

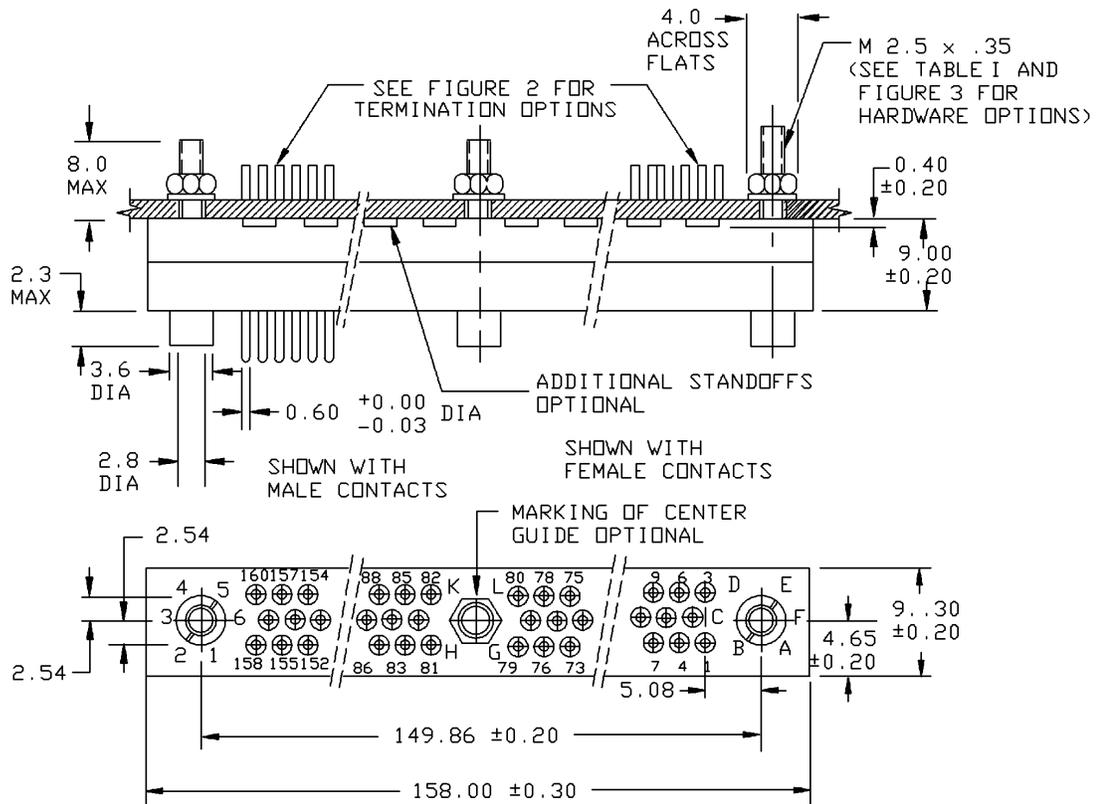
METRIC  
MIL-DTL-55302/161D  
8 July 2004  
SUPERSEDING  
MIL-C-55302/161C(CR)  
17 March 1995

DETAIL SPECIFICATION SHEET

CONNECTORS, PRINTED CIRCUIT SUBASSEMBLY AND ACCESSORIES,  
RECEPTACLE, 160 CONTACT POSITIONS, FOR  
PRINTED WIRING BOARDS, 2.54 MM X 1.27 MM OFFSET GRID, METRIC

This specification is approved for used by all Departments and  
Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and  
MIL-DTL-55302.



NOTE: Dimensions are in millimeters.

FIGURE 1. Connector receptacle.

