

INCH-POUND

MIL-DTL-55302/72D
w/AMENDMENT 2
22 August 2016
SUPERSEDING
MIL-DTL-55302/72D
w/AMENDMENT1
26 July 2010

DETAIL SPECIFICATION SHEET

CONNECTORS, PRINTED CIRCUIT SUBASSEMBLY AND ACCESSORIES:
SOCKET ENVIRONMENTAL RESISTANT, RECEPTACLE, ELECTRICAL, POLARIZED
(.150 SPACING), REMOVABLE CRIMP CONTACTS

Inactive for new design after 1 October 1986.

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.

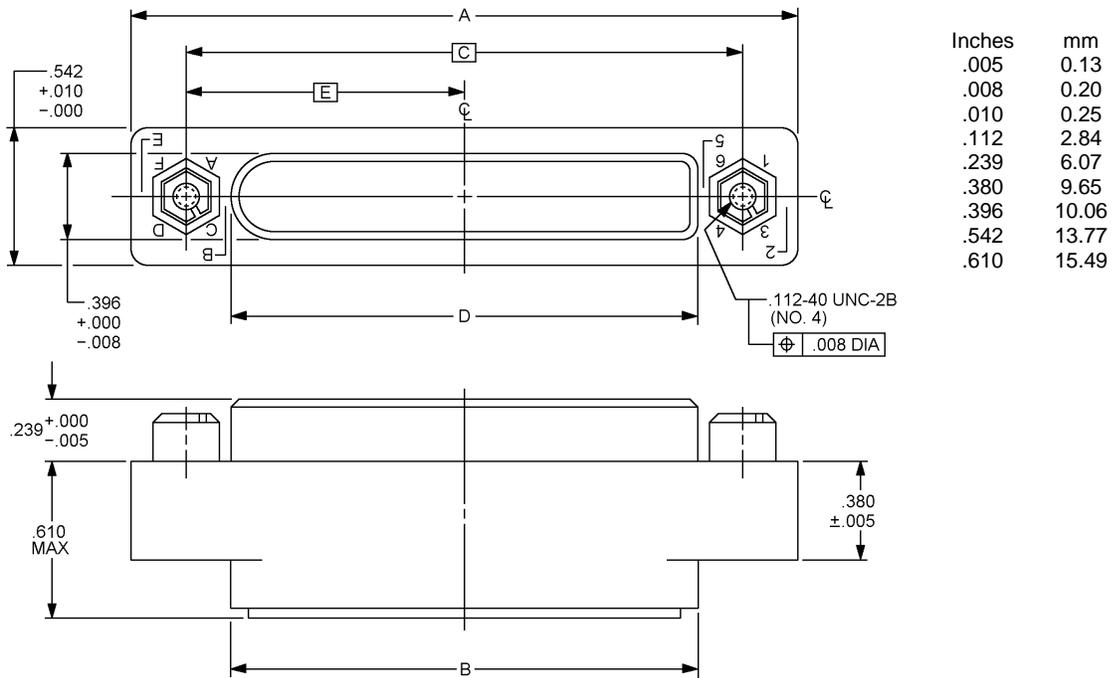


FIGURE 1. Connectors, receptacle, .150 (3.81 mm) contact spacing, removable crimp socket.

