

INCH-POUND

MIL-DTL-55302/65H
3 February 2004
SUPERSEDING
MIL-C-55302/65G
8 April 1993

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.

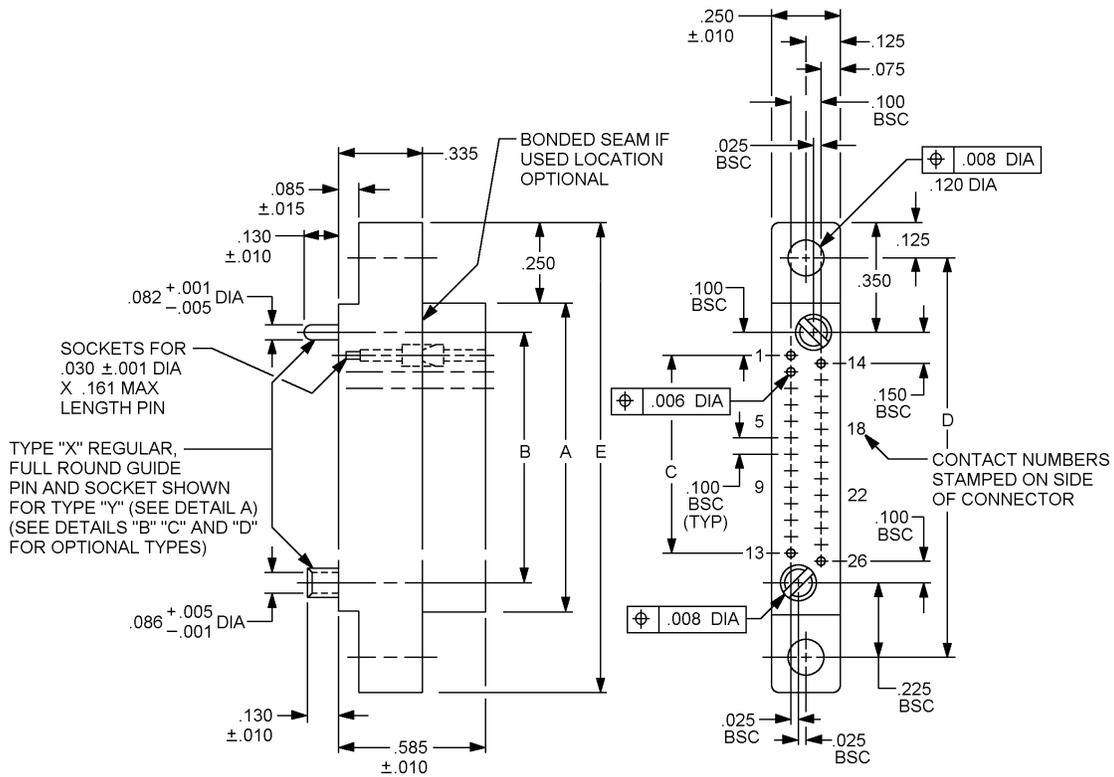
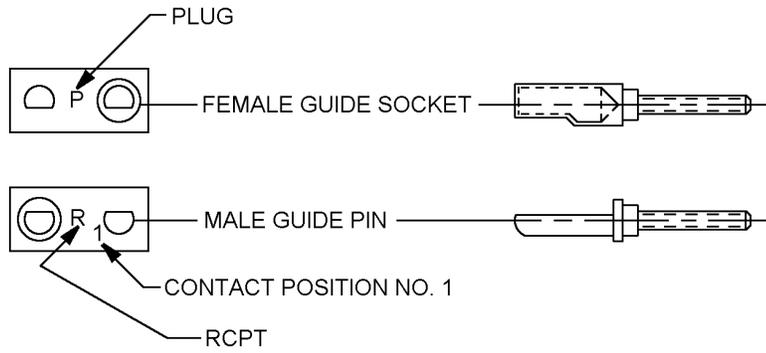
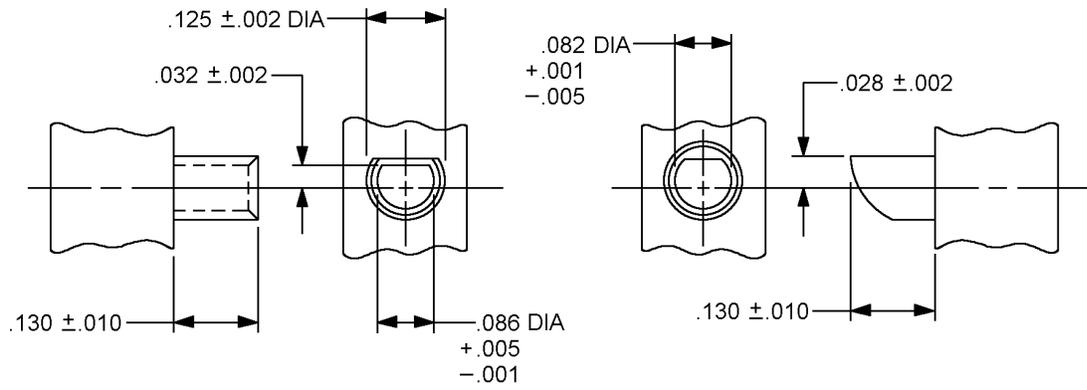


