORMATION

1M XX XX - XXX - XXXX - XXX . X - XX - XX - XX - X

CONNECTOR TYPES (LEFT AND RIGHT)  
SOCKET, LOW PROFILE (.41")  
10 = WITH MILITARY POLARIZATION SLOTS  
16 = WITH CENTER POLARIZATION AND MILITARY POLARIZATION SLOTS  
19 = WITH DUAL POLARIZATION AND MILITARY POLARIZATION SLOTS

SOCKET, REGULAR PROFILE (.56")  
30 = WITH MILITARY POLARIZATION SLOTS  
36 = WITH CENTER POLARIZATION AND MILITARY POLARIZATION SLOTS  
39 = WITH DUAL POLARIZATION AND MILITARY POLARIZATION SLOTS

PCB, 2 ROW  
A0 = STRAIGHT MATTE Sn SOLDER TAIL  
A1 = RETENTION MATTE Sn SOLDER TAIL

NUMBER OF CABLE CONDUCTORS

ASSEMBLY LENGTH  
TIP-TO-TIP INCHES  
(DIM A IN INCHES)  
EXAMPLE:  
001.7 = 1.7" MIN)

CABLE PRODUCT SERIES  
SEE LIST BELOW OF  
SUITABLE CABLES  
(SEE TABLE 3)

MARKING  
0 = NO MARKING  
1 = LABEL-DATE CODE  
2 = INKSTAMP-DATE CODE

LEFT RIGHT  
CENTER POLARIZATION ORIENTATION OPTIONS  
0 = NONE  
1 = INSIDE  
2 = OUTSIDE

CONNECTOR ORIENTATION OPTIONS  
(LEFT AND RIGHT)  
AB = UP-UP  
AD = UP-DOWN  
CB = DOWN-UP  
CD = DOWN-DOWN

LEFT RIGHT  
CONNECTOR FEATURE OPTIONS  
0 = NO PULL TAB OR KEYING REQUIRED  
1 = PULL TAB (SOCKET ONLY, NOT AVAILABLE ON 6 OR 8 CONTACT QUANTITY)  
2 = KEYING REQUIRED, SPECIFY POSITION(S)  
3 = PULL TAB AND KEYING REQUIRED, SPECIFY POSITION(S)

| TABLE 1 |       |           |
|---------|-------|-----------|
| DIM L   |       | TOLERANCE |
| MIN     | MAX   |           |
| 1.7     | 10.0  | ±0.3      |
| 10.0    | 20.0  | ±0.5      |
| 20.0    | 40.0  | ±0.6      |
| 40.0    | 120.0 | ±1.0      |
| 120.0   |       | ±2.0      |

| TABLE 2            |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------------|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| AVAILABLE OPTIONS  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| CONNECTOR POSITION | 6 | 8 | 10 | 12 | 14 | 16 | 20 | 24 | 26 | 30 | 34 | 36 | 40 | 44 | 50 | 60 | 64 |
| SOCKET             | X | X | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |    | X  | X  | X  |
| PCB                | X | X | X  |    | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |
| ALL CABLES         | X | X | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |
| CABLE CONDUCTORS   | 6 | 8 | 10 | 12 | 14 | 16 | 20 | 24 | 26 | 30 | 34 | 36 | 40 | 44 | 50 | 60 | 64 |

| TABLE 3 - SEE NOTE BELOW |        |              |                      |       |                |                     |                 |                          |
|--------------------------|--------|--------------|----------------------|-------|----------------|---------------------|-----------------|--------------------------|
| CONNECTOR SPACING        | AWG    | CABLE SERIES | TECHNICAL DATA SHEET | PITCH | CONDUCTOR TYPE | INSULATION MATERIAL | SPECIAL FEATURE | CABLE TEMPERATURE RATING |
| .100"                    | 26 AWG | 3801         | TS-0063              | .050" | STRANDED       | PVC                 |                 | -20°C TO +105°C          |
|                          |        | 3811         | TS-0122              | .050" | STRANDED       | PVC                 | COLOR CODED     | -20°C TO +105°C          |
|                          |        | 3365         | TS-0080              | .050" | STRANDED       | PVC                 |                 | -20°C TO +105°C          |
|                          | 28 AWG | HF365        | TS-2334              | .050" | STRANDED       | PO                  |                 | -40°C TO +105°C          |
|                          |        | 3355         | TS-0317              | .050" | STRANDED       | TPE                 |                 | -40°C TO +105°C          |
|                          |        | 3601         | TS-0553              | .050" | STRANDED       | FEP                 |                 | -55°C TO +200°C          |
|                          |        | 3539         | TS-0058              | .050" | STRANDED       | PVC                 | MEDIUM FLEX     | -20°C TO +105°C          |
|                          |        | 3319         | TS-0059              | .050" | STRANDED       | PVC                 | HIGH FLEX       | -20°C TO +105°C          |
|                          |        | 3302         | TS-0123              | .050" | STRANDED       | PVC                 | COLOR CODED     | -20°C TO +105°C          |
|                          |        | HF539        | TS-2565              | .050" | STRANDED       | PO                  | MEDIUM FLEX     | -40°C TO +105°C          |
|                          |        | HF319        | TS-2342              | .050" | STRANDED       | PO                  | HIGH FLEX       | -40°C TO +105°C          |

