

INCH-POUND

MIL-DTL-83513/9F  
w/AMENDMENT 4  
11 July 2016  
SUPERSEDING  
MIL-DTL-83513/9F  
w/AMENDMENT 3  
4 September 2013

DETAIL SPECIFICATION SHEET

CONNECTORS, ELECTRICAL, RECTANGULAR, RECEPTACLE, MICROMINIATURE,  
POLARIZED SHELL, SOCKET CONTACTS, CLASS P, CRIMP TYPE

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-83513.

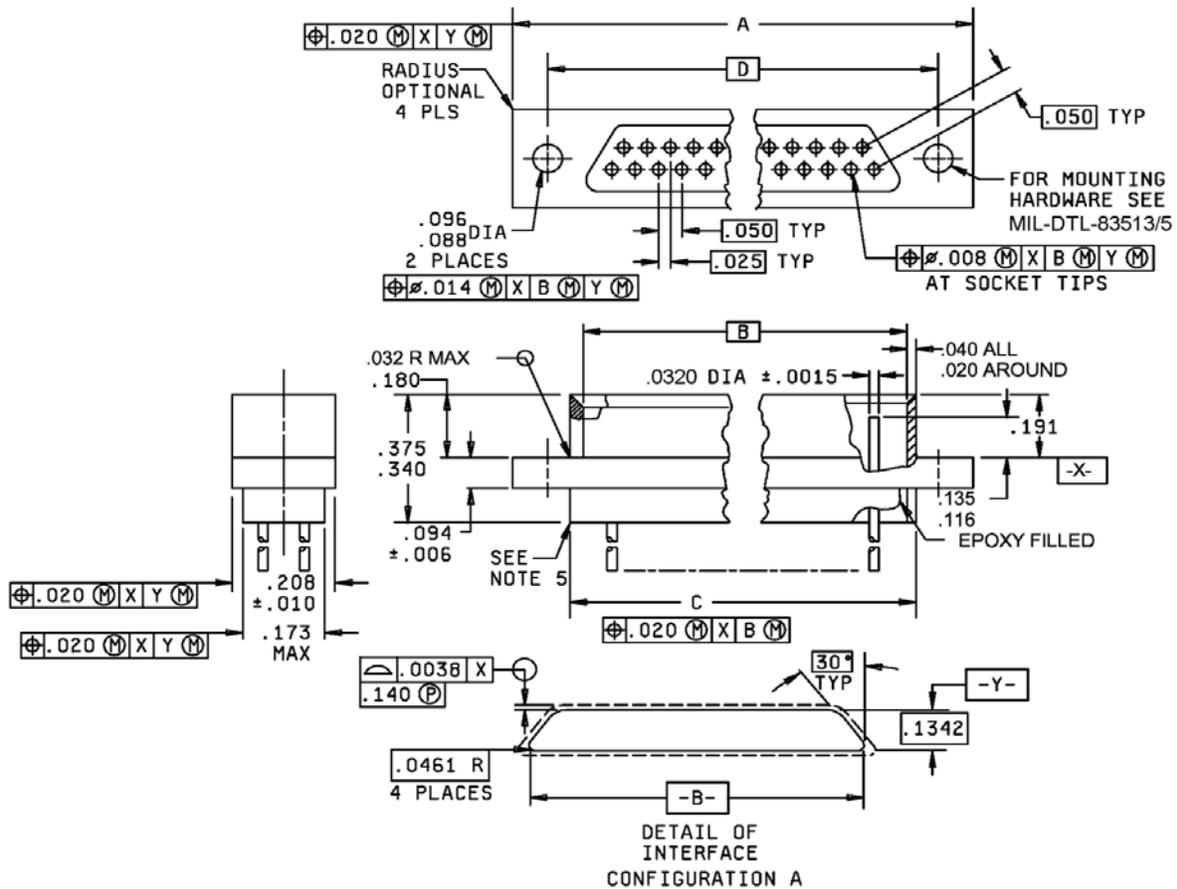


FIGURE 1. Connector, receptacle, .050 spacing.