FIGURE 1. Connectors, receptacle, .100 (2.54 mm) spacing.



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



DETAIL "A" POLARIZATION PIN/SOCKET

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

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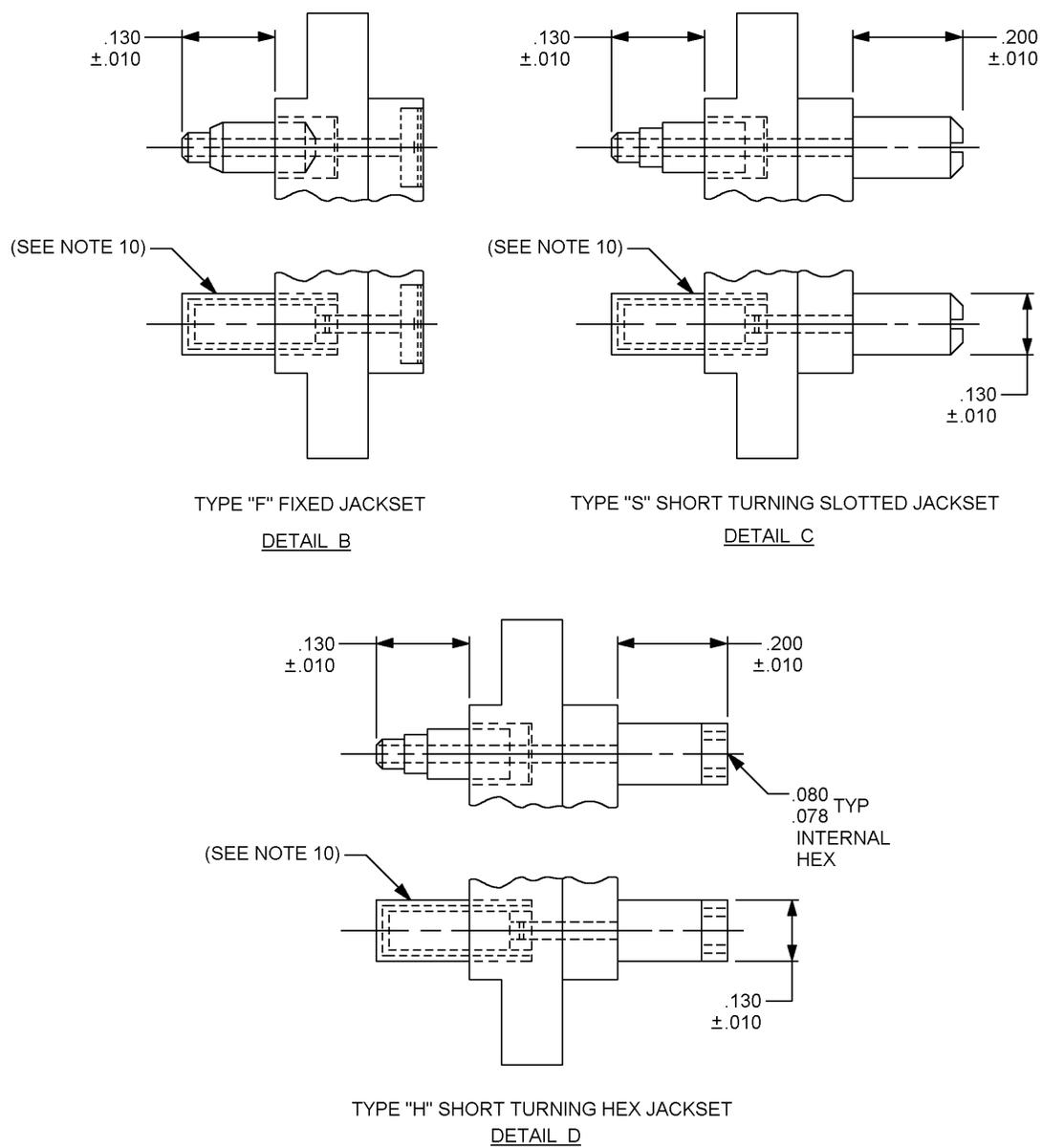


