

INCH-POUND  
MIL-DTL-55302/58J  
w/AMENDMENT 2  
21 June 2016  
SUPERSEDING  
MIL-DTL-55302/58J  
w/AMENDMENT 1  
11 May 2011

DETAIL SPECIFICATION SHEET

CONNECTORS, PRINTED CIRCUIT SUBASSEMBLY AND ACCESSORIES:  
RECEPTACLE, SOCKET 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.

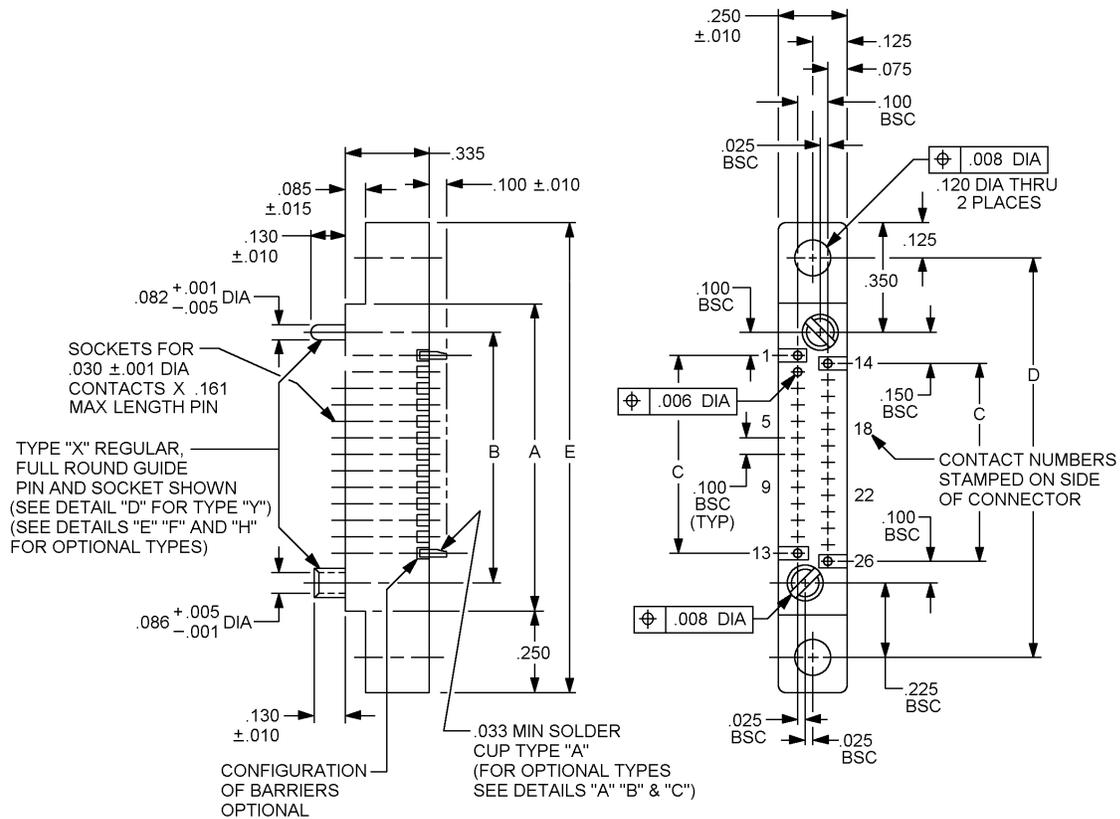


FIGURE 1. Connectors, receptacle, .100 (2.54 mm) spacing.