NOTE: FOR REFERENCE ONLY. CONFIRM CABLE SPECIFICATION USING CABLE TECHNICAL DATA SHEET

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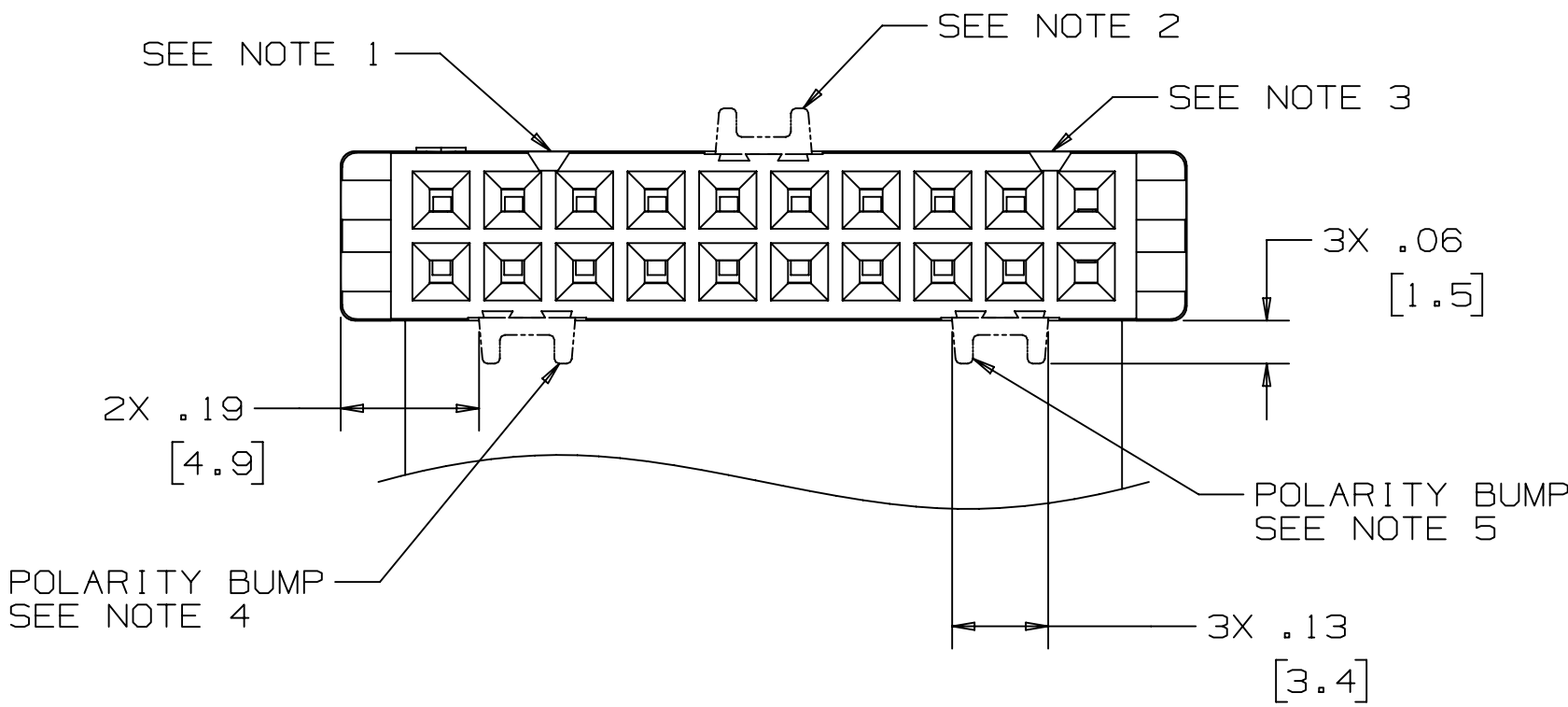
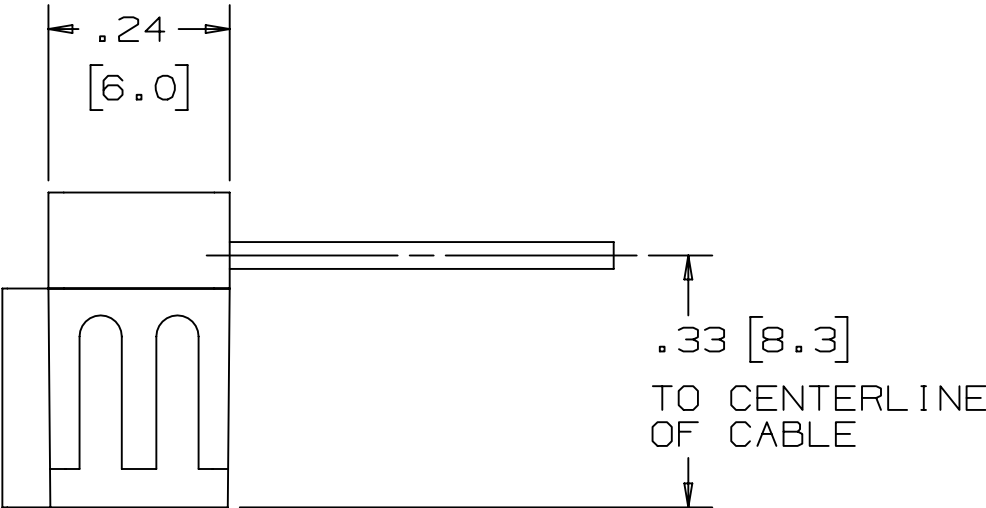
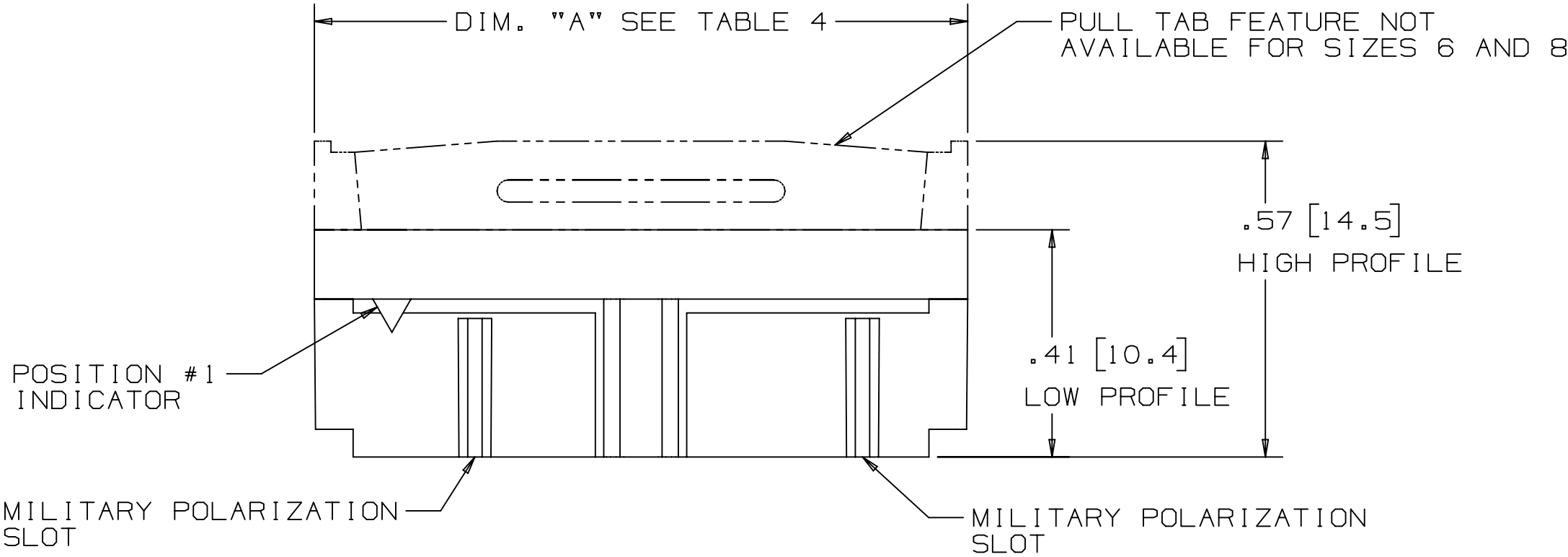
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|------------------------|---------------------------------|-----------------------------------------------------------|-----------|----------------------------|--------------|------|
| DESIGN REFERENCE       | NEXT ASSEMBLY                   | REV                                                       | ECO       | ISSUE DATE AND DESCRIPTION | DRFT         | CHKD |
| XXXX                   | XXXX                            | DRFT                                                      | L SCHMIDT | DATE                       | MAR 04, 2022 | MFG  |
| XXXX                   | XXXX                            | CHKD                                                      | J GOERTZ  | DATE                       | APR 29, 2022 | APPL |
| DIVISION               | DIVISION CODE                   | 3M Center<br>St. Paul,<br>MN 55144                        |           |                            |              |      |
| DO NOT SCALE DRAWING   | SCALE 4/1                       | TOLERANCES EXCEPT AS NOTED                                |           |                            |              |      |
| THIRD ANGLE PROJECTION | INTERPRET PER ASME Y14.5 - 2018 | INCHES<br>0 ±.1<br>.00 ±.01<br>.000 ±.005<br>.0000 ±.0002 |           |                            |              |      |
| MAX SURFACE ROUGHNESS  | ALL SURFACES                    | MILLIMETERS<br>0 ±<br>.0 ±<br>.00 ±<br>.000 ±             |           |                            |              |      |
| MARKED ONLY            | ANGLES                          | CAGE NUMBER<br>D 78-5100-2754-9                           |           |                            |              |      |
| MODEL 1M               |                                 | SIZE                                                      |           | DRAWING NO.                | REV.         |      |
|                        |                                 |                                                           |           | 78-5100-2754-9             | B            |      |
|                        |                                 |                                                           |           | LISTS                      | YES          | NO   |
|                        |                                 |                                                           |           | SHT 2 OF 5                 |              |      |



