

**INCH-POUND**

MIL-PRF-83513/13B

15 August 1997

SUPERSEDING

MIL-C-83513/13A

28 June 1993

**PERFORMANCE SPECIFICATION SHEET**

CONNECTORS, ELECTRICAL, RECTANGULAR, RECEPTACLE, MICROMINIATURE,  
POLARIZED SHELL, RIGHT ANGLE, SOCKET 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 and MIL-PRF-83513.

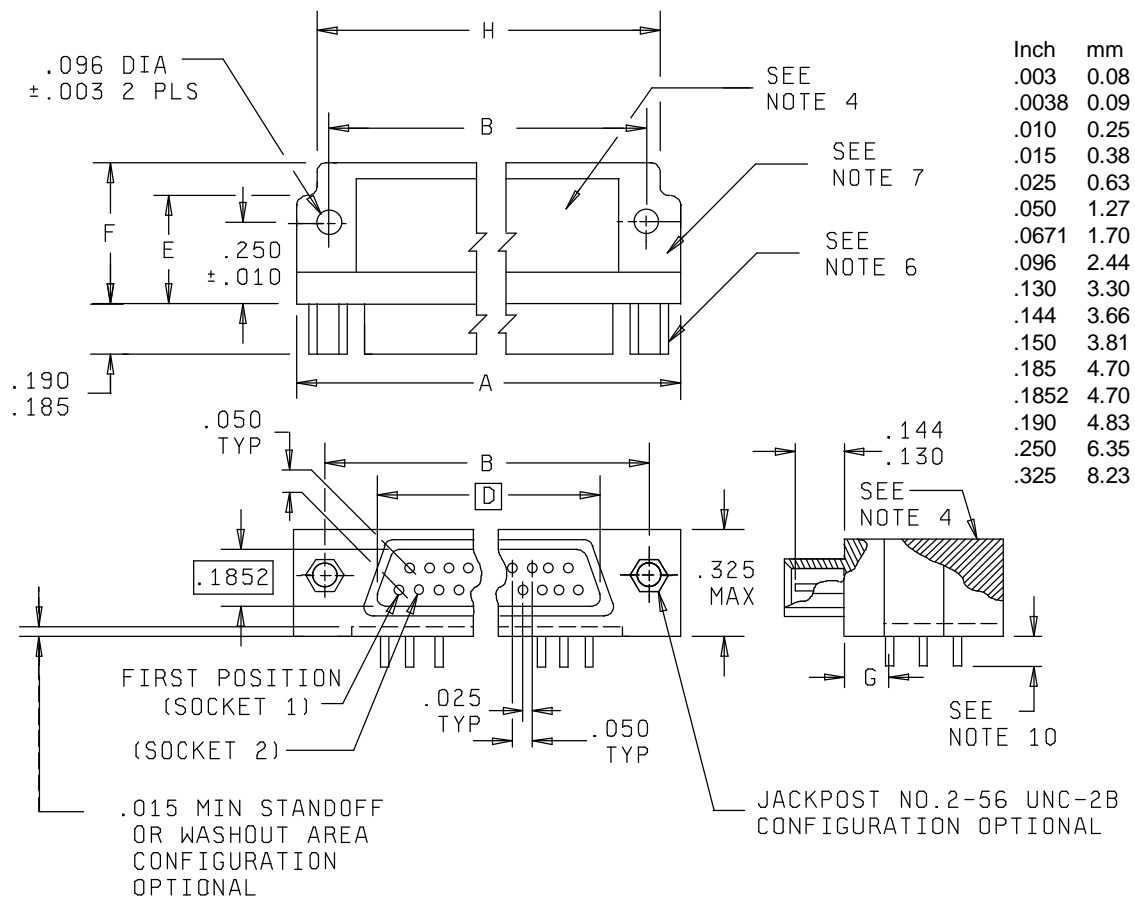


FIGURE 1. Connector, receptacle, .050 spacing.



