

DETAIL SPECIFICATION SHEET

CONNECTORS, PRINTED CIRCUIT SUBASSEMBLY AND ACCESSORIES:
 PLUG, PIN CONTACTS, DECADE INCREMENTS 10 THRU 70 CONTACT POSITIONS AND
 INTERMEDIATE POSITIONS OF 14, 24, 44, 54 AND 26, 36, 56, 66 FOR
 PRINTED WIRING BOARDS (.100 SPACING)

This specification is approved for use 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.

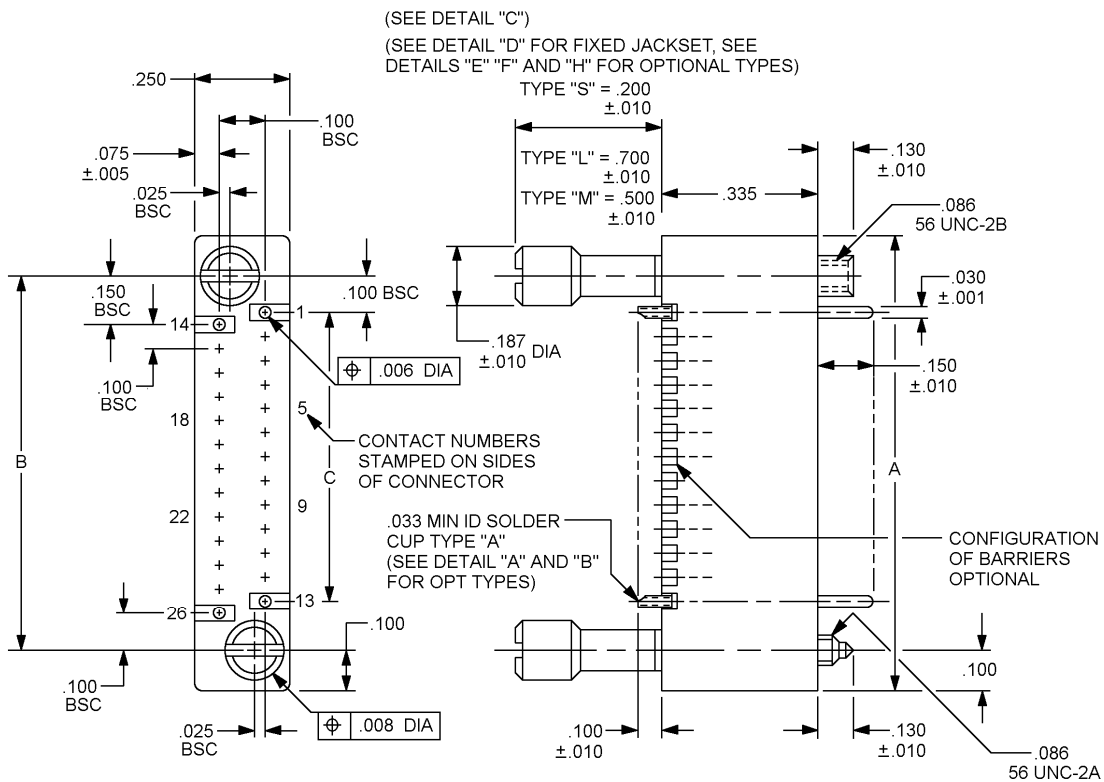


FIGURE 1. Connectors, plug, .100 (2.54 mm) spacing.