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.100" X .100" FOR .050" PITCH CABLE, CABLE ASSEMBLY CONNECTOR

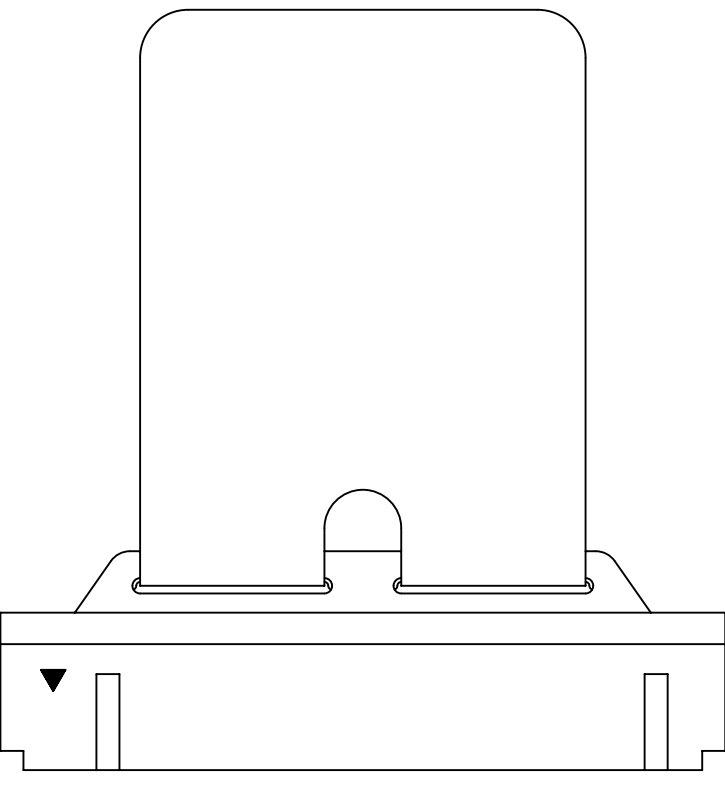
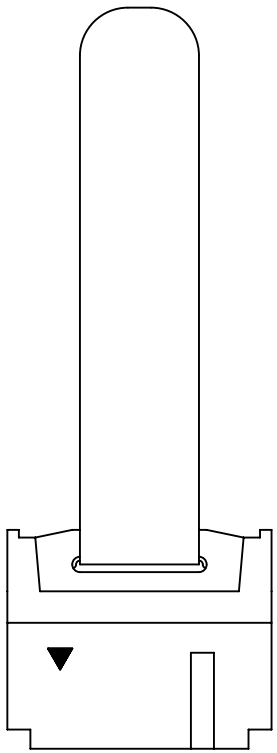
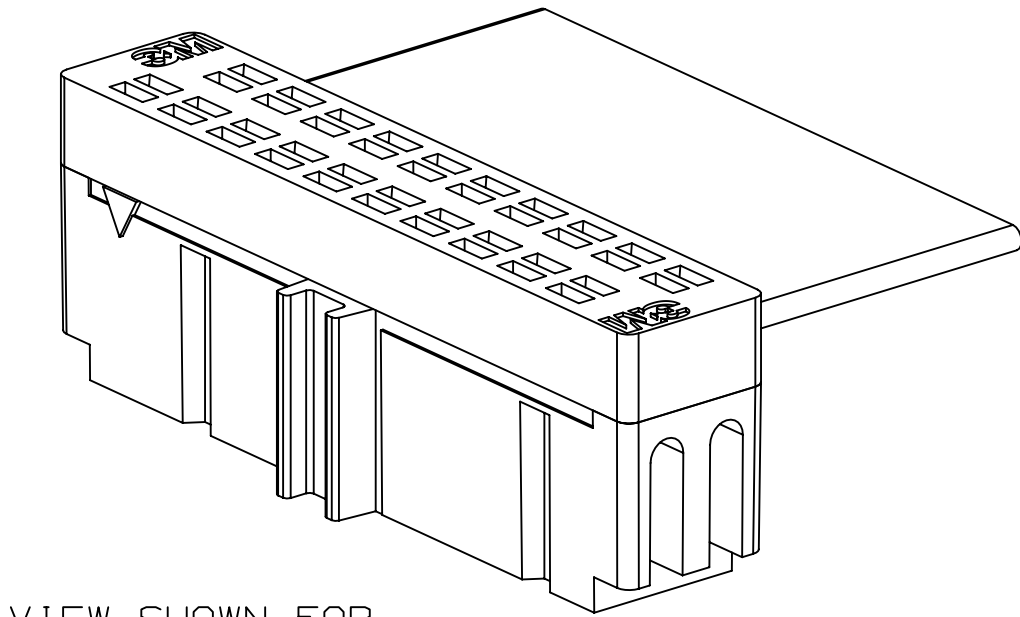
3M™ MOLDED SOCKET CONNECTOR  
871 SERIES