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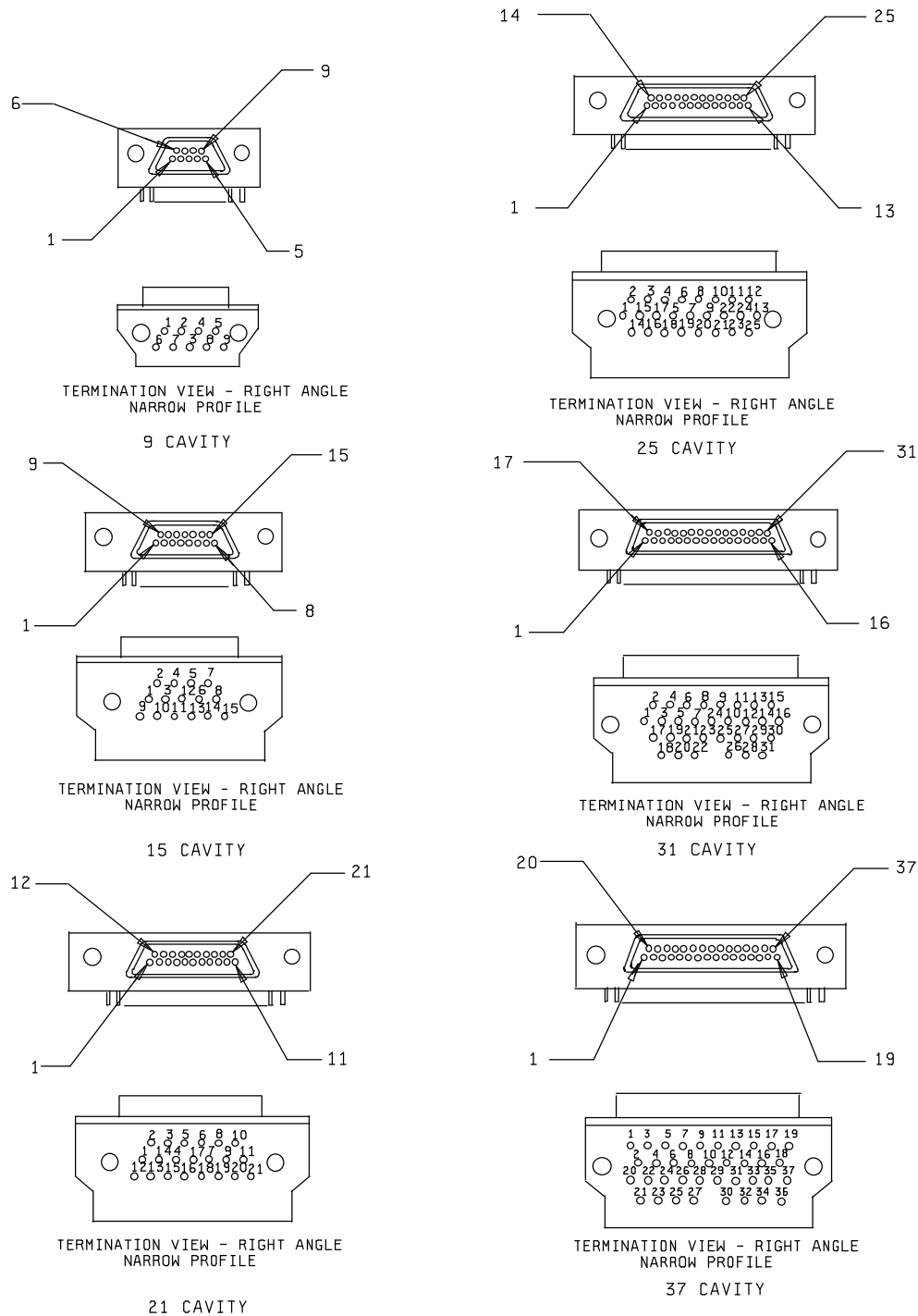
Number of contacts	A Max	B $\pm .005$	D	E Max	F Max	G $\pm .01$	H Max
9	.787 (19.99)	.565 (14.35)	.3342 (8.49)	.425 (10.80)	.425 (10.80)	.230 (5.84)	.787 (19.99)
15	.937 (23.80)	.715 (18.16)	.4842 (12.30)	.425 (10.80)	.425 (10.80)	.130 (3.30)	.937 (23.80)
21	1.087 (27.61)	.865 (21.97)	.6342 (16.11)	.425 (10.80)	.425 (10.80)	.130 (3.30)	1.087 (27.61)
25	1.187 (30.15)	.965 (24.51)	.7342 (18.65)	.425 (10.80)	.425 (10.80)	.130 (3.30)	1.187 (30.15)
31	1.337 (33.96)	1.115 (28.32)	.8842 (22.46)	.450 (11.43)	.525 (13.34)	.130 (3.30)	1.090 (27.69)
37	1.487 (37.77)	1.265 (32.13)	1.0342 (26.27)	.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  $\pm .005$  (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-PRF-83513. Plastic molding shall conform to the requirements of Diallyl phthalate or Thermoplastic polyphenylene sulfide or Thermoplastic polyester, glass reinforced liquid crystalline.
5. Metal shell shall be of material in accordance with MIL-PRF-83513 for class M parts.
6. Jackpost (permanently attached), when specified: Corrosion resistant steel in accordance with ASTM A 484 and ASTM A 582, 300 series stainless steel, passivated in accordance with ASTM A 967.
7. Separately molded plastic body (if used) shall conform to the requirements of Diallyl phthalate or Thermoplastic polyphenylene sulfide or Thermoplastic polyester, glass reinforced liquid crystalline.
8. Wire termination sockets shall conform to QQ-W-343, no. 24 AWG copper.
9. Interfacial seals are included with each type receptacle connector.
10. Termination lengths available: .109 (2.77 mm), .140 (3.56 mm), or .172 (4.37 mm). The tolerance shall be  $\pm .015$  (0.38 mm) for all termination lengths.

