

INCH-POUND

MIL-DTL-55302/91F
8 October 2010
SUPERSEDING
MIL-DTL-55302/91E
18 February 2005

DETAIL SPECIFICATION SHEET

CONNECTORS, PRINTED CIRCUIT SUBASSEMBLY AND ACCESSORIES:
PLUG, STRAIGHT-THRU, HERMAPHRODITIC CONTACTS (.100 INCH 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.

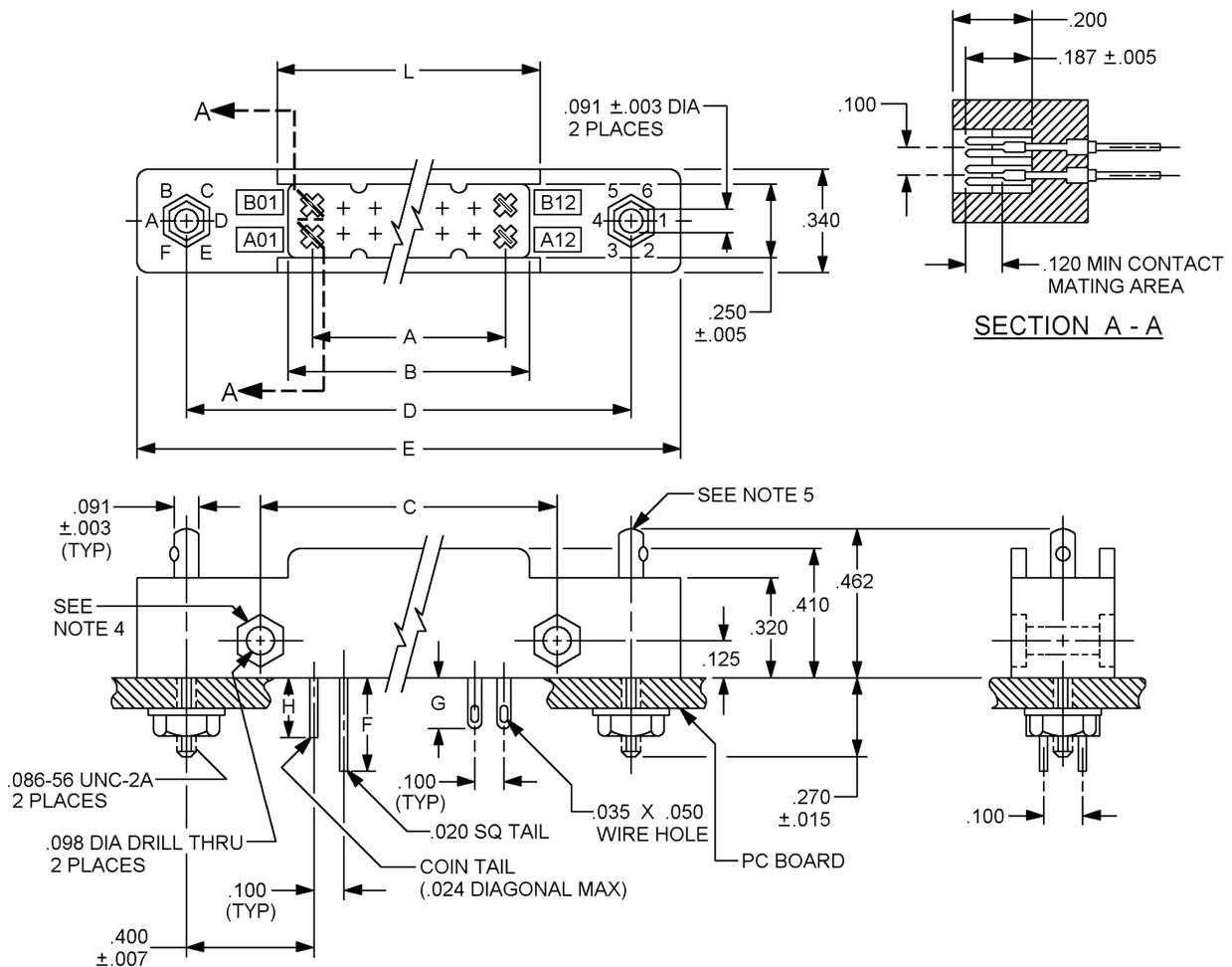
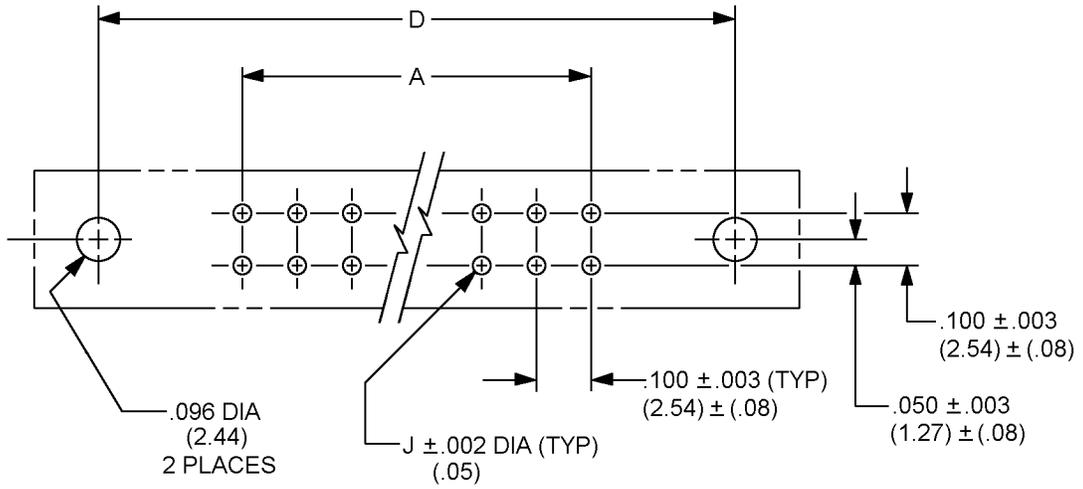
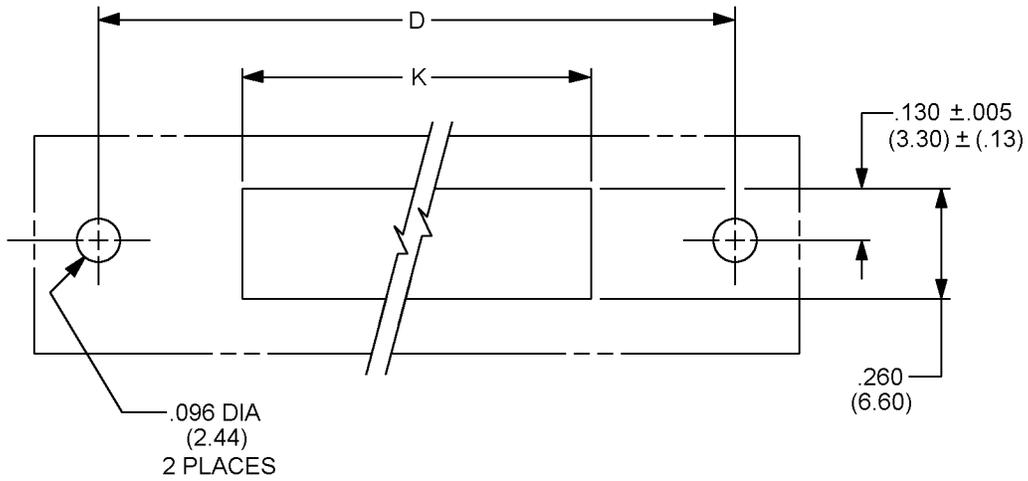


