

INCH-POUND

MIL-DTL-55302/89E  
w/AMENDMENT 1

12 September 2012

SUPERSEDING

MIL-DTL-55302/89E

18 May 2006

DETAIL SPECIFICATION SHEET

CONNECTORS, PRINTED CIRCUIT SUBASSEMBLY AND ACCESSORIES:  
PLUG, RIGHT ANGLE, HERMAPHRODITIC CONTACTS (.100 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.

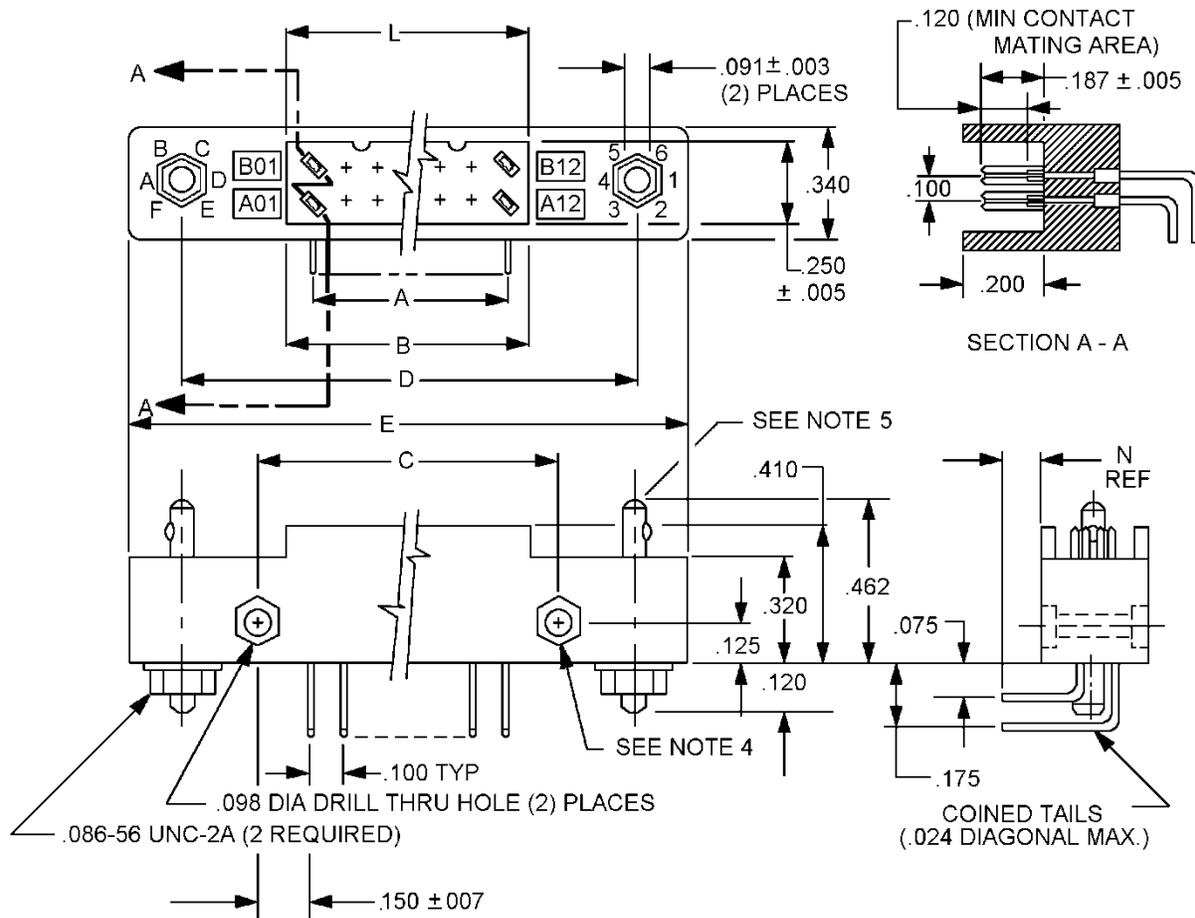


FIGURE 1. Connectors, plug (.100 spacing).

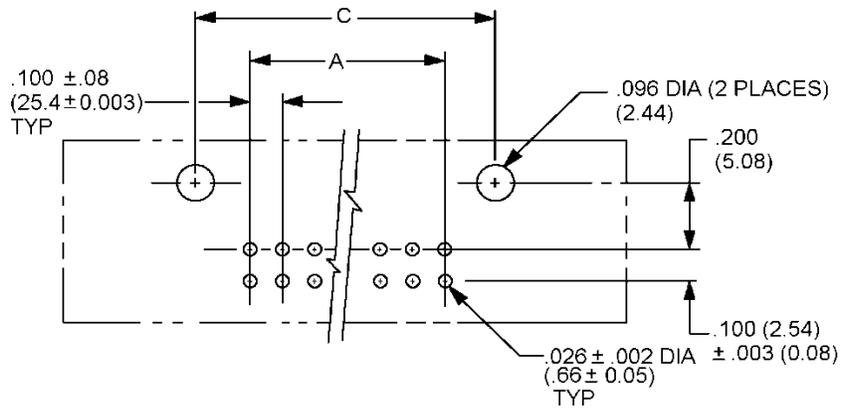
MIL-DTL-55302/89E  
w/AMENDMENT 1

Inches	mm	Inches	mm	Inches	mm	Inches	mm
.003	0.08	.091	2.31	.175	4.45	.320	8.13
.005	0.13	.098	2.49	.187	4.75	.340	8.64
.024	0.61	.100	2.54	.200	5.08	.410	10.41
.075	1.91	.120	3.05	.250	6.35	.462	11.73
.086	2.18	.125	3.18				

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 (4.115 mm) hex across the flats by .052 (1.32 mm) deep.
5. Keying pins shown are in positions 1 and A.