| TABLE 4     |               |
|-------------|---------------|
| CONTACT QTY | DIM A         |
| 6           | .48 [ 12.2 ]  |
| 8           | .58 [ 14.7 ]  |
| 10          | .68 [ 17.3 ]  |
| 12          | .78 [ 19.8 ]  |
| 14          | .88 [ 22.4 ]  |
| 16          | .98 [ 24.9 ]  |
| 20          | 1.18 [ 30.0 ] |
| 24          | 1.38 [ 35.1 ] |
| 26          | 1.48 [ 37.6 ] |
| 30          | 1.68 [ 42.7 ] |
| 34          | 1.88 [ 47.8 ] |
| 36          | 1.98 [ 50.3 ] |
| 40          | 2.18 [ 55.4 ] |
| 50          | 2.68 [ 68.1 ] |
| 60          | 3.18 [ 80.8 ] |
| 64          | 3.38 [ 85.9 ] |

- NOTES:
1. THIS POLARIZATION SLOT IS NONEXISTENT ON SIZES 6, 8, 10, 12 AND 14.
  2. OPTIONAL CENTER POLARIZATION FEATURE.
  3. THIS POLARIZATION SLOT IS NONEXISTENT ON SIZES 6 AND 8.
  4. DUAL POLARIZATION BUMPS ARE NOTE OFFERED ON SIZES 6, 8, 10 AND 12.
  5. POLARIZATION BUMP AT THIS LOCATION NOT OFFERED ON SIZES 10 AND 12.