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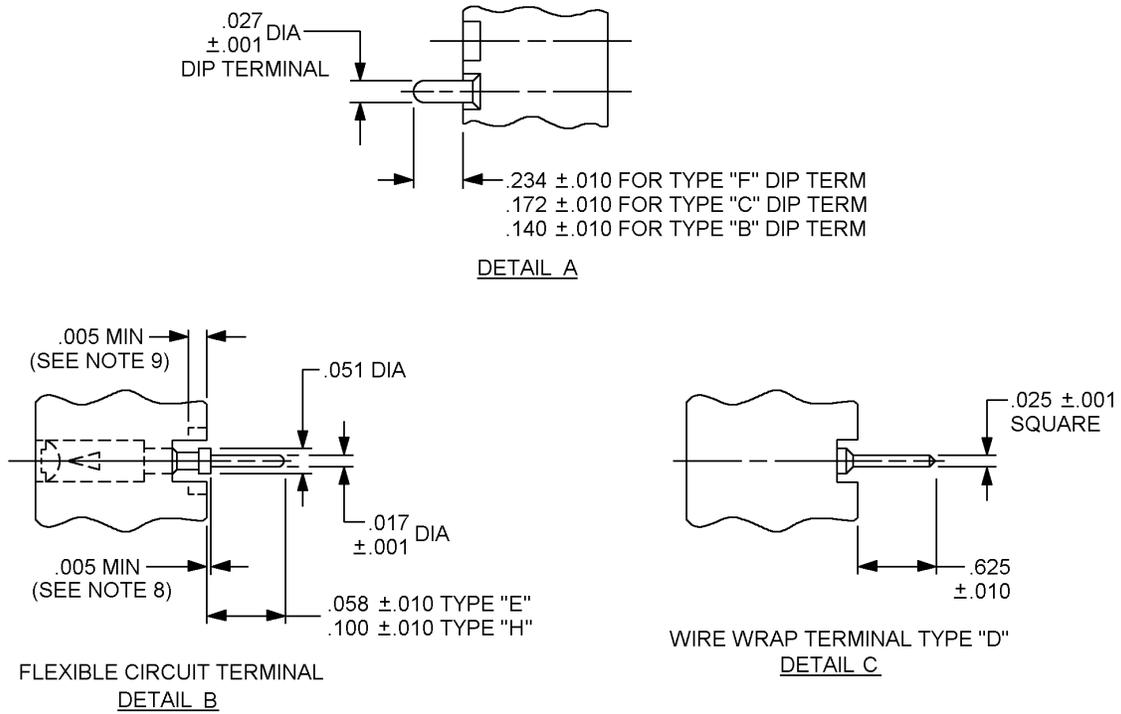
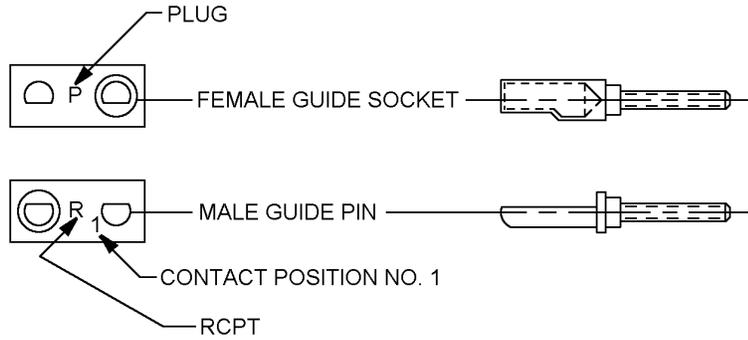
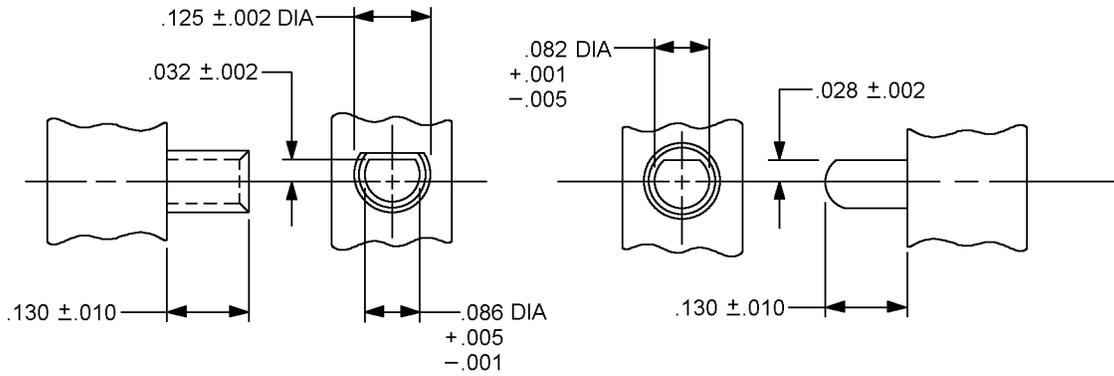


