INCH-POUND
MIL-DTL-83513/10D
w/AMENDMENT 1
26 April 2017
SUPERSEDING
MIL-DTL-83513/10D
29 October 2008

DETAIL SPECIFICATION SHEET

CONNECTORS, ELECTRICAL, RECTANGULAR, PLUG, MICROMINIATURE, POLARIZED SHELL, RIGHT ANGLE, PIN CONTACTS, 2 ROW, SOLDER TYPE, NARROW PROFILE, 9 THROUGH 37 CONTACTS, PRINTED CIRCUIT BOARD

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.

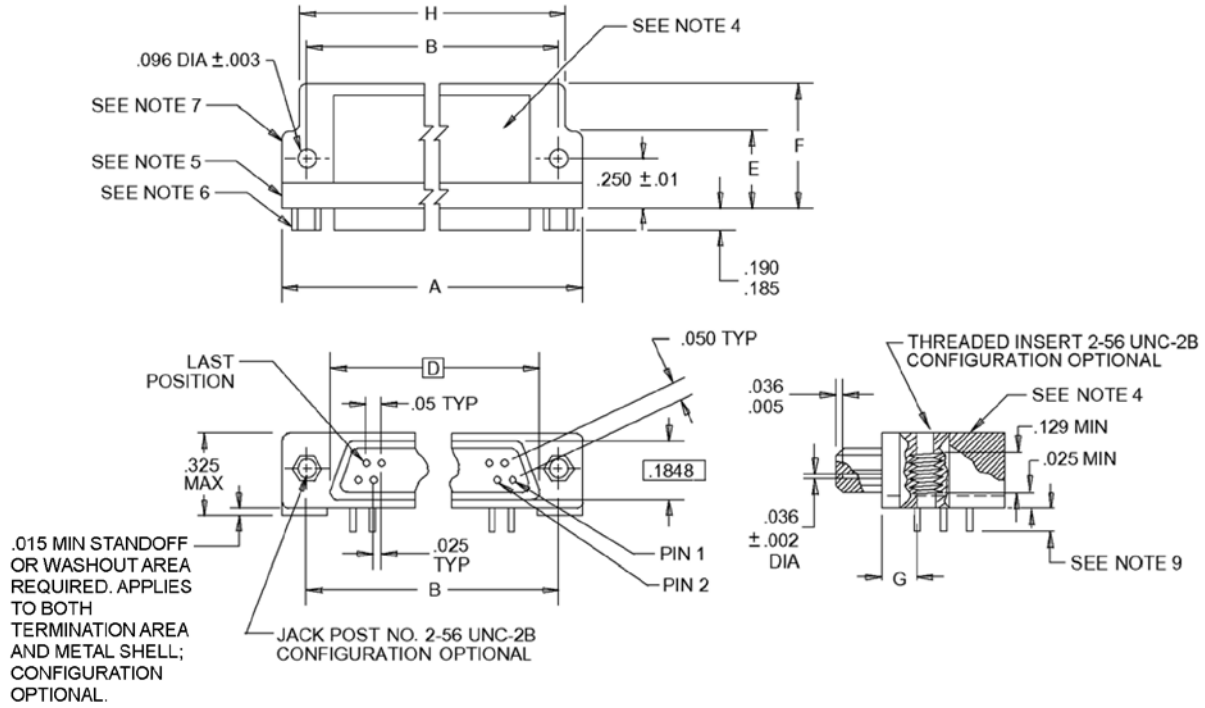
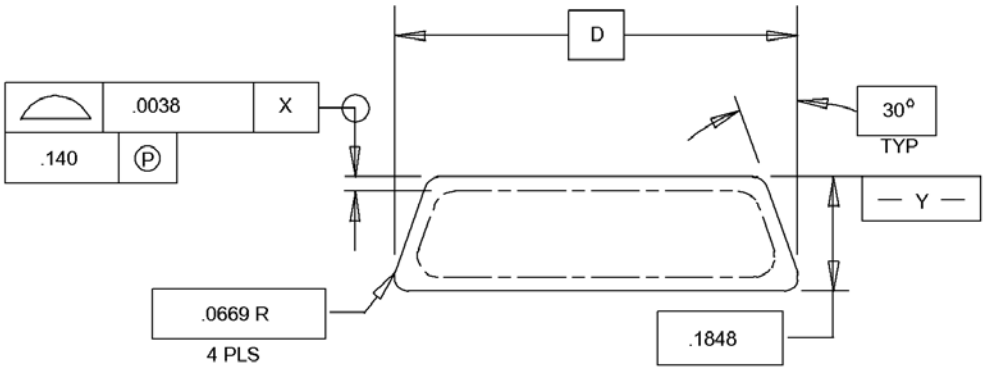


FIGURE 1. Connector, plug, .050 spacing.