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TERMINAL STYLES

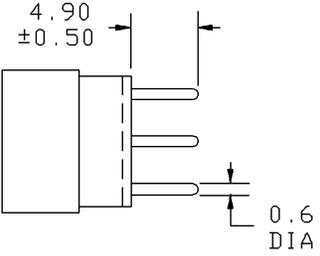
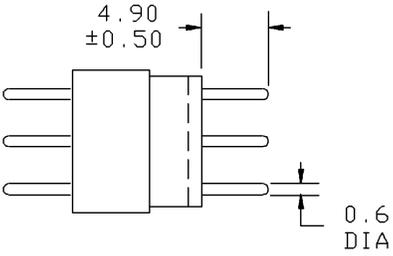
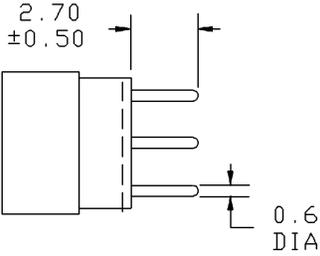
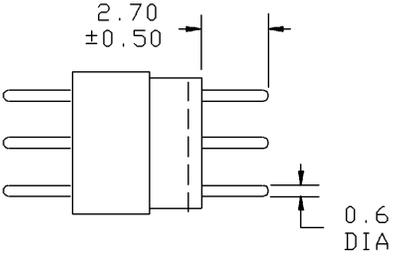
| REF | FEMALE CONTACTS  | REF | MALE CONTACTS   |
|-----|--|-----|---|
| J.  | <p>STRAIGHT DIP SOLDER</p>  <p>4.90<br/>±0.50</p> <p>0.6<br/>DIA</p>                                  | P.  | <p>STRAIGHT DIP SOLDER</p>  <p>4.90<br/>±0.50</p> <p>0.6<br/>DIA</p>                                  |
| T.  | <p>STRAIGHT DIP SOLDER</p>  <p>2.70<br/>±0.50</p> <p>0.6<br/>DIA</p> <p>1.6 (.064 IN) P.C. BOARD</p> | U.  | <p>STRAIGHT DIP SOLDER</p>  <p>2.70<br/>±0.50</p> <p>0.6<br/>DIA</p> <p>1.6 (.064 IN) P.C. BOARD</p> |

FIGURE 2. Connector termination styles.

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TERMINAL STYLES

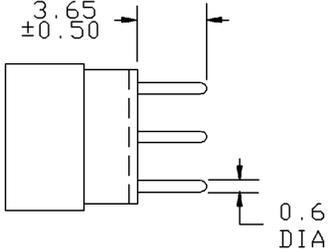
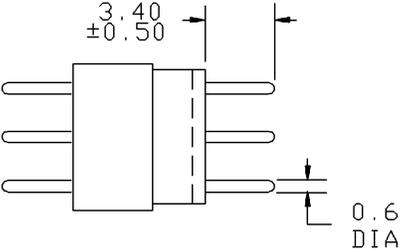
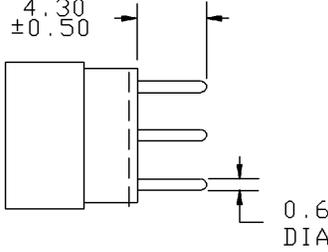
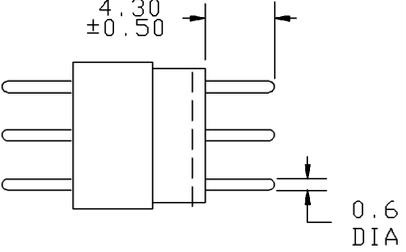
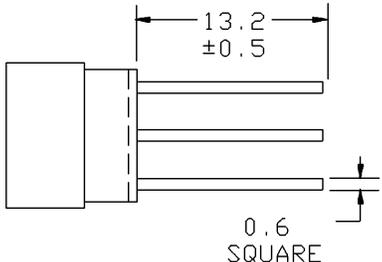
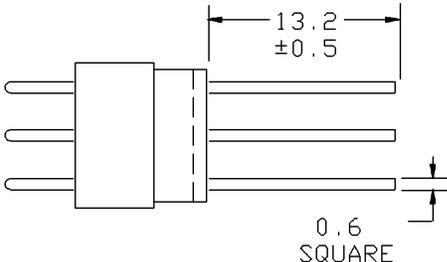
| REF   | FEMALE CONTACTS  | REF | MALE CONTACTS |
|---|--|-----|---------------|
| <p>N. STRAIGHT DIP SOLDER</p>  <p>2.4 (.094 IN) P.C. BOARD</p>   | <p>Z. STRAIGHT DIP SOLDER</p>  <p>2.4 (.094 IN) P.C. BOARD</p>   |     |               |
| <p>V. STRAIGHT DIP SOLDER</p>  <p>3.2 (.125 IN) P.C. BOARD</p> | <p>W. STRAIGHT DIP SOLDER</p>  <p>3.2 (.125 IN) P.C. BOARD</p> |     |               |

FIGURE 2. Connector termination styles – Continued.