FIGURE 1. Connectors, receptacle, .100 (2.54 mm) spacing - Continued.

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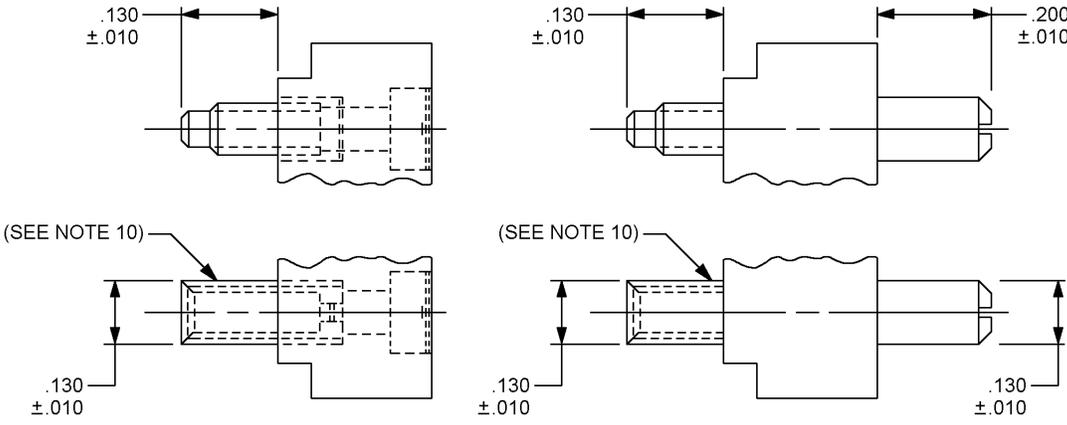
CONNECTOR POLARIZATION WITH "D" SHAPED GUIDE PINS AND SOCKETS. (TYPE "Y")



DETAIL D POLARIZATION PIN/SOCKET

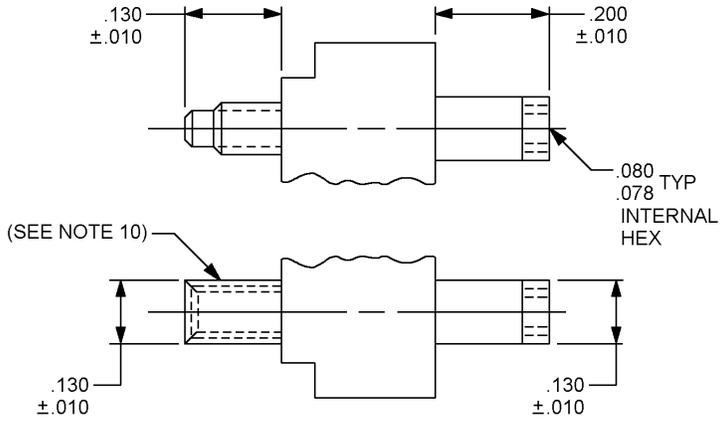
FIGURE 1. Connectors, receptacle, .100 (2.54 mm) spacing - Continued.