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DETAIL OF INTERFACE

Inches	mm	Inches	mm
.002	0.05	.109	2.77
.003	0.08	.140	3.56
.0038	0.097	.1848	4.694
.010	0.25	.185	4.70
.015	0.38	.186	4.72
.036	0.91	.190	4.83
.050	1.27	.250	6.35
.0669	1.699	.325	8.26
.096	2.44		

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

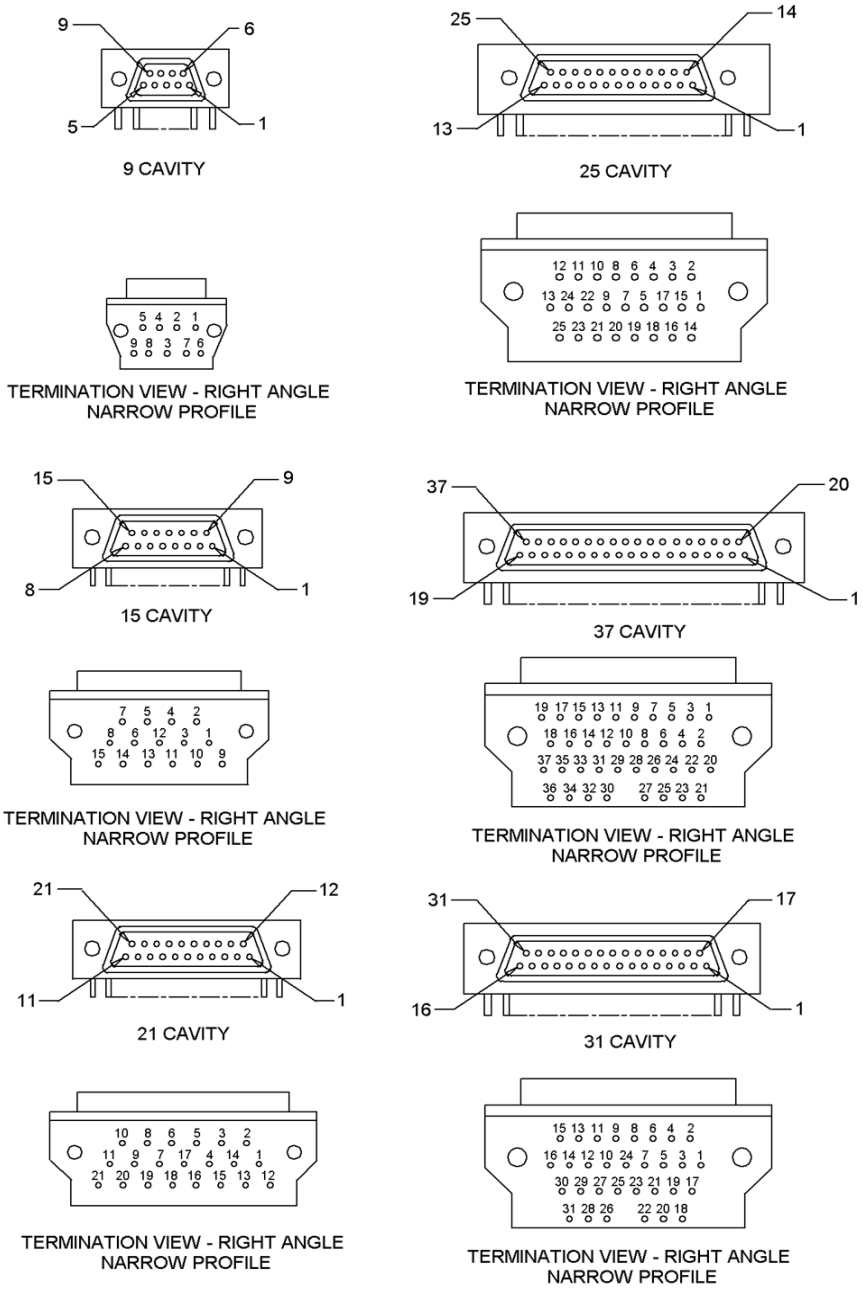
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Number of contacts	A Max	B ±.005	D	E Max	F Max	G ±.01	H Max
9	.787 (19.99)	.565 (14.35)	.3338 (8.48)	.425 (10.80)	.425 (10.80)	.230 (5.84)	.787 (19.99)
15	.937 (23.80)	.715 (18.16)	.4838 (12.29)	.425 (10.80)	.425 (10.80)	.130 (3.30)	.937 (23.80)
21	1.087 (27.61)	.865 (21.97)	.6338 (16.10)	.425 (10.80)	.425 (10.80)	.130 (3.30)	1.087 (27.61)
25	1.187 (30.15)	.965 (24.51)	.7338 (18.64)	.425 (10.80)	.425 (10.80)	.130 (3.30)	1.187 (30.15)
31	1.337 (33.96)	1.115 (28.32)	.8838 (22.45)	.450 (11.43)	.525 (13.34)	.130 (3.30)	1.090 (27.69)
37	1.487 (37.77)	1.265 (32.13)	1.0338 (26.26)	.450 (11.43)	.525 (13.34)	.130 (3.30)	1.190 (30.23)