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

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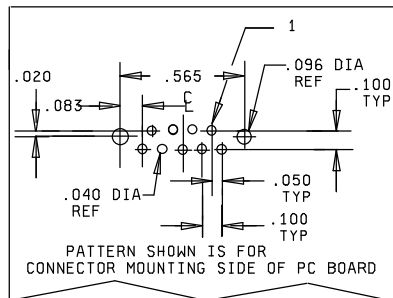


NOTE:

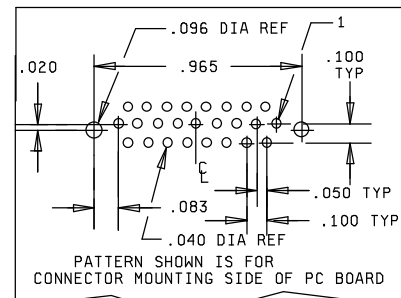
1. Engaging face of socket insert shown, cavity identification numbers are for reference only and do not appear on the part.

FIGURE 2. Insert arrangement.

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9 CONTACT SOCKET CONNECTOR  
RIGHT ANGLE



25 CONTACT SOCKET CONNECTOR  
RIGHT ANGLE

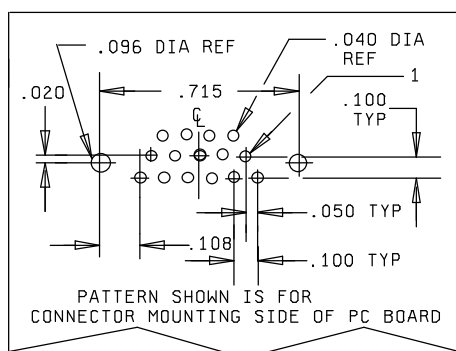
Inches	mm	Inches	mm	Inches	mm
.020	0.51	.100	2.54	.715	18.16
.040	1.02	.108	2.74	.865	21.97
.050	1.27	.158	4.01	.965	24.51
.083	2.11	.183	4.65	1.115	28.32
.096	2.44	.565	14.35	1.265	32.13