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TYPE "F" FIXED JACKSET  
DETAIL E

TYPE "S" SHORT TURNING SLOTTED JACKSET  
DETAIL F



TYPE "H" SHORT TURNING HEX JACKSET  
DETAIL H

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

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Inches	mm								
.001	0.03	.025	0.64	.058	1.47	.108	2.74	.172	4.37
.002	0.05	.027	0.69	.075	1.91	.120	3.05	.200	5.08
.005	0.13	.028	0.71	.078	1.98	.125	3.18	.225	5.72
.006	0.15	.030	0.76	.082	2.08	.130	3.30	.250	6.35
.008	0.20	.035	0.89	.086	2.18	.140	3.56	.335	8.51
.010	0.25	.050	1.27	.094	2.39	.150	3.81	.350	8.89
.017	0.43	.051	1.30	.100	2.54	.161	4.09	.625	15.88

Number of contacts	Dimensions				
	A ±.010	BSC B	REF C	BSC D	E ±.010
10	.850 (21.59)	.650 (16.51)	.400 (10.16)	1.100 (27.94)	1.350 (34.29)
14	1.050 (26.67)	.850 (21.59)	.600 (15.24)	1.300 (33.02)	1.550 (39.37)
20	1.350 (34.29)	1.150 (29.21)	.900 (22.86)	1.600 (40.64)	1.850 (46.99)
24	1.550 (39.37)	1.350 (34.29)	1.100 (27.94)	1.800 (45.72)	2.050 (52.07)
26	1.650 (41.91)	1.450 (36.83)	1.200 (30.48)	1.900 (48.26)	2.150 (54.61)
30	1.850 (46.99)	1.650 (41.91)	1.400 (35.56)	2.100 (53.34)	2.350 (56.69)
36	2.150 (54.61)	1.950 (49.53)	1.700 (43.18)	2.400 (60.96)	2.650 (67.31)
40	2.350 (56.69)	2.150 (54.61)	1.900 (48.26)	2.600 (66.04)	2.850 (72.39)
44	2.550 (64.77)	2.350 (56.69)	2.100 (53.34)	2.800 (71.12)	3.050 (77.47)
50	2.850 (72.39)	2.650 (67.31)	2.400 (60.96)	3.100 (78.74)	3.350 (85.09)
54	3.050 (77.47)	2.850 (72.39)	2.600 (66.04)	3.300 (83.82)	3.550 (90.17)
56	3.150 (80.01)	2.950 (74.93)	2.700 (68.58)	3.400 (86.36)	3.650 (92.71)
60	3.350 (85.09)	3.150 (80.01)	2.900 (73.66)	3.600 (91.44)	3.850 (97.79)
66	3.650 (92.71)	3.450 (87.63)	3.200 (81.28)	3.900 (99.06)	4.150 (105.41)
70	3.850 (97.79)	3.650 (92.71)	3.400 (86.36)	4.100 (104.14)	4.350 (110.49)

FIGURE 1. Connectors, receptacle, .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  $\pm 0.005$  (0.13 mm).
4. These connectors mate with connectors specified in MIL-DTL-55302/57, MIL-DTL-55302/61, MIL-DTL-55302/63 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. Metric equivalents are in parentheses.
8. Conformal coating clearances shall be .005 (0.13 mm) minimum (not required for optional design).
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).

FIGURE 1. Connectors, receptacle, .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-AMS2700 or shall be corrosion resistant copper nickel alloy (61  $\pm 2\%$  copper, 25% nickel,  $\pm 2\%$ , 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 MIL-DTL-45204 or equivalent as approved by the preparing activities, type II, grade C, class 1, 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 MIL-DTL-45204 or equivalent as approved by the preparing activities, type II, grade C, class 00, or type III, grade A, class 00 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 engagement and separation forces (number 22 contacts):

Minimum separation: 0.5 ounce.

Maximum engagement: 12.0 ounces for standard force and 4.0 ounces for low force.

NOTE: Low force contacts meet the requirements of standard force contacts.