FIGURE 1. Connector, plug (.100 inch spacing).

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TYPICAL HOLE GRID LAYOUT USING P.C. TAIL CONTACT



TYPICAL HOLE CUTOUT USING WIRE HOLE CONTACT

FIGURE 1. Connector, plug (.100 inch spacing) – Continued.

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Inches	mm	Inches	mm	Inches	mm	Inches	mm
.003	0.08	.032	0.81	.100	2.54	.270	6.86
.005	0.13	.070	1.78	.125	3.18	.320	8.13
.015	0.38	.086	2.18	.187	4.75	.340	8.64
.020	0.51	.091	2.31	.200	5.08	.410	10.41
.024	0.61	.098	2.49	.250	6.35	.462	11.83

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances are $\pm .010$ (0.25 mm).
4. Dimensions are .162 (4.11 mm) hex across the flats by .052 deep (1.32 mm) – 4 places.
5. Keying sockets shown are in positions 1 and A.

FIGURE 1. Connector receptacle (.100 inch spacing) – Continued.

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TABLE I. Dimensions. 1/

Dash number	Contacts	Dimensions										
		A ±.006 (0.15)	B ±.006 (0.15)	C ±.006 (0.15)	D ±.006 (0.15)	E	F ±.015 (0.38)	G ±.015 (0.38)	H ±.015 (0.38)	J	K	L ±.006 (0.15)
01 <u>2/</u>	24	1.100 (27.94)	1.250 (31.75)	1.400 (35.56)	1.900 (48.26)	2.200 (55.88)	-	-	.400 (10.16)	.026 (0.66)	1.260 (32.00)	1.252 (31.80)
02 <u>3/</u>							-	.162 (4.11)	-	-		
03 <u>4/</u>							.103 (2.62)	-	-	.032 (0.81)		
04 <u>4/</u>							.228 (5.79)	-	-	.032 (0.81)		
05 <u>4/</u>							.259 (6.58)	-	-	.032 (0.81)		
06 <u>4/</u>							.462 (11.73)	-	-	.032 (0.81)		
07 <u>4/</u>							.541 (13.74)	-	-	.032 (0.81)		
29 <u>2/</u>							-	-	.279 (7.09)	.026 (0.66)		
30 <u>2/</u>							-	-	.309 (7.85)	.026 (0.66)		
31 <u>2/</u>							-	-	.341 (8.66)	.026 (0.66)		
32 <u>2/</u>							-	-	.479 (12.17)	.026 (0.66)		
33 <u>2/</u>							-	-	.509 (12.93)	.026 (0.66)		
34 <u>2/</u>							-	-	.541 (13.74)	.026 (0.66)		
08 <u>2/</u>							48	2.300 (58.42)	2.450 (62.23)	2.600 (66.04)		
09 <u>3/</u>	-	.162 (4.11)	-	-								
10 <u>4/</u>	.103 (2.62)	-	-	.032 (0.81)								
11 <u>4/</u>	.228 (5.79)	-	-	.032 (0.81)								
12 <u>4/</u>	.259 (6.58)	-	-	.032 (0.81)								
13 <u>4/</u>	.462 (11.73)	-	-	.032 (0.81)								
14 <u>4/</u>	.541 (13.74)	-	-	.032 (0.81)								
35 <u>2/</u>	-	-	.279 (7.09)	.026 (0.66)								
36 <u>2/</u>	-	-	.309 (7.85)	.026 (0.66)								
37 <u>2/</u>	-	-	.341 (8.66)	.026 (0.66)								
38 <u>2/</u>	-	-	.479 (12.17)	.026 (0.66)								
39 <u>2/</u>	-	-	.509 (12.93)	.026 (0.66)								
40 <u>2/</u>	-	-	.541 (13.74)	.026 (0.66)								

See footnotes at the end of the table.

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TABLE I. Dimensions – Continued. 1/

Dash number	Contacts	Dimensions										
		A ±.006 (0.15)	B ±.006 (0.15)	C ±.006 (0.15)	D ±.006 (0.15)	E	F ±.015 (0.38)	G ±.015 (0.38)	H ±.015 (0.38)	J	K	L ±.006 (0.15)
15 <u>2/</u>	72	3.500 (88.90)	3.650 (92.71)	3.800 (96.52)	4.300 (109.22)	4.600 (116.84)	-	-	.400 (10.16)	.026 (0.66)	3.660 (92.96)	3.652 (92.76)
16 <u>3/</u>							-	.162 (4.11)	-	-		
17 <u>4/</u>							.103 (2.62)	-	-	.032 (0.81)		
18 <u>4/</u>							.228 (5.79)	-	-	.032 (0.81)		
19 <u>4/</u>							.259 (6.58)	-	-	.032 (0.81)		
20 <u>4/</u>							.462 (11.73)	-	-	.032 (0.81)		
21 <u>4/</u>							.541 (13.74)	-	-	.032 (0.81)		
41 <u>2/</u>							-	-	.279 (7.09)	.026 (0.66)		
42 <u>2/</u>							-	-	.309 (7.85)	.026 (0.66)		
43 <u>2/</u>							-	-	.341 (8.66)	.026 (0.66)		
44 <u>2/</u>							-	-	.479 (12.17)	.026 (0.66)		
45 <u>2/</u>							-	-	.509 (12.93)	.026 (0.66)		
46 <u>2/</u>							-	-	.541 (13.74)	.026 (0.66)		
22 <u>2/</u>							96	4.700 (119.38)	4.850 (123.19)	5.000 (127.00)		
23 <u>3/</u>	-	.162 (4.11)	-	-								
24 <u>4/</u>	.103 (2.62)	-	-	.032 (0.81)								
25 <u>4/</u>	.228 (5.79)	-	-	.032 (0.81)								
26 <u>4/</u>	.259 (6.58)	-	-	.032 (0.81)								
27 <u>4/</u>	.462 (11.73)	-	-	.032 (0.81)								
28 <u>4/</u>	.541 (13.74)	-	-	.032 (0.81)								
47 <u>2/</u>	-	-	.279 (7.09)	.026 (0.66)								
48 <u>2/</u>	-	-	.309 (7.85)	.026 (0.66)								
49 <u>2/</u>	-	-	.341 (8.66)	.026 (0.66)								
50 <u>2/</u>	-	-	.479 (12.17)	.026 (0.66)								
51 <u>2/</u>	-	-	.509 (12.93)	.026 (0.66)								
52 <u>2/</u>	-	-	.541 (13.74)	.026 (0.66)								

