

MIL-DTL-55302/57H
3 February 2004
SUPERSEDING
MIL-C-55302/57G
23 September 1992

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)

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

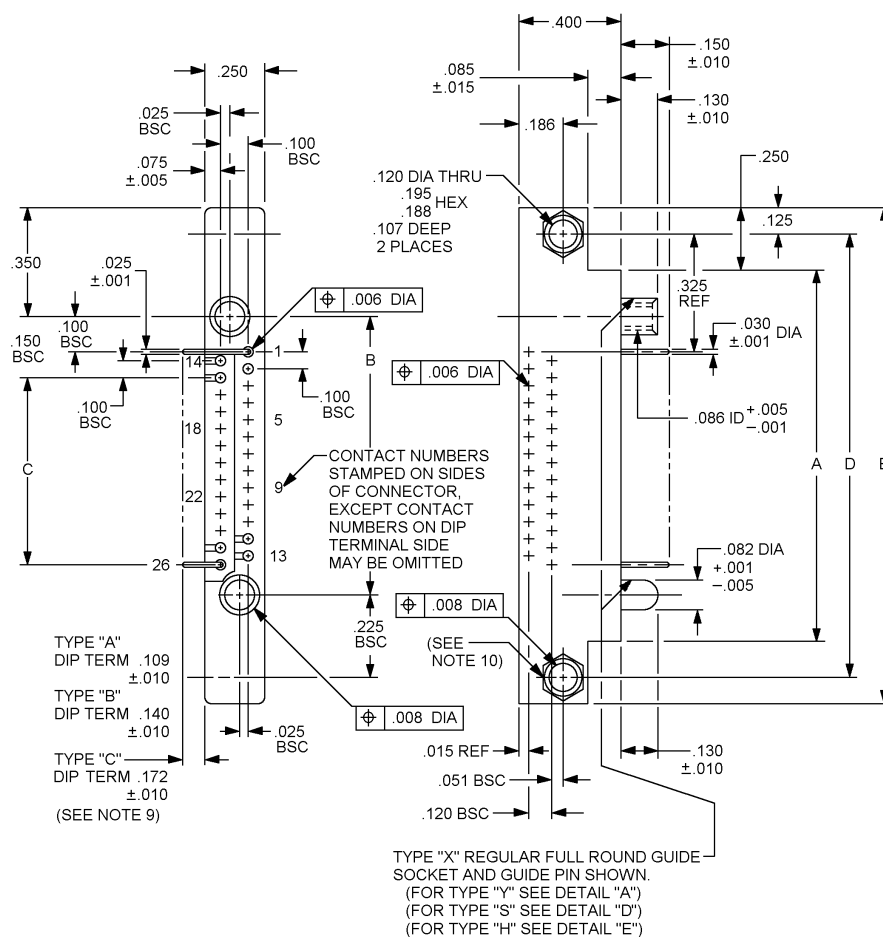
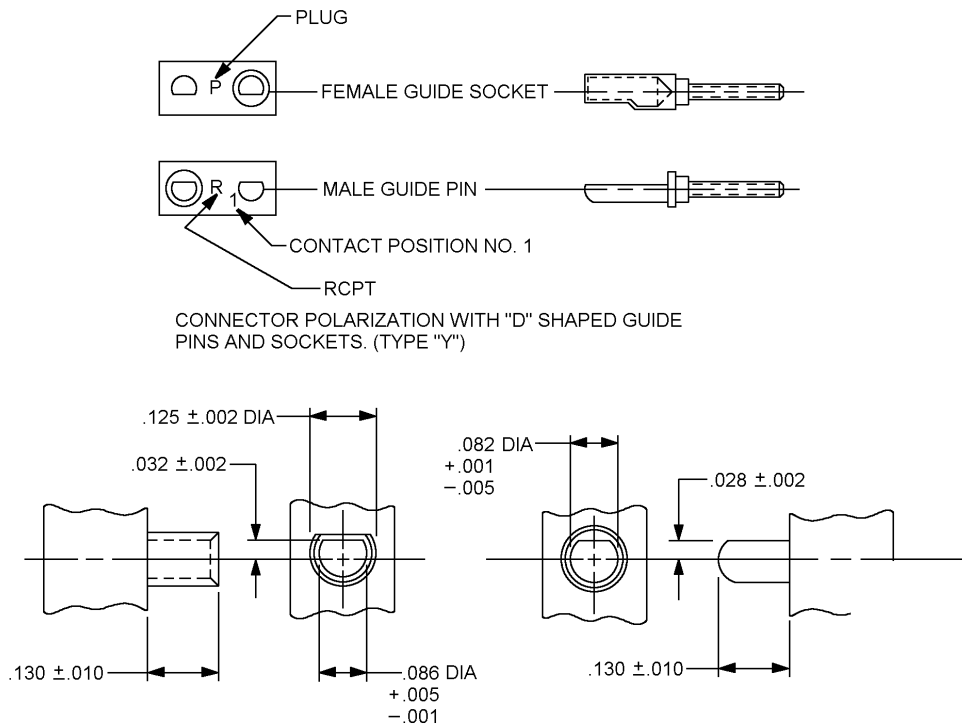