AMSC N/A

FSC 5935





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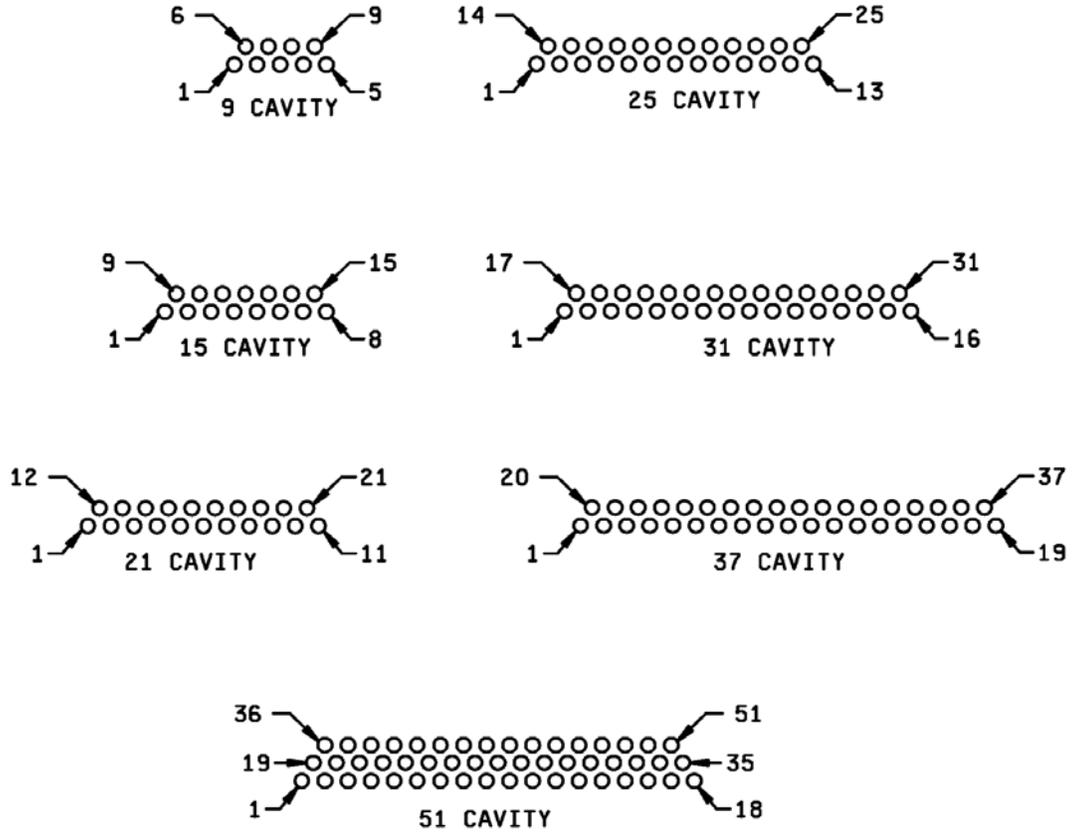
Number of cavities	A $\pm$ .010	B BSC	C $\pm$ .010 -.018	D BSC	Inches	mm
					.0015	0.038
	.0019	0.048				
9	.778 (19.76)	.2922 (7.422)	.398 (10.11)	.565 (14.35)	.002	0.05
					.0038	0.097
					.006	0.15
15	.928 (23.57)	.4422 (11.232)	.548 (13.92)	.715 (18.16)	.008	0.20
					.010	0.25
					.014	0.36
21	1.078 (27.38)	.5922 (15.042)	.698 (17.73)	.865 (21.97)	.020	0.51
					.025	0.64
					.027	0.69
25	1.178 (29.92)	.6922 (17.582)	.798 (20.27)	.965 (24.51)	.032	0.81
					.040	1.02
31	1.328 (33.73)	.8422 (21.392)	.948 (24.08)	1.115 (28.32)	.0461	1.171
					.047	1.19
					.050	1.27
37	1.478 (37.54)	.9922 (25.202)	1.098 (27.89)	1.265 (32.13)	.088	2.24
					.0886	2.250
					.093	2.36
51	1.428 (36.27)	.9422 (23.932)	1.048 (26.62)	1.215 (30.86)	.094	2.39
					.096	2.44
					.116	2.95
					.135	3.43
					.137	3.48
					.173	4.39
					.1772	4.501
					.180	4.57
					.208	5.28
					.220	5.59
					.250	6.35
					.340	8.64
					.375	9.53

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances are  $\pm$ .005 (0.13 mm).
4. Metric equivalents are in parentheses or columns.
5. Plane from which the lead length is measured.

FIGURE 1. Connector, receptacle, .050 spacing - Continued.

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NOTES:

1. Engaging face of socket insert shown.
2. Cavity identification numbers are for reference only and do not appear on part.

FIGURE 2. Insert arrangement.

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REQUIREMENTS:

Dimensions and configurations: See figure 1. This specification sheet describes the socket side of a rectangular, plastic shell connector. This connector uses reverse gender contact, i.e., the live pin recessed in the insulator with the static socket protruding from a shrouded interface.

Material and finish:

Shell: The requirements for shell materials shall be in accordance with MIL-DTL-83513.

Contact identification: See figure 2 for contact layout identification.

Contact connection: The pin contact (being recessed in the insulator) is normally connected to the live side of the circuit.

Current rating, maximum: 3 amperes per contact.

Mounting and mating hardware: Mounting hardware is to be ordered separately (see MIL-DTL-83513/5, configurations A and B).

Mating hardware torque: Mating hardware torque shall be in accordance with MIL-DTL-83513/5.

Mating plug: Mating plug in accordance with MIL-DTL-83513/6 or MIL-DTL-83513/8.