1/ Dimensions are in inches. Metric equalvents are given for information only.

2/ Contact termination type - .024 diagonal post.

3/ Contact termination type – wire hole.

4/ Contact termination type - .020 square post.

REQUIREMENTS

Dimensions and configurations: See figure 1 and table I.

Material and finish:

Contact: 0.020 inch thick phosphor bronze in accordance with ASTM B139/B139M, composition "A". Gold plate in accordance with ASTM B488, type II, code D, class 1.27, over nickel plating in accordance with SAE-AMS-QQ-N-290, class 2, 30 to 100 microinches.

Insulator: ASTM D5948, type SDG-F.

Keying hardware: 2 each hex nuts and washers, stainless steel, class 300 in accordance with ASTM A582/A582M, passivated in accordance with SAE-AMS2700, and 2 each keying pins, free machining brass in accordance with ASTM B16/B16M, UNS C36000 or ASTM B121/B121M, UNS C35300 or C34200 or ASTM B124/B124M, UNS C37700 or ASTM B36/B36M UNS C23000 or C24000 or C26000 or C26800, nickel plated in accordance with SAE-AMS-QQ-N-290. For direct government procurement the keying hardware shall be assembled to the connector. For other orders the keying hardware may be furnished loose as specified in contract or order.

Contact identification: The first and last contact in each row shall be identified by an alphabetical-numerical code (e.g., A01, B12). The letter designates the row and the number designates the contact position within that row. Every fifth contact in each row shall have its identification mark molded in.

Contact retention: 6 pounds.

Mating and unmating: The maximum insertion force, in pounds, shall not exceed a value equal to .5 times the number of contacts, and the withdrawal force, in pounds, shall be a minimum of .11 times the number of contacts and shall not exceed the measured insertion force.

Contact separation force: 1 ounce minimum.

Contact resistance: The contact resistance shall not exceed 20 milliohms.

Dielectric withstanding voltage:

Sea level: 1,000 volts rms, 60 Hz.

High altitude: 300 volts rms, 60Hz.

Current rating, maximum: 5 amperes.

Keying pin: When required, can be easily keyed to the desired positions by using a standard type wrench. Connectors are supplied with keying sockets in "1" and "A" positions.

Mating connectors: Shall conform to MIL-DTL-55302/90 and MIL-DTL-55302/92, or MIL-DTL-55302/94 and MIL-DTL-55302/96.

Part or Identifying Number (PIN): M55302/91-(dash number from figure 1).

Group submission: MIL-DTL-55302/89, MIL-DTL-55302/92, and MIL-DTL-55302/95.

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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.

Sample size: 6 connectors shall be subjected to the FAT. All sample units shall be subjected to the inspections in subgroup I. The sample units shall be divided equally into 3 groups of 2 and subjected to the inspection for their particular subgroups. Contacts shall be tested as specified in subgroup 4A or 4B as applicable.

Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue 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 and relationship to the last previous issue.

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

MIL-DTL-55302/89	ASTM B16/B16M	SAE-AMS-QQ-N-290
MIL-DTL-55302/90	ASTM B121/B121M	SAE-AMS2700
MIL-DTL-55302/92	ASTM B124/B124M	
MIL-DTL-55302/94	ASTM B139/B139M	
MIL-DTL-55302/95	ASTM B36/B36M	
MIL-DTL-55302/96	ASTM B488	
ASTM A582/A582M	ASTM D5948	

CONCLUDING MATERIAL

Custodians:
Army – CR
DLA – CC

Preparing activity:
DLA - CC

(Project 5935-2010-063)

Review activities:
Army – AR, AT, AV, CR4, MI

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.daps.dla.mil/>.