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. Termination organization area to be optionally molded or filled with a potting fill material capable of passing the electrical and environmental requirements of MIL-DTL-83513. Plastic molding shall conform to type GDI-30F or type SDG-F in accordance with ASTM D5948 or GCT-30F in accordance with ASTM D5927 or MIL-M-24519 or GST-40F in accordance with ASTM D4067 or MIL-M-24519 or GLCP-30F or GLCP-50 in accordance with ASTM D5138 or MIL-M-24519.
5. Metal shell shall be of material in accordance with MIL-DTL-83513 for class M parts.
6. Jackpost (securely attached) when specified: Corrosion resistant steel in accordance with ASTM A484/A484M and ASTM A582/A582M, 300 series stainless steel, passivated in accordance with SAE-AMS-2700, type 2. Hardware will be attached in such a fashion as to not loosen during normal de-mating conditions, where as, the mating connector hardware does not exceed the following torque values: 2.5 inch pounds for #2-56 (arrangements A – G) and 4.5 inch pounds for #4-40 (arrangement H).
7. Separately molded plastic body (if used) shall conform to type GDI-30F or type SDG-F in accordance with ASTM D5948 or GCT-30F in accordance with ASTM D5927 or MIL-M-24519 or GST-40F in accordance with ASTM D4067 or MIL-M-24519 or GLCP-30F or GLCP-50 in accordance with ASTM D5138 or MIL-M-24519.
8. Wire termination pins shall conform to A-A-59551, number 24 AWG copper, except shall be tin-lead plated with a minimum of 3 percent lead.
9. Termination lengths available: .109 (2.77 mm), .140 (3.56 mm) or .172 (4.37 mm). The tolerance shall be ± .015 (0.381 mm) for all termination lengths.
10. Threaded insert, when specified: Corrosion resistant steel in accordance with ASTM A484/A484M and ASTM A582/A582M, 300 series stainless steel, passivated in accordance with SAE-AMS-2700, type 2.

FIGURE 1. Connector, plug, .050 spacing. – Continued.

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NOTE: Engaging face of pin insert shown, cavity identification numbers are for reference only and do not appear on the part.

FIGURE 2. Insert arrangement, termination view - right angle - narrow profile.