FIGURE 1. Connectors, plug (.100 spacing) - Continued.



NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.

FIGURE 2. Typical hole layout.

TABLE I. Dimensions for .054 to .070 thick printed circuit board. 1/ 2/

Dash Number	Number of contacts	A $\pm .006$ (0.15)	B $\pm .006$ (0.15)	C $\pm .006$ (0.15)	D $\pm .006$ (0.15)	E $\pm .006$ (0.15)	L $\pm .006$ (0.15)	N Ref
01	24	1.100 (27.94)	1.250 (31.75)	1.400 (35.56)	1.900 (48.26)	2.200 (55.88)	1.252 (31.80)	.110 (2.79)
02	48	2.300 (58.42)	2.450 (62.23)	2.600 (66.04)	3.100 (78.74)	3.400 (86.36)	2.452 (62.28)	
03	72	3.500 (88.90)	3.650 (92.71)	3.800 (96.52)	4.300 (109.22)	4.600 (116.84)	3.652 (92.76)	
04	96	4.700 (119.38)	4.850 (123.19)	5.000 (127.00)	5.500 (139.70)	5.800 (147.32)	4.852 (123.24)	

1/ Dimensions are in inches.

2/ Metric equivalents are given for information only.

MIL-DTL-55302/89E  
w/AMENDMENT 1

TABLE II. Dimensions for .084 to .103 thick printed circuit board. 1/ 2/

Dash Number	Number of contacts	A ±.006 (0.15)	B ±.006 (0.15)	C ±.006 (0.15)	D ±.006 (0.15)	E ±.006 (0.15)	L ±.006 (0.15)	N Ref
05	24	1.100 (27.94)	1.250 (31.75)	1.400 (35.56)	1.900 (48.26)	2.200 (55.88)	1.252 (31.80)	.123 (3.12)
06	48	2.300 (58.42)	2.450 (62.23)	2.600 (66.04)	3.100 (78.74)	3.400 (86.36)	2.452 (62.28)	
07	72	3.500 (88.90)	3.650 (92.71)	3.800 (96.52)	4.300 (109.22)	4.600 (116.84)	3.652 (92.76)	
08	96	4.700 (119.38)	4.850 (123.19)	5.000 (127.00)	5.500 (139.70)	5.800 (147.32)	4.852 (123.24)	

1/ Dimensions are in inches.

2/ Metric equivalents are given for information only.

TABLE III. Dimensions for .115 to .135 thick printed circuit board. 1/ 2/

Dash Number	Number of contacts	A ±.006 (0.15)	B ±.006 (0.15)	C ±.006 (0.15)	D ±.006 (0.15)	E ±.006 (0.15)	L ±.006 (0.15)	N Ref
09	24	1.100 (27.94)	1.250 (31.75)	1.400 (35.56)	1.900 (48.26)	2.200 (55.88)	1.252 (31.80)	.156 (3.96)
10	48	2.300 (58.42)	2.450 (62.23)	2.600 (66.04)	3.100 (78.74)	3.400 (86.36)	2.452 (62.28)	
11	72	3.500 (88.90)	3.650 (92.71)	3.800 (96.52)	4.300 (109.22)	4.600 (116.84)	3.652 (92.76)	
12	96	4.700 (119.38)	4.850 (123.19)	5.000 (127.00)	5.500 (139.70)	5.800 (147.32)	4.852 (123.24)	

1/ Dimensions are in inches.

2/ Metric equivalents are given for information only.

REQUIREMENTS:

Design and construction:

Dimensions and configuration: See figures 1 and 2 and tables I, II and III.

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: See ASTM D5948, type SDG-F.

MIL-DTL-55302/89E  
w/AMENDMENT 1

Keying hardware: 2 each hex nuts and washers, stainless steel, class 300 in accordance with ASTM A484/A484M and 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, 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 may be furnished loose as specified in the contract or order.

Mounting hardware: 2 each machine screws 2-56, 0.5 inches long, 2 flat washers, and 2 hex nuts of corrosion resistant steel, shall be furnished in a bag within the connector package for direct government orders. For other orders, the mounting hardware may be furnished loose as specified in the 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, 60 Hz.

Current rating: 5 amperes, maximum.

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

Mating connectors: Shall be in accordance with MIL-DTL-55302/90 and MIL-DTL-55302/92 or MIL-DTL-55302/94 and MIL-DTL-55302/96.

Part or Identifying Number (PIN): M55302/89-(dash number from table I, II or III).

Group submission: MIL-DTL-55302/91, MIL-DTL-55302/93, MIL-DTL-55302/95.

MIL-DTL-55302/89E  
w/AMENDMENT 1

Qualification: Qualification is not required for this specification sheet.

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

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-55302/90  
MIL-DTL-55302/91  
MIL-DTL-55302/92  
MIL-DTL-55302/93  
MIL-DTL-55302/94  
MIL-DTL-55302/95  
MIL-DTL-55302/96  
ASTM A484/A484M  
ASTM A582/A582M  
ASTM B16/B16M  
ASTM B139/B139M  
ASTM B488  
ASTM D5948  
SAE AMS-QQ-N-290  
SAE AMS2700

CONCLUDING MATERIAL

Custodians:  
Army - CR  
Air Force - 85  
DLA - CC

Preparing activity:  
DLA - CC  
  
(Project 5935-2012-135)

Review activities:  
Army - AR, AT, AV, CR4, MI  
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>.