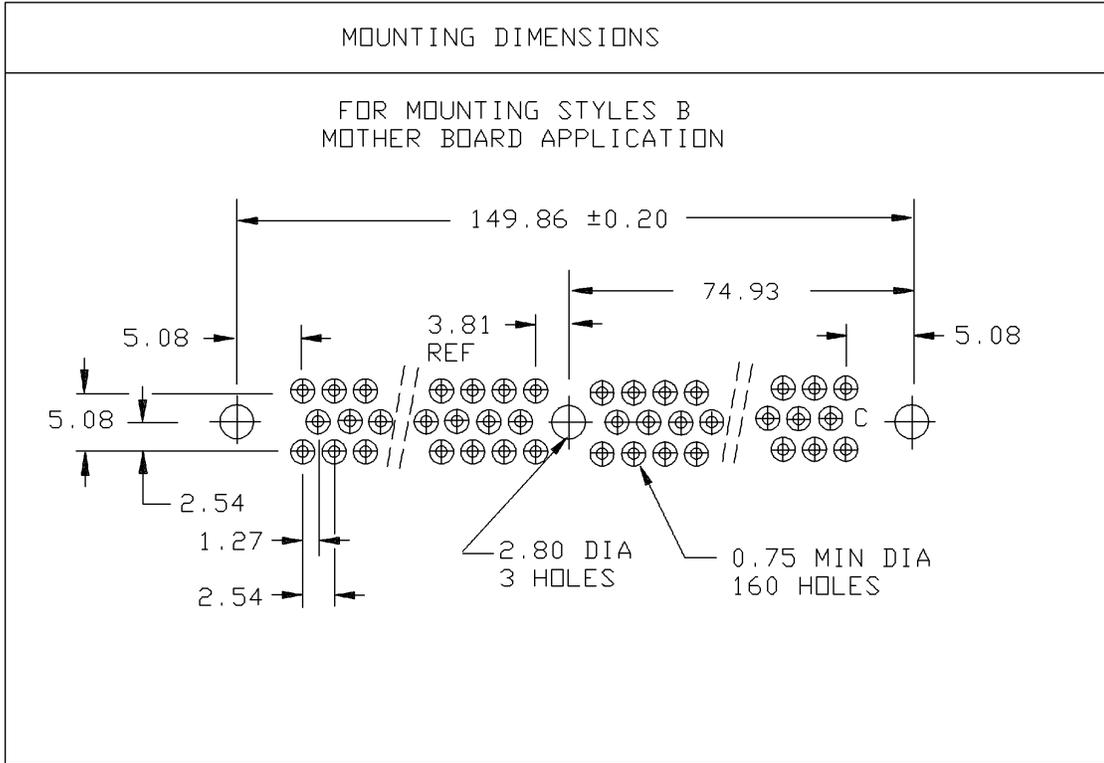
TERMINAL STYLES

| REF | FEMALE CONTACTS  | REF | MALE CONTACTS   |
|-----|--|-----|---|
| G.  | WRAP POST<br> | Q.  | WRAP POST<br> |

NOTES:

1. Dimensions are in millimeters.
2. This is a metric design.
3. Unless otherwise specified, tolerance is  $\pm 0.10$  millimeter.
4. These connectors mate with MIL-DTL-55302/164.
5. See table I for mating.
6. Contact identification may be located adjacent to cavity on face or side and may be rotated  $180^\circ$ .
7. Insulator bodies are not to be bonded or affixed in any way such that the front removal feature of this assembly would be defeated.

FIGURE 2. Connector termination styles – Continued.



NOTE: Dimensions are in millimeters.

FIGURE 3. Mounting styles.

REQUIREMENTS

Design and construction:

Dimensions and configurations: See figures 1 through 3.

Mating references: See table I.

TABLE I. Mating references.

| Type | Will only mate with<br>(see note) | Locking method |
|------|-----------------------------------|----------------|
| B    | P, U, W                           | None           |

NOTE: These connectors mate with MIL-DTL-55302/164.

Material:

Insulators: Diallyl phthalate in accordance with ASTM D5948.

Guides and hardware: Brass in accordance with ASTM B36, B16, B124, B453, or B455; nickel plated in accordance with SAE-AMS-QQ-N-290 or AISI 300 series stainless steel or equivalent in accordance with ASTM A582, passivated in accordance with SAE-AMS-QQ-P-35.