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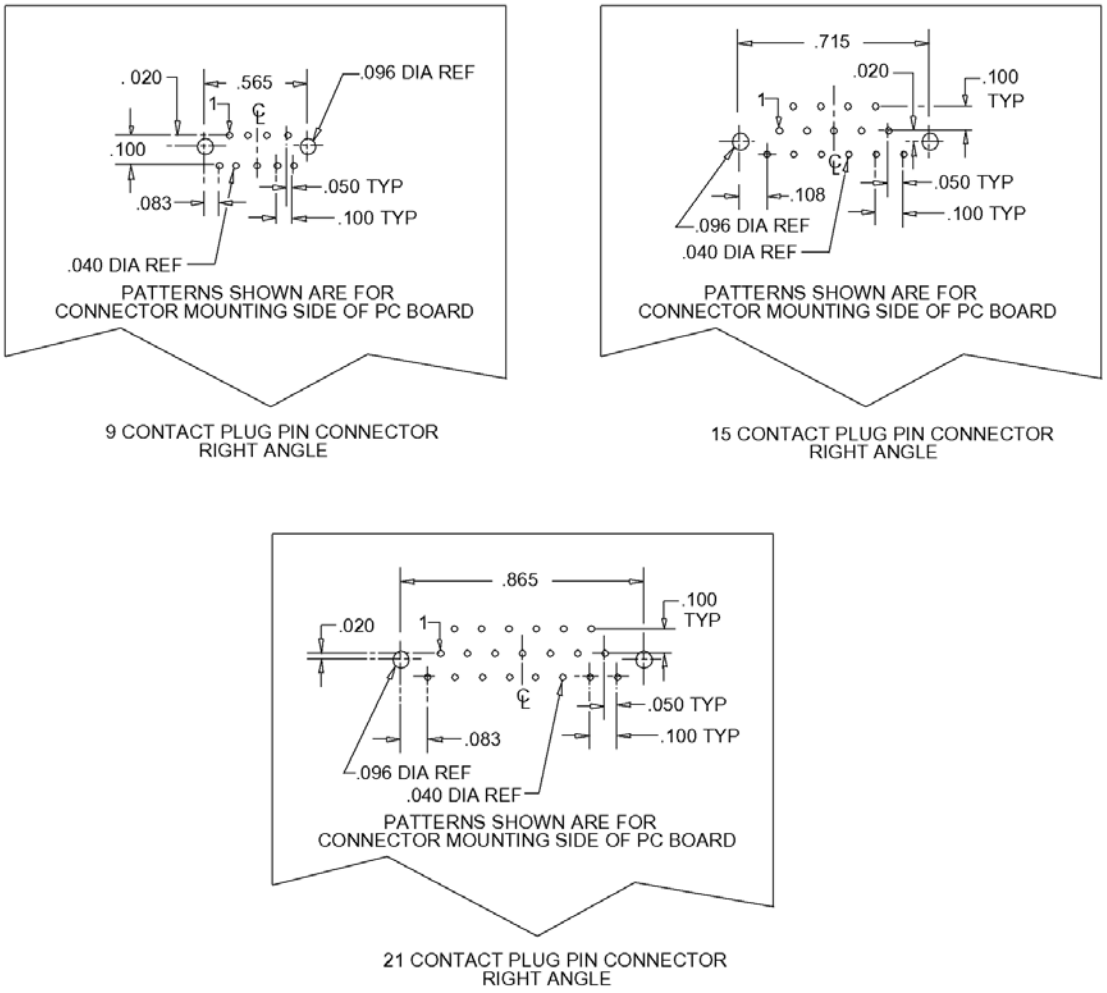
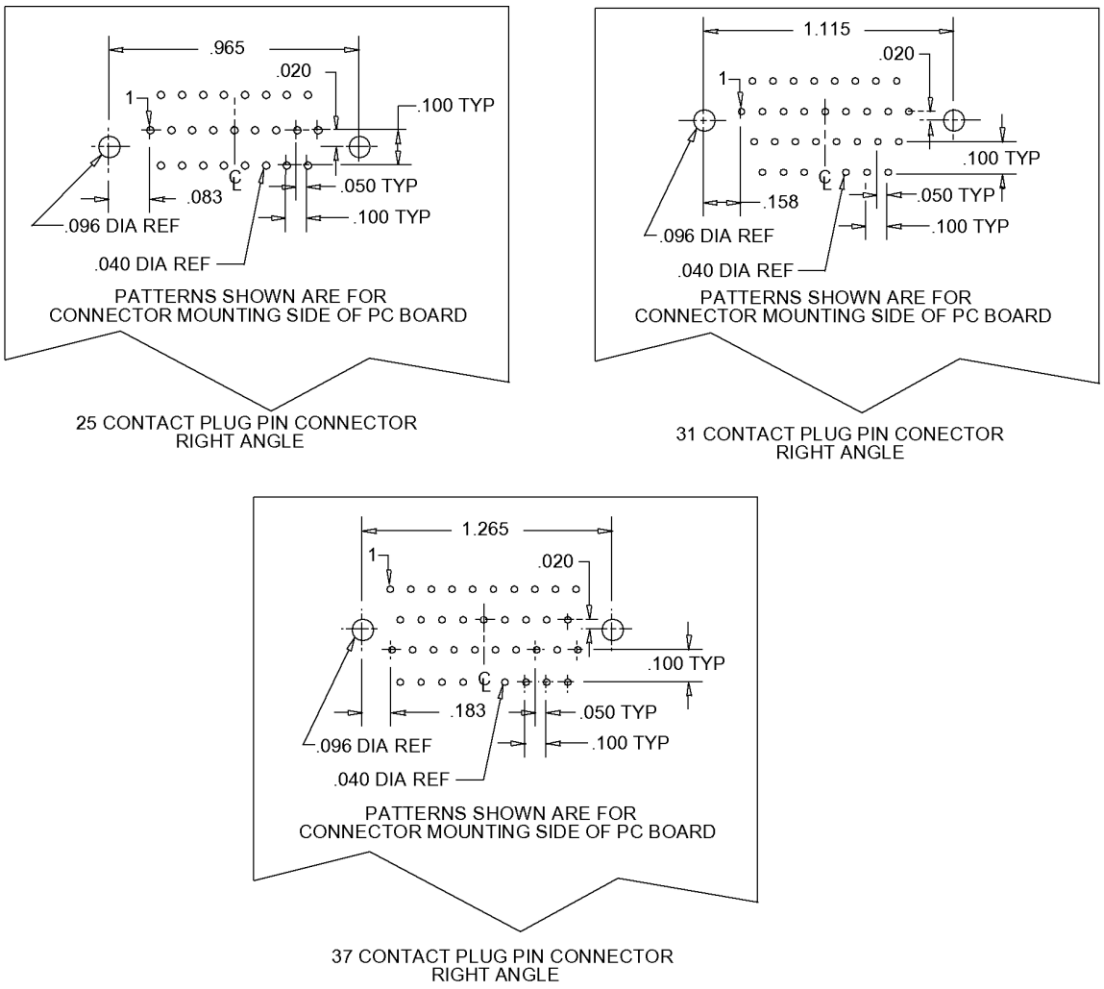