MIL-DTL-55302/63H

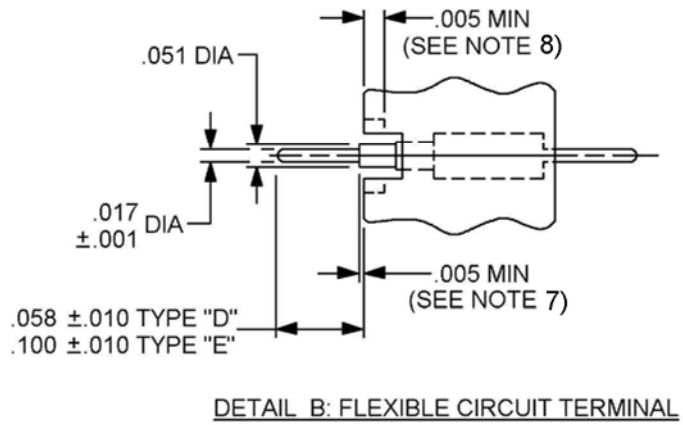
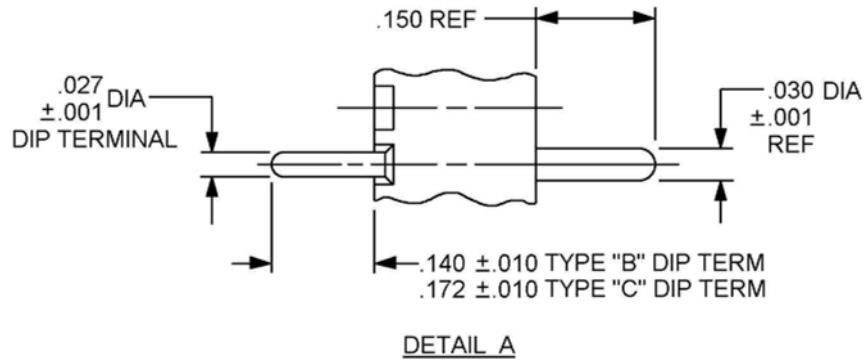


FIGURE 1. Connectors, plug, .100 (2.54 mm) spacing - Continued.

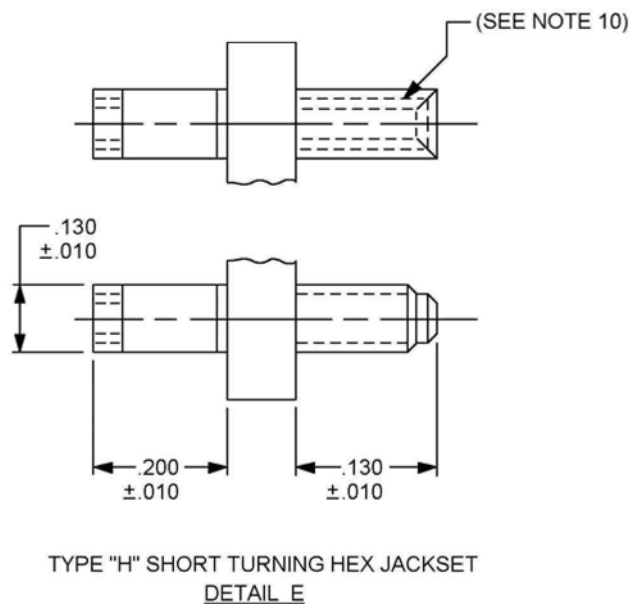
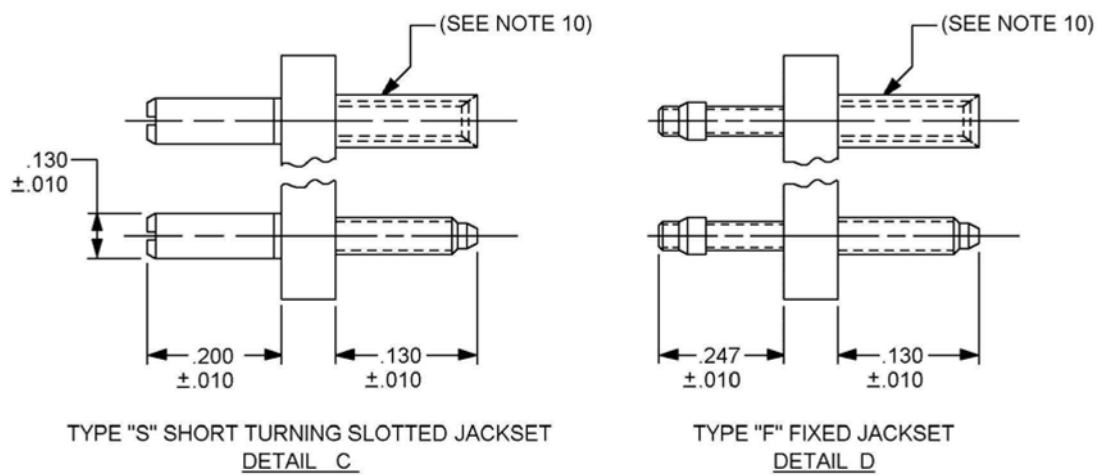


FIGURE 1. Connectors, plug, .100 (2.54 mm) spacing - Continued.