FIGURE 1. Connectors, plug, .100 (2.54 mm) spacing.

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DETAIL A: POLARIZATION PIN/SOCKET
(FOR POLARIZATION CONFIGURATION SEE DETAIL "B")

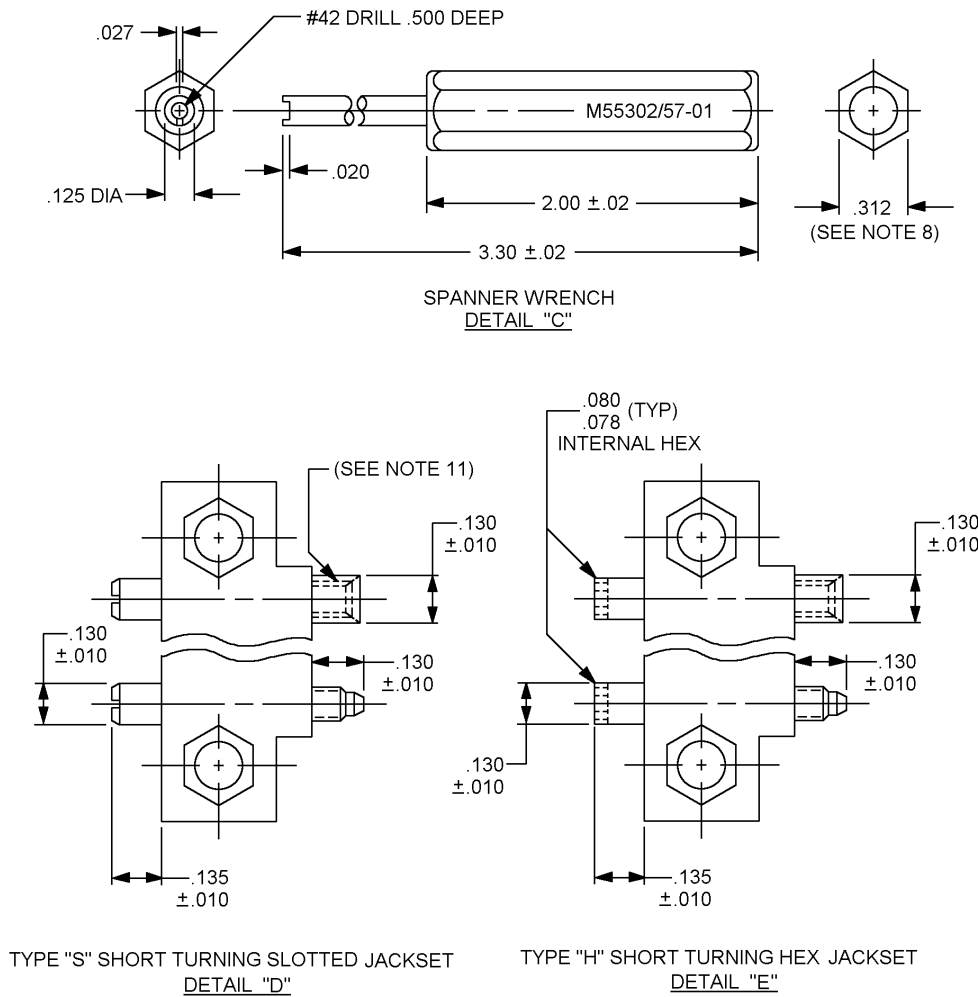
-1	-9	-17	-25	-33	-41	-49	-57
-2	-10	-18	-26	-34	-42	-50	-58
-3	-11	-19	-27	-35	-43	-51	-59
-4	-12	-20	-28	-36	-44	-52	-60
-5	-13	-21	-29	-37	-45	-53	-61
-6	-14	-22	-30	-38	-46	-54	-62
-7	-15	-23	-31	-39	-47	-55	-63
-8	-16	-24	-32	-40	-48	-56	-64

DETAIL B: POLARIZATION CONFIGURATION CHART

NOTE: Pin/socket in chart can be easily adjusted to any desired configuration by the spanner wrench (see detail C).