FIGURE 3. Layout arrangement.

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Inches	mm	Inches	mm
.020	0.51	.158	4.01
.040	1.02	.565	14.35
.050	1.27	.715	18.16
.083	2.11	.865	21.97
.096	2.44	.965	24.51
.100	2.54	1.115	28.32
.108	2.74	1.265	32.13

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances are ± .005 (0.13 mm).

FIGURE 3. Layout arrangement - Continued.

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REQUIREMENTS:

Dimensions and configurations: See figures 1, 2 and 3.

Current rating, maximum: 3 amperes per contact.

Materials:

Termination organization area: Potting fill material capable of passing the electrical and environmental requirements of MIL-DTL-83513.

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

Plastic body or plastic molding: Shall conform to the requirements of GDI-30F or type SDG-F in accordance with ASTM D5948 or GCT-30F in accordance with ASTM D5927 or MIL-M-24519 or GST-40F in accordance with ASTM D4067 or MIL-M-24519 or GLCP-30F or GLCP-50 in accordance with ASTM D5138 or MIL-M-24519.

Jackpost: Corrosion resistant steel in accordance with ASTM A484/A484M and ASTM A582/A582M, 300 series stainless steel, passivated in accordance with SAE-AMS-2700, type2.

Wire termination pins: Wire termination pins shall conform to A-A-59551, no. 24 AWG copper or shall be of a single piece contact with a tail of suitable conductive copper based alloys, except shall be tin-lead plated with a minimum of 3 percent lead.

Mating connector: Shall conform to MIL-DTL-83513/2 and MIL-DTL-83513/4.

Plating of termination leads: Solder dipping of termination leads will be accomplished in SN60 PB40 or SN63 PB37 in accordance with J-STD-006.

Part or Identifying Number (PIN): PIN shall consist of the letter M, the basic number of the specification sheet, a letter from the insert, a numerical code for the termination length, and a letter code for the shell finish and hardware column.

M83513/10-	D	01	A	P
Specification sheet number	Insert arrangements (see figure 2)	Termination length	Shell finish (interface critical)	Hardware
	A = 09 B = 15 C = 21 D = 25 E = 31 F = 37	01 = .109 02 = .140 03 = .172	A = Pure electrodeposited aluminum C = Cadmium K = Zinc nickel N = electroless nickel (space applications only) P = Passivated Stainless Steel T = Nickel fluorocarbon polymer	N = No hardware or threaded insert P = jackpost attach T = threaded insert W = jackpost and threaded insert

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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.

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

MIL-DTL-83513/2
MIL-DTL-83513/4
MIL-M-24519
ASTM A484/A484M
ASTM A582/A582M
ASTM D4067
ASTM D5138
ASTM D5927
ASTM D5948
A-A-59551
J-STD-006
SAE-AMS-2700

CONCLUDING MATERIAL

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

Preparing activity:
DLA - CC

(Project 5935-2017-034)

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.

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