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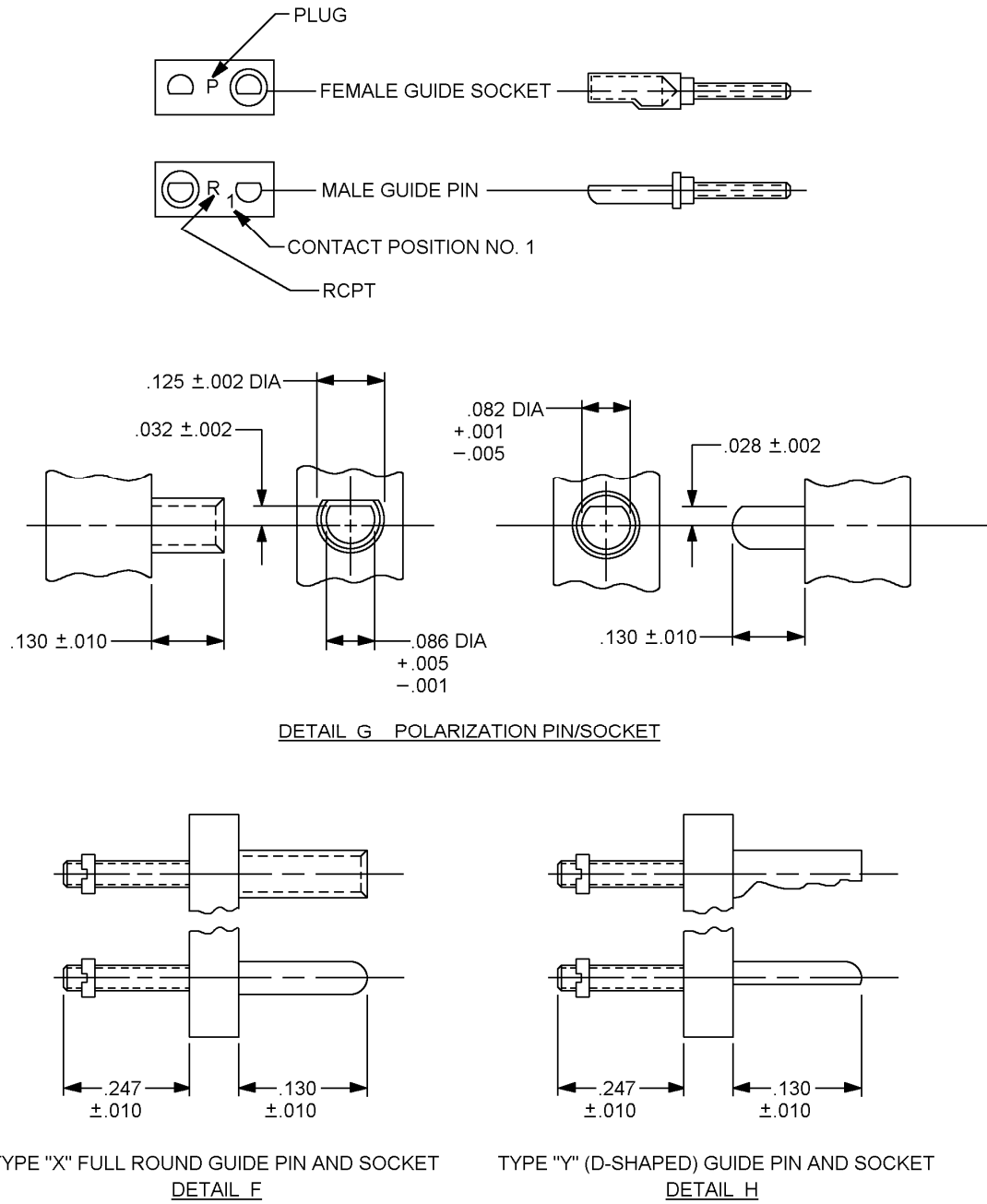


FIGURE 1. Connectors, plug, .100 (2.54 mm) spacing - Continued.