## NOTES

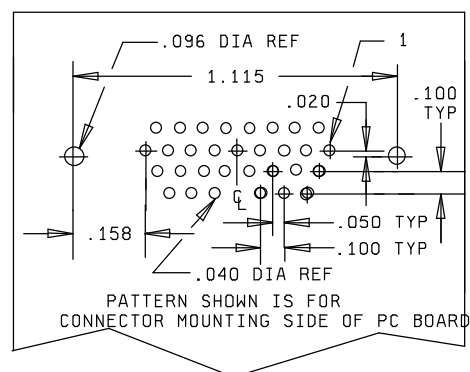
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is  $\pm 0.005$  (0.13 mm) on decimals.

FIGURE 3. Layout arrangement.

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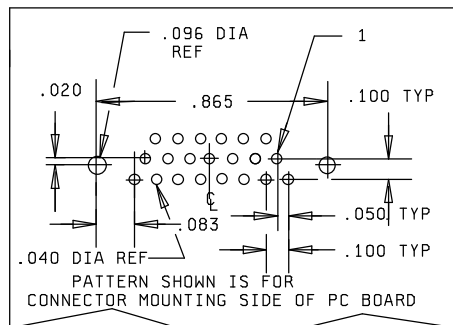
15 CONTACT SOCKET CONNECTOR  
RIGHT ANGLE



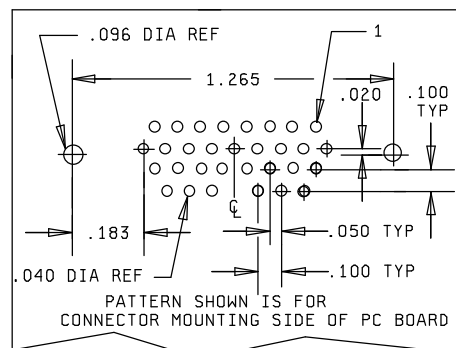
31 CONTACT SOCKET CONNECTOR  
RIGHT ANGLE

FIGURE 3. Layout arrangement - Continued.

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21 CONTACT SOCKET CONNECTOR  
RIGHT ANGLE



37 CONTACT SOCKET CONNECTOR  
RIGHT ANGLE

FIGURE 3. Layout arrangement - Continued.

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## REQUIREMENTS:

Dimensions and configurations: See figures 1 and 2.

Current rating, maximum: 3 amperes per contact.

## Materials:

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

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

Plastic body or plastic molding: Shall conform to the requirements of Diallyl phthalate or Thermoplastic polyphenylene sulfide or Thermoplastic polyester, glass reinforced liquid crystalline.

Jackpost: Corrosion resistant steel in accordance with ASTM A 484 and ASTM A 582, 300 series stainless steel, passivated in accordance with ASTM A 967.

Wire termination pins: Wire termination pins shall conform to QQ-W-343, no. 24 AWG copper.

Mating connector: Shall conform to MIL-PRF-83513/1 and MIL-PRF-83513/3.

Plating of termination leads: Solder dipping socket of termination leads will be accomplished in SN60 Pb40 or SN63 Pb37 in accordance with J-STD-006.

Part or Identification Number: The 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.

<u>M83513/13-</u>	<u>D</u>	<u>01</u>	<u>C</u>	<u>P</u>
Specification sheet number	Insert arrangements (see figure 2)	Termination length	Shell finish (Interface critical)	Hardware
	A=09	01=.109	C = cadmium	N = no jackpost
	B=15	02=.140	N = electroless nickel	P = jackpost attached
	C=21	03=.172	(space application)	
	D=25			
	E=31			
	F=37			

## CONCLUDING MATERIAL

## Custodians:

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

## Preparing activity:

DLA - CC

## Review activities:

Army - AT, MI  
Navy - AS, CG, MC, SH  
Air Force - 17, 99

(Project: 5935-4087-12)