FIGURE 1. Connectors, receptacle, .100 (2.54 mm) spacing - Continued.

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Inches	mm	Inches	mm	Inches	mm	Inches	mm
.001	0.03	.025	0.64	.086	2.18	.161	4.09
.002	0.05	.028	0.71	.094	2.39	.200	5.08
.005	0.13	.030	0.76	.100	2.54	.225	5.72
.006	0.15	.032	0.81	.120	3.05	.250	6.35
.008	0.20	.075	1.91	.125	3.18	.335	8.51
.010	.025	.078	1.98	.130	3.30	.350	8.89
.015	0.38	.082	2.08	.150	3.81	.585	14.86

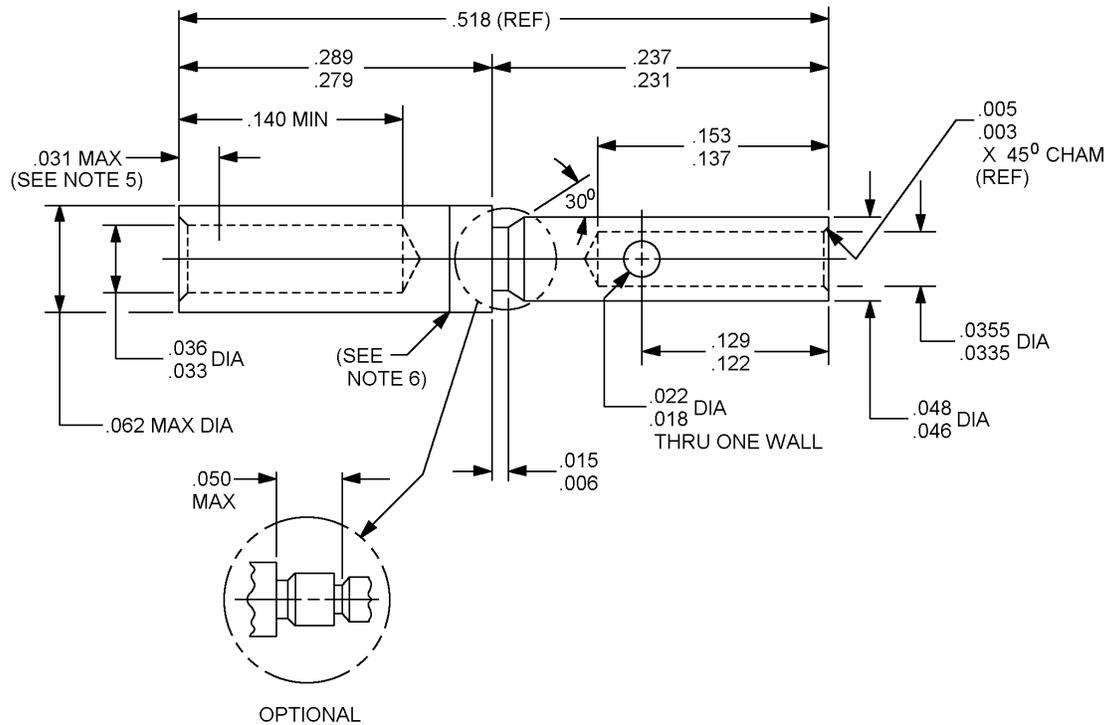
Number of contacts	Dimensions				
	A ±.010	BSC B	REF C	BSC D	E ±.010
10	.850 (21.59)	.650 (16.51)	.400 (10.16)	1.100 (27.94)	1.350 (34.29)
14	1.050 (26.67)	.850 (21.59)	.600 (15.24)	1.300 (33.02)	1.550 (39.37)
20	1.350 (34.29)	1.150 (29.21)	.900 (22.86)	1.600 (40.64)	1.850 (46.99)
24	1.550 (39.37)	1.350 (34.29)	1.100 (27.94)	1.800 (45.72)	2.050 (52.97)
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 (53.35)	2.800 (71.12)	3.050 (85.09)
50	2.850 (72.39)	2.650 (67.31)	2.400 (60.96)	3.100 (78.74)	3.350 (85.09)
54	3.050 (85.09)	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)

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances are ±.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.