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Example of Part or Identifying Number (PIN):

M83513/09 -  
Specification sheet

A  
Insert  
(see figure 2)

- A = 9
- B = 15
- C = 21
- D = 25
- E = 31
- F = 37
- G = 51

01  
Wire  
type

Wire type 1/	Wire specification	Wire length (inches)	Notes
01 =	M22759/11-26-9	18	<u>2/</u>
02 =	M22759/11-26-9	36	<u>2/</u>
03 =	M22759/11-26-( )	18	<u>2/</u> , <u>3/</u>
04 =	M22759/11-26-( )	36	<u>2/</u> , <u>3/</u>
05 =	A-A-59551, type S, 25 AWG, gold plated 10 micro inches	0.5	<u>4/</u> , <u>5/</u>
06 =	A-A-59551, type S, 25 AWG, gold plated 10 micro inches	1.0	<u>4/</u> , <u>5/</u>
07 =	A-A-59551, type S, 25 AWG, tin plated 100 micro inches	0.5	<u>4/</u> , <u>5/</u> , <u>6/</u>
08 =	A-A-59551, type S, 25 AWG, tin plated 100 micro inches	1.0	<u>4/</u> , <u>5/</u> , <u>6/</u>
09 =	M22759/33-26-9	18	<u>2/</u>
10 =	M22759/33-26-9	36	<u>2/</u>
11 =	M22759/33-26-( )	18	<u>2/</u> , <u>3/</u>
12 =	M22759/33-26-( )	36	<u>2/</u> , <u>3/</u>
13 =	M22759/11-26-9	72	<u>2/</u>
14 =	M22759/11-26-( )	72	<u>2/</u> , <u>3/</u>
15 =	M22759/33-26-9	72	<u>2/</u>
16 =	M22759/33-26-( )	72	<u>2/</u> , <u>3/</u>
17 =	04035-26A-9	18	<u>2/</u>
18 =	04035-26A-9	36	<u>2/</u>
19 =	04035-26A-9	72	<u>2/</u>
20 =	04035-26A-( )	18	<u>2/</u> , <u>3/</u>
21 =	04035-26A-( )	36	<u>2/</u> , <u>3/</u>
22 =	04035-26A-( )	72	<u>2/</u> , <u>3/</u>

See notes at end of wire type.

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PIN – Continued.

Wire type 1/	Wire specification	Wire length (inches)	Notes
23 =	M22759/47-26-9	18	<u>2/</u>
24 =	M22759/47-26-9	36	<u>2/</u>
25 =	M22759/47-26-9	72	<u>2/</u>
26 =	M22759/47-26-( )	18	<u>2/</u> , <u>3/</u>
27 =	M22759/47-26-( )	36	<u>2/</u> , <u>3/</u>
28 =	M22759/47-26-( )	72	<u>2/</u> , <u>3/</u>
29 =	M22759/48-26-9	18	<u>2/</u>
30 =	M22759/48-26-9	36	<u>2/</u>
31 =	M22759/48-26-9	72	<u>2/</u>
32 =	M22759/48-26-( )	18	<u>2/</u> , <u>3/</u>
33 =	M22759/48-26-( )	36	<u>2/</u> , <u>3/</u>
34 =	M22759/48-26-( )	72	<u>2/</u> , <u>3/</u>
35 =	M22759/49-26-9	18	<u>2/</u>
36 =	M22759/49-26-9	36	<u>2/</u>
37 =	M22759/49-26-9	72	<u>2/</u>
38 =	M22759/49-26-( )	18	<u>2/</u> , <u>3/</u>
39 =	M22759/49-26-( )	36	<u>2/</u> , <u>3/</u>
40 =	M22759/49-26-( )	72	<u>2/</u> , <u>3/</u>
41 =	M22759/50-26-9	18	<u>2/</u>
42 =	M22759/50-26-9	36	<u>2/</u>
43 =	M22759/50-26-9	72	<u>2/</u>
44 =	M22759/50-26-( )	18	<u>2/</u> , <u>3/</u>
45 =	M22759/50-26-( )	36	<u>2/</u> , <u>3/</u>
46 =	M22759/50-26-( )	72	<u>2/</u> , <u>3/</u>

1/ These connectors have leads attached of which wire type, wire size, wire color, and lead length are specified in PIN.

2/ Lead length tolerance +1.0, -0.0 inch.

3/ Color coding in accordance with MIL-STD-681, system I, except the appropriate color code shall be the individual contact cavity number minus 1 for contact positions 1 through 10, repeat this color sequence for contact positions 11 through 20, etc. For example:

Pin number	Identification
4	3
9	8
21	0
31	0
47	6

4/ Lead length tolerance +0.2, -0.0 inch.

5/ Contact and wire may be welded or a single piece design.

6/ Pure tin. The use of pure tin is prohibited. Tin content used in connector materials shall not exceed 97 percent, and an alloy material shall be chosen to inhibit the growth of tin whiskers.

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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.

Referenced documents. In addition to MIL-DTL-83513, this document references the following:

A-A-59551  
MIL-DTL-83513/5  
MIL-DTL-83513/6  
MIL-DTL-83513/8  
MIL-STD-681

CONCLUDING MATERIAL

Custodians:

Army - CR  
Navy - EC  
Air Force - 85  
NASA - NA  
DLA - CC

Preparing activity:  
DLA - CC

(Project 5935-2016-124)

Review activities:

Army - AT, MI  
Navy - AS, CG, MC, SH  
Air Force - 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 <https://assist.dla.mil/>.