Plating: Plating in accordance with MIL-DTL-55302 or as noted below.

Mating surface (pin and wire): Gold in accordance with ASTM B488, class 1.27, type II, code C over nickel in accordance with SAE-AMS-QQ-N-290, 30-150 microinches.

Terminations: Solderable areas (including crimp barrels and wire wrap terminations) shall be gold in accordance with ASTM B488, type III, code A, class 0.254 minimum thickness or gold in accordance with ASTM B488, type II, code C, class 0.51 over nickel in accordance with SAE-AMS-QQ-N-290, 30 to 150 microinches thick. Solderable areas must meet the requirements of MIL-STD-202, method 208.

All other surfaces: Gold in accordance with ASTM B488, type II, code C, class 0.127 minimum over nickel in accordance with SAE-AMS-QQ-N-290, 30-150 microinches.

Contact identification: See figure 1.

Contact separation forces:

Minimum force: 0.14 newton (0.50 ounce) with a 0.5800 millimeter (.0228 inch) +0.005, -0.000 diameter pin after being cycled 3 times.

Note: Steel pin test surface roughness to be 0.025 -0.25 micron rms.

Unmating: The maximum force of a connector assembly shall not exceed 0.53 newton (1.90 ounces) multiplied by the number of contact positions.

Mating: The maximum force of a connector assembly shall not exceed 0.70 newton (2.5 ounces) multiplied by the number of contact positions.

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Contact retention minimum: Functional value 22.2 newtons (5 pounds); destructive test 35.3 newtons (8 pounds) maximum design and qualification value.

Contact rating: 5 amperes per line.

Durability: 2,000 cycles minimum.

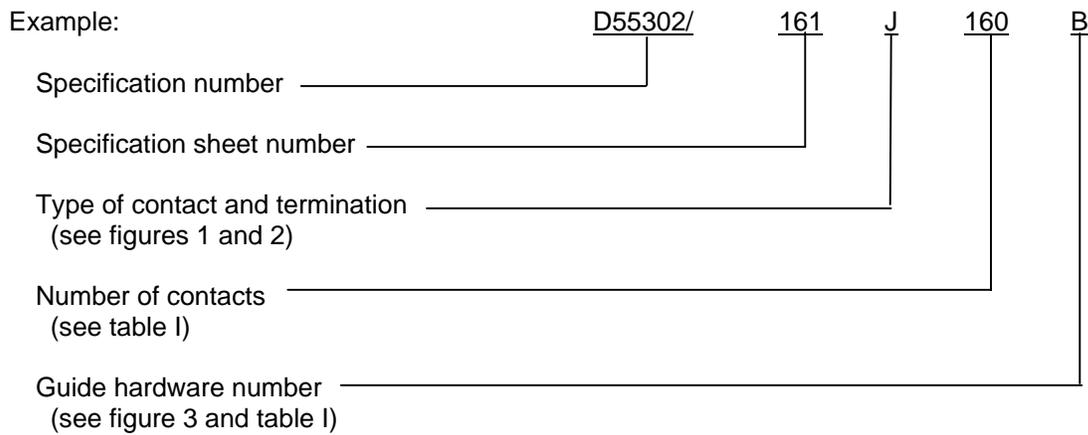
Dielectric withstanding voltage:

Sea level: 1,400 V ac rms test.

High altitude: 300 V ac rms test.

Keying: Rotation of guides, 6 positions each, 36 possible combinations.

Connector Part or Identifying Number (PIN):



Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Referenced documents. In addition to MIL-DTL-55302, this document references the following:

|                   |           |                  |
|-------------------|-----------|------------------|
| MIL-DTL-55302/164 | ASTM B36  | ASTM B488        |
| MIL-STD-202       | ASTM B124 | ASTM D5948       |
| ASTM A582         | ASTM B453 | SAE-AMS-QQ-N-290 |
| ASTM B16          | ASTM B455 | SAE-AMS-QQ-P-35  |

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CONCLUDING MATERIAL

Custodians:

Army - CR  
DLA - CC

Preparing activity:  
DLA - CC

(Project 5935-4450-000)

Review activities:

Army - AR, AT, AV, CR4, MI

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsible can change, you should verify the currency of the information above using the ASSIST Online database at <http://www.dodssp.daps.mil>.