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Inches	mm	Inches	mm	Inches	mm
.002	0.05	.031	0.79	.128	3.28
.003	0.08	.033	0.84	.137	3.48
.004	0.10	.0335	0.851	.153	3.89
.005	0.13	.0355	0.902	.166	4.22
.006	0.15	.036	0.91	.231	5.87
.011	0.28	.046	1.17	.237	6.02
.018	0.46	.048	1.22	.279	7.09
.022	0.56	.063	1.57	.289	7.34
.029	0.74	.122	3.10	.518	13.16

NOTES:

1. Dimensions are in inches.
2. Machined surfaces to be 63 microinches or less.
3. Remove all burrs and sharp edges .03 maximum.
4. All diameters to be concentric within .004 T.I.R.
5. Depth at which a square ended pin of .029 diameter first engages the socket contact spring.
6. Maximum gap of .002 between hood and body.
7. Contact Part or Identifying Number (PIN) shall be M55302/65-01 for standard force and M55302/65-02 for low insertion force contacts, shipped loose in a plastic bag, unless otherwise specified. Individual contacts may be ordered separately.

FIGURE 2. Socket, contact, crimp.

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Requirements:

Dimensions and configuration: See figures 1 and 2.

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 ±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-N290, 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, 0.51 over nickel plating in accordance with SAE-AMS-QQ-N290, class 2, 50 to 150 microinches in the termination area and gold in accordance with.

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.

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 A 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 PIN on the purchase order. Example M55302/65-10Y [-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.

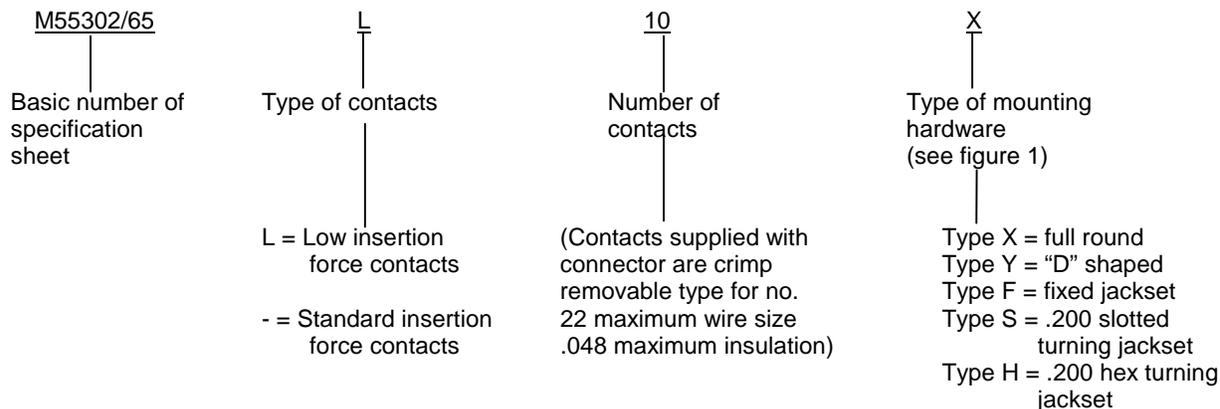
M55302/63-01 kit: Consists of one type Y "D" shaped guide socket and spanner nut and one type Y "D" shaped guide pin and spanner nut (see detail G).

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Insertion and removal tool: MIL-I-81969/12.

Crimp tool: M22520/2-01.

Example of PIN:



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 documents:

- | | |
|------------------|------------------|
| MIL-DTL-55302/57 | ASTM A581 |
| MIL-DTL-55302/61 | ASTM A582 |
| MIL-DTL-55302/63 | ASTM B196 |
| MIL-I-81969/12 | ASTM B197 |
| MIL-C-22520/2 | ASTM B488 |
| | SAE-AMS-QQ-P-35 |
| | SAE-AMS-QQ-N-290 |

CONCLUDING MATERIAL

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

Preparing activity:
DLA - CC
(Project 5935-4414-011)

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>.