PULL TAB FEATURES  
VARY WITH CONNECTOR SIZE



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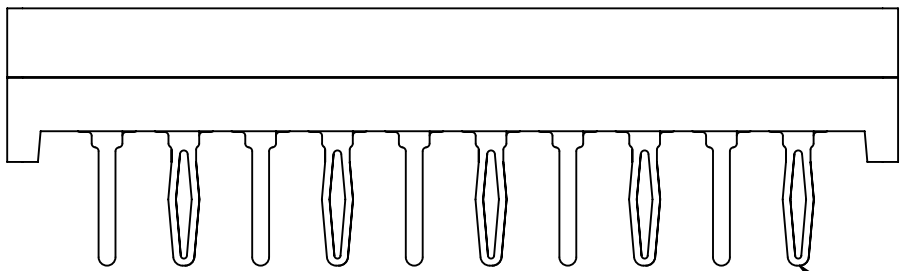
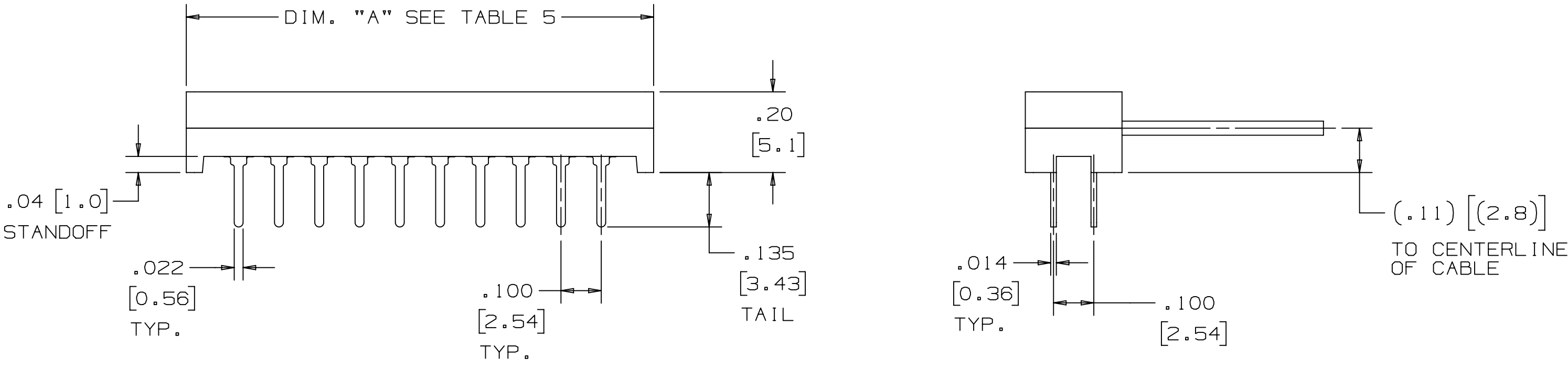
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|------------------------|--|-------------------------------------------------------|--|----------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------|------|
| DESIGN REFERENCE       |  | NEXT ASSEMBLY                                         |  | REV                        | ECO        | ISSUE DATE AND DESCRIPTION                                                                                                                                                                                             |              | DRFT   | CHKD |
| XREFS                  |  | CODES                                                 |  | DRFT                       | L. SCHMIDT | DATE                                                                                                                                                                                                                   | MAR 04, 2022 | MFG    | DATE |
| DIVISION               |  | DIVISION CODE                                         |  | CHKD                       | J. GOERTZ  | DATE                                                                                                                                                                                                                   | APR 29, 2022 | APPL   | DATE |
| DO NOT SCALE DRAWING   |  | SCALE 4/1                                             |  | TOLERANCES EXCEPT AS NOTED |            | © 3M COPYRIGHT 2023                                                                                                                                                                                                    |              |        |      |
| THIRD ANGLE PROJECTION |  | INTERPRET PER ASME Y14.5 - 2018                       |  | MAX. SURFACE ROUGHNESS     |            | 3M Center St. Paul, MN 55144                                                                                                                                                                                           |              |        |      |
| MAX. SURFACE ROUGHNESS |  | ALL SURFACES                                          |  | MARKED ONLY                |            | 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. |              |        |      |
| TITLE                  |  | MOLDED CABLE ASSY .100 WITH SOCKET AND PCB CONNECTORS |  | CAGE NUMBER                |            | DRAWING NO.                                                                                                                                                                                                            |              | REV.   |      |
| MODEL                  |  | 1M                                                    |  | DET                        |            | LISTS                                                                                                                                                                                                                  |              | YES NO |      |
| SHT 3 OF 5             |  |                                                       |  |                            |            |                                                                                                                                                                                                                        |              |        |      |