MIL-DTL-55302/63H

| Inches | mm | Inches | mm | Inches | mm | Inches | mm |
|--------|------|--------|------|--------|------|--------|-------|
| .001 | 0.03 | .028 | 0.71 | .086 | 2.18 | .200 | 5.08 |
| .005 | 0.13 | .030 | 0.76 | .100 | 2.54 | .247 | 6.27 |
| .006 | 0.15 | .032 | 0.81 | .125 | 3.18 | .250 | 6.35 |
| .008 | 0.20 | .033 | 0.84 | .130 | 3.30 | .335 | 8.51 |
| .010 | 0.25 | .058 | 1.47 | .140 | 3.56 | .500 | 12.70 |
| .017 | 0.43 | .075 | 1.91 | .150 | 3.81 | .700 | 17.78 |
| .025 | 0.64 | .078 | 1.98 | .172 | 4.37 | | |
| .027 | 0.69 | .082 | 2.08 | .187 | 4.76 | | |

| Number of contacts | Dimensions | | |
|--------------------|------------------|------------------|------------------|
| | A ±.010 | BSC B | REF C |
| 10 | .850 (21.59) | .650 (16.51) | .400 (10.16) |
| 14 | 1.050 (26.67) | .850 (21.59) | .600 (15.24) |
| 20 | 1.350 (34.29) | 1.150 (29.21) | .900 (22.86) |
| 24 | 1.550 (39.37) | 1.350 (34.29) | 1.100 (27.94) |
| 26 | 1.650 (41.91) | 1.450 (36.83) | 1.200 (30.48) |
| 30 | 1.850 (46.99) | 1.650 (41.91) | 1.400 (35.56) |
| 36 | 2.150 (54.61) | 1.950 (49.53) | 1.700 (43.18) |
| 40 | 2.350 (56.69) | 2.150 (54.61) | 1.900 (48.26) |
| 44 | 2.550 (64.77) | 2.350 (56.69) | 2.100 (53.35) |
| 50 | 2.850 (72.39) | 2.650 (67.31) | 2.400 (60.96) |
| 54 | 3.050 (85.09) | 2.850 (72.39) | 2.600 (66.04) |
| 56 | 3.150 (80.01) | 2.950 (74.93) | 2.700 (68.58) |
| 60 | 3.350 (85.09) | 3.150 (80.01) | 2.900 (73.66) |
| 66 | 3.650 (92.71) | 3.450 (87.63) | 3.200 (81.28) |
| 70 | 3.850 (97.79) | 3.650 (92.71) | 3.400 (86.36) |

FIGURE 1. Connectors, plug, .100 (2.54 mm) spacing - Continued.

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NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances are ± 0.005 (0.13 mm).
4. These connectors mate with connectors specified in MIL-DTL-55302/58, MIL-DTL-55302/62, MIL-DTL-55302/64, MIL-DTL-55302/65, and MIL-DTL-55302/66 using appropriate hardware.
5. Numbers indicating the first and last position in each row and every fourth contact position in between shall be marked on the side(s) of the connector. As an option to the above, numbers indicating every fourth cavity may be stamped on the side of the connector, with the exception that the number one contact shall be marked.
6. Termination layout on .025 (0.64 mm) modular grid.
7. Conformal coating clearances shall be .005 (0.13 mm) minimum (not required for optional design).
8. Optional undercut .055 (1.27 mm) maximum, on PCB side for cleaning purposes.
9. Optional design conformal coating clearance.
10. Hole depth to female guide hardware is .282 min (7.16 mm). Full thread depth to female threaded hardware is .240 min (6.1 mm).
11. Accessory mounting hardware (detail D, F and H) is optional and may be purchased separately.

FIGURE 1. Connectors, plug, .100 (2.54 mm) spacing - Continued.

Requirements:

Dimensions and configuration: See figure 1.

Material: Guide pins, type X guide sockets, jackscrews and jack sockets shall be made of corrosion resisting stainless steel in accordance with ASTM A581/A581M or ASTM A582/A582M passivated in accordance with SAE-AMS-2700, type 2 and need not be overplated or shall be corrosion resistant copper nickel alloy (61 ±2% nickel, 2.5% max. other, and the balance zinc and shall have a brinell hardness of 145 to 175. Type Y guide sockets shall be beryllium copper in accordance with ASTM B196/B196M or ASTM B197/B197M, nickel plated in accordance with SAE-AMS-QQ-N-290, class 2, 50 to 150 microinches.

Plating: The contact plating shall be in accordance with MIL-DTL-55302 or gold in accordance with ASTM B488 type II, code C, class 1.27, over nickel plating in accordance with SAE-AMS-QQ-N-290, class 2, 50 to 150 microinches in the engaging area and gold in accordance with ASTM B488 type II, code C, class 0.51, or type III, code A, class 0.051 over nickel plating in accordance with SAE-AMS-QQ-N-290, class 2, 50 to 150 microinches in the termination area.