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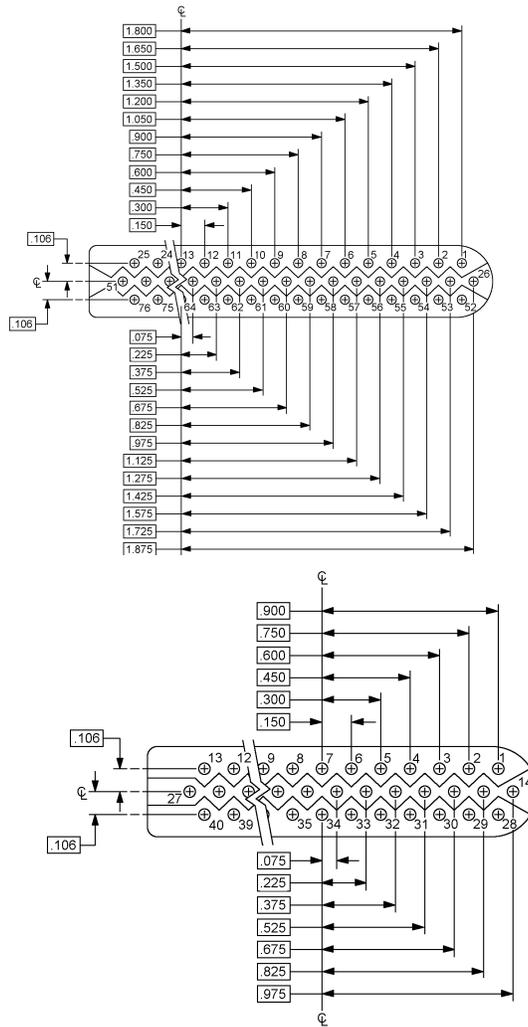
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NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Nominal spacing between any two adjacent pin contacts shall be $.150 \pm .003$ ($3.81 \pm .08$ mm).
4. Unless otherwise specified, tolerances are $\pm .010$ (0.25 mm).
5. For dimensions A through E, see table II.
6. A quantity of M39029/57-357 socket crimp contacts consisting of the normal complement plus one spare contact for connector arrangements having 26 contacts or less and two spare for arrangements having over 26 contacts shall be supplied with each connector.
7. Mating connectors provide 36 different polarization positions. Polarization components conforming to M55302/78-01 are supplied installed I connectors -A1 through F6 and are supplied uninstalled with connector - 1S (see table III).
8. When properly mated with MIL-DTL-55302/73 or equivalent this connector has the capability of meeting the environmental requirements of MIL-DTL-38999, class T.

FIGURE 1. Connectors, receptacle, .150 (3.81 mm) contact spacing, removable crimp socket - Continued.

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Inches	mm	Inches	mm	Inches	mm	Inches	mm
.075	1.91	.525	13.34	1.050	26.67	1.575	40.01
.106	2.69	.600	15.24	1.125	28.58	1.650	41.91
.150	3.81	.675	17.15	1.200	30.48	1.725	43.82
.225	5.72	.750	19.05	1.275	32.39	1.800	45.72
.300	7.62	.825	20.96	1.350	34.29	1.875	47.63
.375	9.53	.900	22.86	1.425	36.20		
.450	11.43	.975	24.77	1.500	38.10		

NOTES:

1. Contacts 1 through 14 and 27 through 40 (bottom arrangement) are identified on the front and rear of the connector per the insert arrangement.
2. Contacts 1 through 26 and 51 through 76 (top arrangement) are identified on the front face and rear face of the connector per the insert arrangement.

FIGURE 2. Insert arrangement for .150 (3.81 mm) connector, (female engaging face).

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Requirements:

Dimensions and configuration: See figure 1.

Material: In accordance with MIL-DTL-55302, except:

Body - reinforced epoxy resin or equivalent.

Grommet - silicon rubber, A-A-59588, class 2B, grade 50.

Bushing - monel, QQ-N-281, class B, cold drawn.

Plating: In accordance with SAE-AS39029/57.

Contact identification: Contact locations are identified numerically as shown on figure 2.

Mating and unmating: The mating force shall be 35 ± 5 pounds for the 40 contact connector and 65 ± 5 pounds for the 76-contact connector. The unmating shall be a minimum of 0.125 times the number of contacts and shall not exceed the measured insertion force.

Contact engagement and separation forces: When tested as specified herein, the engaging and separation forces shall be within the applicable limits specified in table I. Cylindrical steel or tungsten carbide test pins having spherical tips and a surface finish not exceeding 3 microinches roughness for steel pins or 10 microinches for tungsten carbide pins shall be engaged with and separated from the socket contacts. The forces necessary to insert the maximum diameter pin and withdraw; the minimum diameter pin shall be measured and shall meet the requirements specified in table I. The depth of insertion shall be not less than 0.205 inch measured from the face of the insert or 0.140 inch measured from the end of the socket body, but the pins shall not bottom in the socket.

TABLE I. Engaging and separating forces.