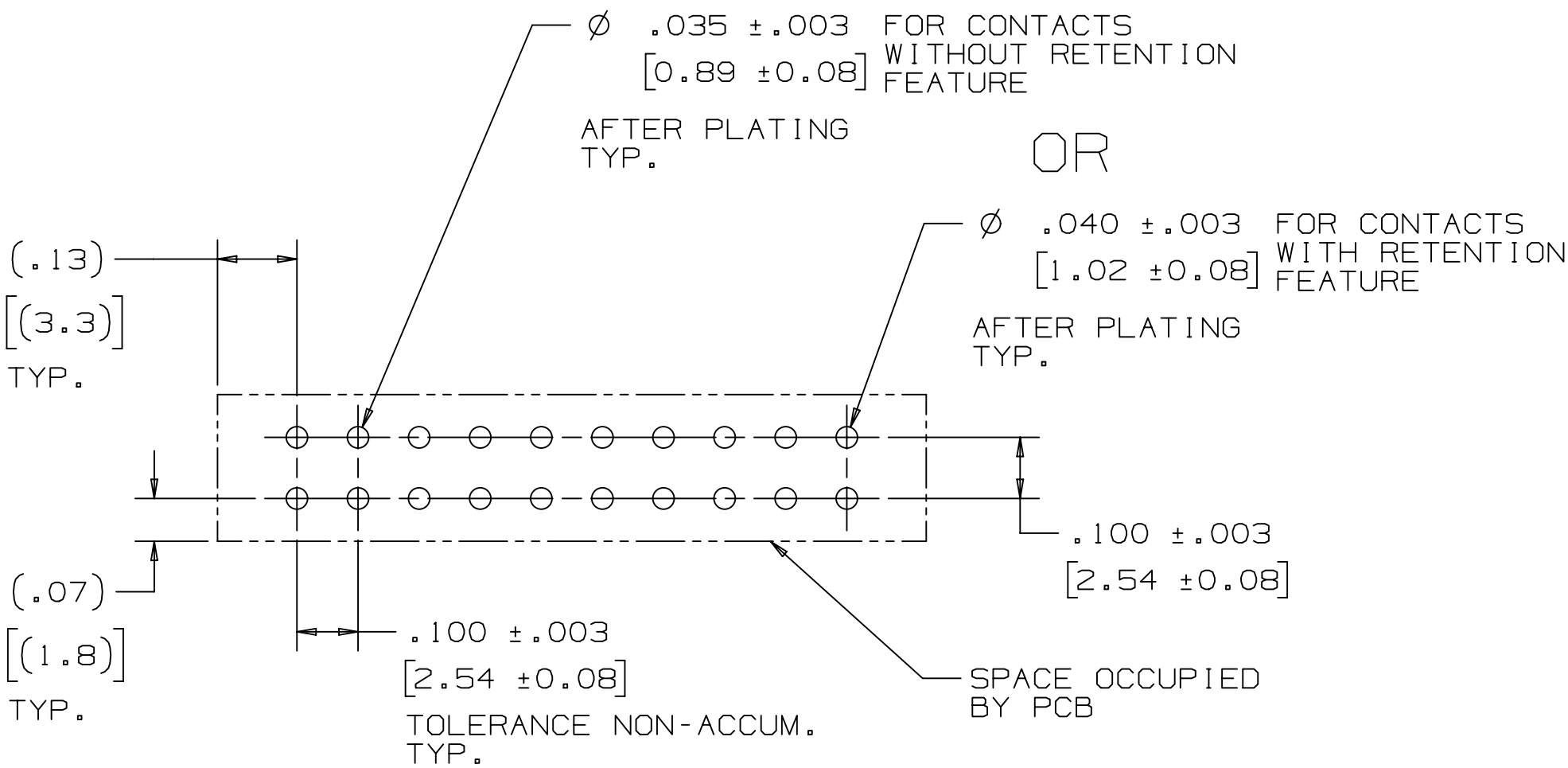
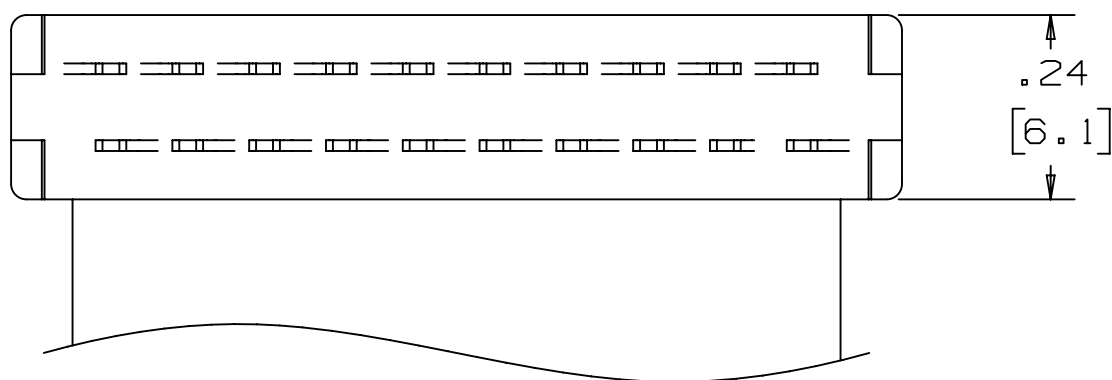