Contact identification: See figure 1.

Contact resistance: The average contact resistance of all contacts measured shall not exceed 0.010 ohm, and no individual contact pair shall have a resistance exceeding 0.020 ohm.

Dielectric withstanding voltage:

Sea level: 1,000 volts rms.

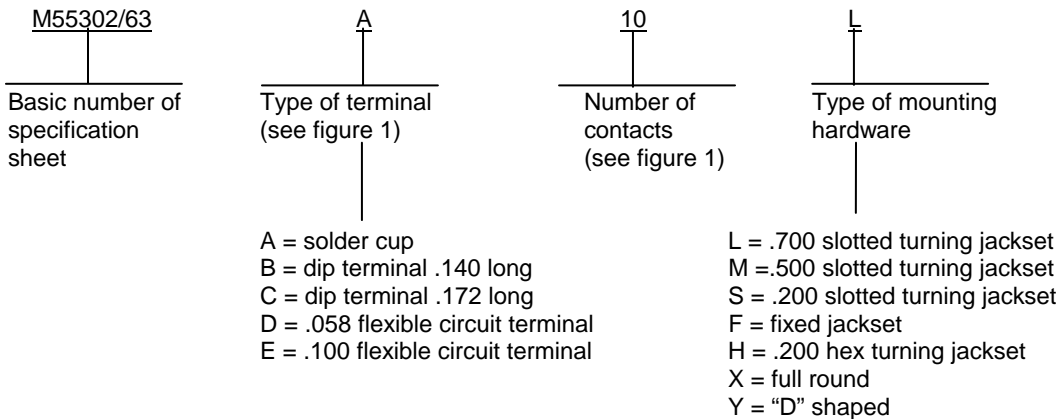
High altitude: 300 volts rms.

Current rating: 5.0 amperes maximum in accordance with contact.

Polarization: Type X, regular, guide pin and socket, full round (see detail F). Type Y, adjustable "D" shaped guide pin and/or socket (see detail G and MIL-DTL-55302/57, detail B). All connectors are supplied in the -1 polarized position. For other than OEM use, connectors may be repolarized by using M55302/57-01 spanner wrench and M55302/63-01 guide pin and guide socket kit. When guides are removed and reinstalled in another position apply Loctite 83-CV or equivalent to the threads. Ordering connectors in other than, the -1 polarized position may be done by the OEM's by placing the desired polarized position in brackets three spaces after the Part or Identifying Number (PIN) on the order. Example M55302/63-A10Y [-32]. Polarization pins and sockets shall be adjusted to any desired configuration by spanner wrench (M55302/57-01). Ordering connectors in the -1 polarized position without Loctite 83-CV or equivalent applied may be done by placing a "-0" in brackets three spaces after the part on the purchase order. Guide sets, as installed, shall withstand 7-inch ounces backoff torque applied through the guide set mounting nut.

M55302/63-01 kit: Consists of one type Y "D" shaped guide socket and spanner nut and one type Y "D" shaped guide pin and spanner nut (see detail H).

Example PIN:



MIL-DTL-55302/63H

Supersession data: See table I.

TABLE I. Supersession data

| New PIN | Superseded PIN <u>1/</u> |
|---------------|--------------------------|
| M55302/63**** | M55302/63-**** |

1/ M55302/63-01 is not superseded.

Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

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

| | |
|------------------|------------------|
| MIL-DTL-55302/57 | ASTM A581/A581M |
| MIL-DTL-55302/58 | ASTM A582/A582M |
| MIL-DTL-55302/62 | ASTM B488 |
| MIL-DTL-55302/64 | ASTM B196/B196M |
| MIL-DTL-55302/65 | ASTM B197B197M |
| MIL-DTL-55302/66 | SAE AMS 2700 |
| | SAE-AMS-QQ-N-290 |

CONCLUDING MATERIAL

Custodians:
Army - CR
Navy - EC
Air Force - 11
NASA - NA
DLA - CC

Preparing activity:
DLA - CC

(Project 5935-2006-232)

Review activities:
Army - AR, AT, AV, CR4, MI
Navy - AS, MC, OS, TD
Air Force - 19, 99

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