Mating end size	Engaging test pin diameter in inches	Maximum engagement force (ounces)	Separating test pin diameter in inches	Minimum separation force (ounces)
20	0.0410 +0.0002 -0.0000	18	0.0390 +0.0000 -0.0002	0.75

Contact resistance: With a test current of 5 A dc, the average resistance of all contact pairs measured shall not exceed 0.008 ohm, and no individual contact pair shall have a resistance exceeding 0.016 ohm.

Oversize pin: The connectors shall exclude a .048 minimum diameter pin.

Dielectric withstanding voltage:

Sea level: 1,300 volts rms, 60 Hz, ac.

High altitude: 350 volts rms, 60 Hz, ac.

Contact current rating: 5.0 amperes.

Insert arrangement: See figure 2.

Contact insertion and removal tool:

Insertion tool: M81969/14-10

Removal tool: M81969/14-11

Mating connectors: See MIL-DTL-55302/73.

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Qualification: Qualification is not required for this specification sheet.

First article testing (FAT): FAT shall be in accordance with MIL-DTL-55302, qualification inspection.

Group A inspection: Delete mating and unmating.

Group B inspection: Add mating and unmating.

Part or Identifying Number (PIN):

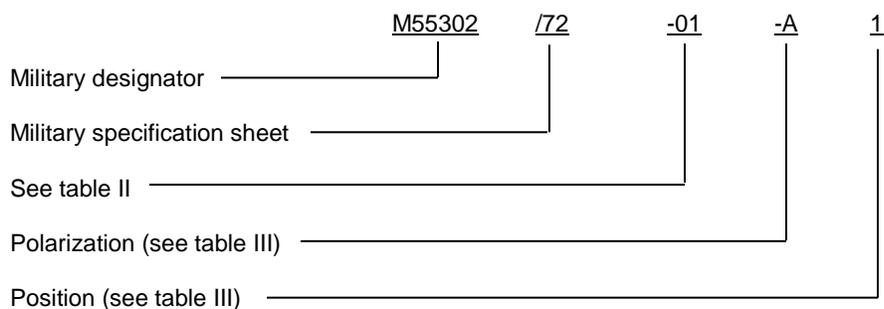


TABLE II. Dash numbers and dimensions.

Dash number	Dimensions <u>1/</u>					Number of contacts
	A +.010 (0.25)	B max	<u>C</u>	D	<u>E</u>	
01	2.900 (73.66)	2.260 (57.40)	2.522 (64.06)	^{+.000} 2.124 ^{-.008} (53.95) (.20)	1.261 (32.03)	40
02	4.650 (118.11)	4.060 (103.12)	4.288 (108.92)	^{+.000} 3.914 ^{-.010} (99.42) (.25)	2.144 (54.46)	76

1/ Metric equivalents are given for information only. Millimeters are in parentheses.

TABLE III. Dash number, polarization and position. 1/

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Dash number		Dash number	
01	02	01	02
01-A1	02-A1	01-D1	02-D1
01-A2	02-A2	01-D2	02-D2
01-A3	02-A3	01-D3	02-D3
01-A4	02-A4	01-D4	02-D4
01-A5	02-A5	01-D5	02-D5
01-A6	02-A6	01-D6	02-D6
01-B1	02-B1	01-E1	02-E1
01-B2	02-B2	01-E2	02-E2
01-B3	02-B3	01-E3	02-E3
01-B4	02-B4	01-E4	02-E4
01-B5	02-B5	01-E5	02-E5
01-B6	02-B6	01-E6	02-E6
01-C1	02-C1	01-F1	02-F1
01-C2	02-C2	01-F2	02-F2
01-C3	02-C3	01-F3	02-F3
01-C4	02-C4	01-F4	02-F4
01-C5	02-C5	01-F5	02-F5
01-C6	02-C6	01-F6	02-F6
		01-1S	02-1S
		Nonpolarized	Nonpolarized

1/ See MIL-DTL-55302/73 for polarization example.

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

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

MIL-DTL-38999
MIL-DTL-55302/73
QQ-N-281
A-A-59588
SAE-AS39029/57

CONCLUDING MATERIAL

Custodians:
Air Force - 85
DLA - CC

Preparing activity:
DLA - CC

(Project 5935-2016-165)

Review activity:
Air Force - 19

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 <https://assist.dla.mil>.