3M™ MOLDED ASSEMBLY, 1M SERIES  
.100" X .100" FOR .050" PITCH CABLE, CABLE ASSEMBLY CONNECTOR

3M™ MOLDED 2-ROW PCB CONNECTOR  
878 SERIES



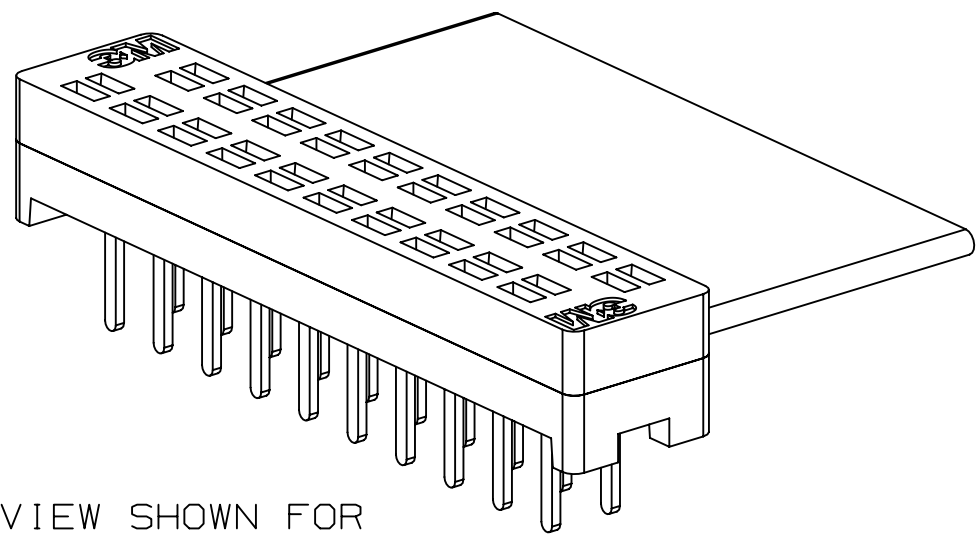
RETENTION CONTACTS ORIENTED AS SHOWN—  
EVERY OTHER CONTACT WITH THE FIRST AND  
SECOND ROW ORDER SHIFTED BY ONE  
CONTACT. (ORIENTATION IS NOT BASED ON  
DELTA LOCATION AND MAY VARY FROM  
CONNECTOR TO CONNECTOR)



| TABLE 5     |               |
|-------------|---------------|
| CONTACT QTY | DIM. "A"      |
| 06          | .46 [ 11.7 ]  |
| 08          | .56 [ 14.2 ]  |
| 10          | .66 [ 16.8 ]  |
| 14          | .86 [ 21.8 ]  |
| 16          | .96 [ 24.4 ]  |
| 20          | 1.16 [ 29.5 ] |
| 24          | 1.36 [ 34.5 ] |
| 26          | 1.46 [ 37.1 ] |
| 30          | 1.66 [ 42.1 ] |
| 34          | 1.86 [ 47.2 ] |
| 36          | 1.96 [ 49.8 ] |
| 40          | 2.16 [ 54.9 ] |
| 44          | 2.36 [ 59.9 ] |
| 50          | 2.66 [ 67.6 ] |
| 60          | 3.16 [ 80.3 ] |
| 64          | 3.36 [ 85.3 ] |

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REFERENCE ONLY

|                                 |  |                                            |  |                                                             |         |                                                                                                                                                                                                                                               |  |                                                                                |      |
|---------------------------------|--|--------------------------------------------|--|-------------------------------------------------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------|------|
| DESIGN REFERENCE                |  | NEXT ASSEMBLY                              |  | B                                                           | 108514  | JAN 19,2023                                                                                                                                                                                                                                   |  | JNC                                                                            | JC   |
| XREF CODES                      |  | DIVISION                                   |  | A                                                           | 0104943 | REVISED AND REDRAWN                                                                                                                                                                                                                           |  | LDS                                                                            | JG   |
| DIVISION                        |  | DIVISION CODE                              |  | REV                                                         |         | ISSUE DATE AND DESCRIPTION                                                                                                                                                                                                                    |  | DRFT                                                                           | CHKD |
| DO NOT SCALE DRAWING            |  | SCALE 1                                    |  | DRFT SCHMIDT                                                |         | DATE MAR 04,2022                                                                                                                                                                                                                              |  | MFG                                                                            |      |
| THIRD ANGLE PROJECTION          |  | TOLERANCES EXCEPT AS NOTED                 |  | CHKD J GOERTZ                                               |         | DATE APR 29,2022                                                                                                                                                                                                                              |  | APPR                                                                           |      |
| INTERPRET PER ASME Y14.5 - 2018 |  | INCHES .00 ± .01 .000 ± .005 .0000 ± .0002 |  | 3M 3M Center St. Paul, MN 55144                             |         | © 3M COPYRIGHT 2023 This document and information it contains are 3M property and may not be reproduced or further distributed without the express permission or use or disclosed other than for 3M authorized purposes. All rights reserved. |  |                                                                                |      |
| MAX SURFACE ROUGHNESS           |  | MILLIMETERS 0 ± .00 ± .000 ±               |  | TITLE MOLDED CABLE ASSY .100 WITH SOCKET AND PCB CONNECTORS |         | CAGE NUMBER D78-5100-2754-9                                                                                                                                                                                                                   |  | REV. B                                                                         |      |
| MARKED SURFACES                 |  | ANGLES ±                                   |  | MODEL 1M                                                    |         | DET LISTS                                                                                                                                                                                                                                     |  | YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> SHT 4 OF 5 |      |