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

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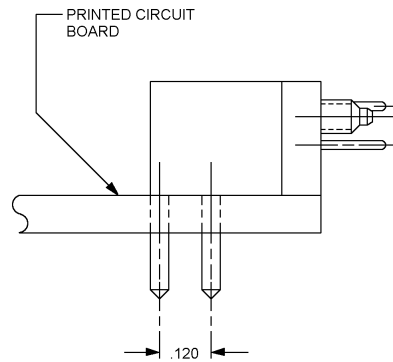


NOTES:

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-55302/62, MIL-DTL-55302/64, MIL-DTL-55302/65, MIL-DTL-55302/66 and MIL-DTL-55302/58 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 and 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 .020 (0.51 mm) modular grid.
7. Metric equivalents are in parentheses.
8. Handle shape optional.
9. Optional undercut .050 (1.27 mm) maximum, on PCB side for cleaning purposes.
10. Position of the hex orientation is optional. Hex shall not break through the side of the insulator.
11. 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, plug, .100 (2.54 mm) spacing - Continued.

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Inches	mm	Inches	mm	Inches	mm
.001	0.03	.020	0.51	.075	1.91
.002	0.05	.025	0.64	.078	1.98
.005	0.13	.027	0.69	.082	2.08
.006	0.15	.028	0.71	.086	2.18
.008	0.20	.030	0.76	.094	2.39
.010	0.25	.032	0.81	.100	2.54
.015	0.38	.051	1.30	.107	2.72

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 (59.69)
36	2.150 (54.61)	1.950 (49.53)	1.700 (43.18)	2.400 (60.96)	2.650 (67.31)
40	2.350 (59.69)	2.150 (54.61)	1.900 (48.26)	2.600 (66.04)	2.850 (72.39)
44	2.550 (64.77)	2.350 (59.69)	2.100 (53.35)	2.800 (71.12)	3.050 (77.45)
50	2.850 (72.39)	2.650 (67.31)	2.400 (60.96)	3.100 (78.74)	3.350 (85.09)
54	3.050 (77.45)	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, 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 or ASTM A582 passivated in accordance with SAE-AMS-QQ-P-35 or shall be corrosion resistant copper nickel alloy (61 \pm 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 or ASTM B197, 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 and gold in accordance with.

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.

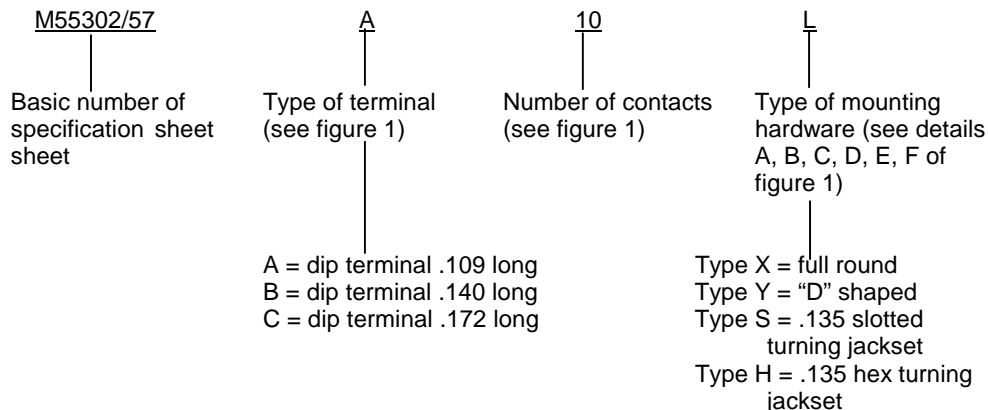
High altitude: 300 volts rms.

Current rating: 5.0 amperes maximum in accordance with contact.

Polarization: Type X, regular, guide pin and socket, full round (see figure 1). Type Y, adjustable "D" shaped guide pin and/or socket (see figure 1, details A and 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 M55302/57-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 one type Y "D" shaped guide pin.

Example of PIN:



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

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

MIL-DTL-55302/58
MIL-DTL-55302/62
MIL-DTL-55302/64
MIL-DTL-55302/65
MIL-DTL-55302/66
ASTM A581
ASTM A582
ASTM B196
ASTM B197
ASTM B488
SAE-AMS-QQ-P-35
SAE-AMS-QQ-N-290

CONCLUDING MATERIAL

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

Preparing activity:
DLA - CC

(Project 5935-4414-002)

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

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