Mating and unmating:

Standard insertion force contacts: The maximum mating force, in pounds, shall be the number of contacts multiplied by 0.56 and the withdrawal force, in pounds, shall be a minimum of 0.08 times the number of contacts and shall not exceed the measured insertion force.

Low insertion force contacts: The maximum mating force, in pounds, shall be the number of contacts multiplied by 0.25 and the withdrawal force, in pounds, shall be a minimum of 0.04 times the number of contacts and shall not exceed the maximum insertion force.

NOTE: Not applicable when mating and unmating is accomplished through the engaging of turning jackssets.

Jackscrew and jack socket torque: 2-inch pounds maximum, fully mated.

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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.

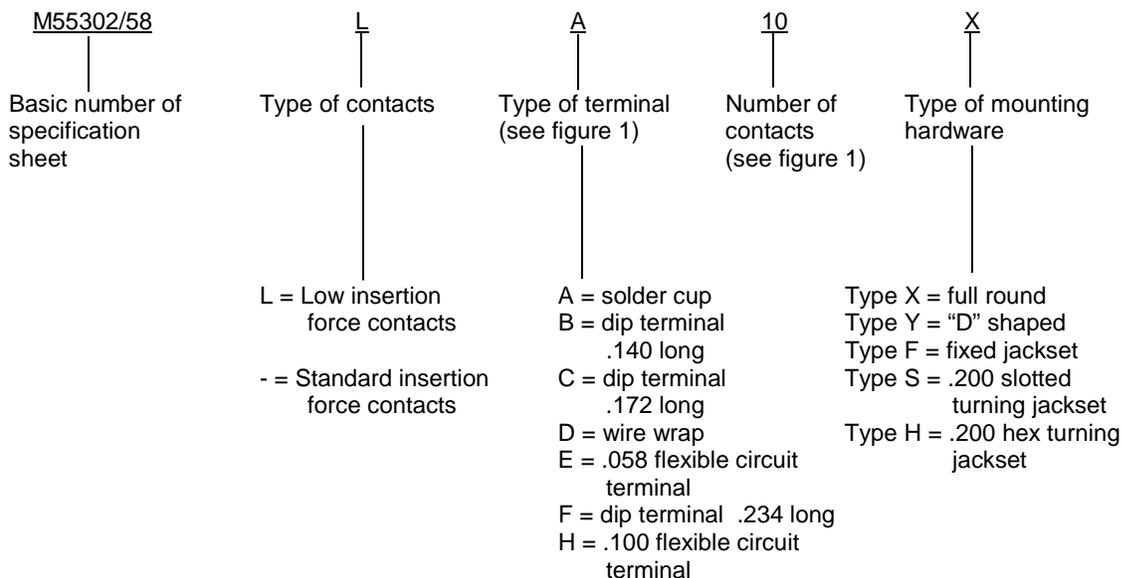
High altitude: 300 volts rms.

Current rating: 5.0 amperes maximum in accordance with contact.

Polarization: Type X, regular, guide pin and socket, full round (see figure 1). Type Y, adjustable "D" shaped guide pin and/or socket (see detail D 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 M55302/57-02 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 purchase order. Example M55302/58-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.

M55302/57-02 kit: Consists of one type Y "D" shaped guide socket and spanner nut one type Y "D" shaped guide pin and spanner nut.

Example of PIN:



Amendment notations. The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. 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.

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

MIL-DTL-45204  
MIL-DTL-55302/57  
MIL-DTL-55302/61  
MIL-DTL-55302/63  
ASTM A581/A581M  
ASTM A582/A582M  
ASTM B196/B196M  
ASTM B197/B197M  
SAE-AMS2700  
SAE-AMS-QQ-N-290

CONCLUDING MATERIAL

Custodians:  
Army - CR  
Navy - EC  
Air Force - 85  
DLA - CC

Preparing activity:  
DLA - CC  
  
(Project 5935-2016-071)

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

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