

INCH-POUND

MIL-DTL-55302/102E  
w/AMENDMENT 1  
12 September 2012  
SUPERSEDING  
MIL-DTL-55302/102E  
22 May 2006

DETAIL SPECIFICATION SHEET

CONNECTORS, PRINTED CIRCUIT SUBASSEMBLY AND ACCESSORIES:  
RECEPTACLE, STRAIGHT-THRU, HERMAPHRODITIC CONTACT,  
CRIMP REMOVABLE, FOR PRINTED WIRING BOARDS (.100 INCH SPACING)

Inactive for new design after 24 October 1991.

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.

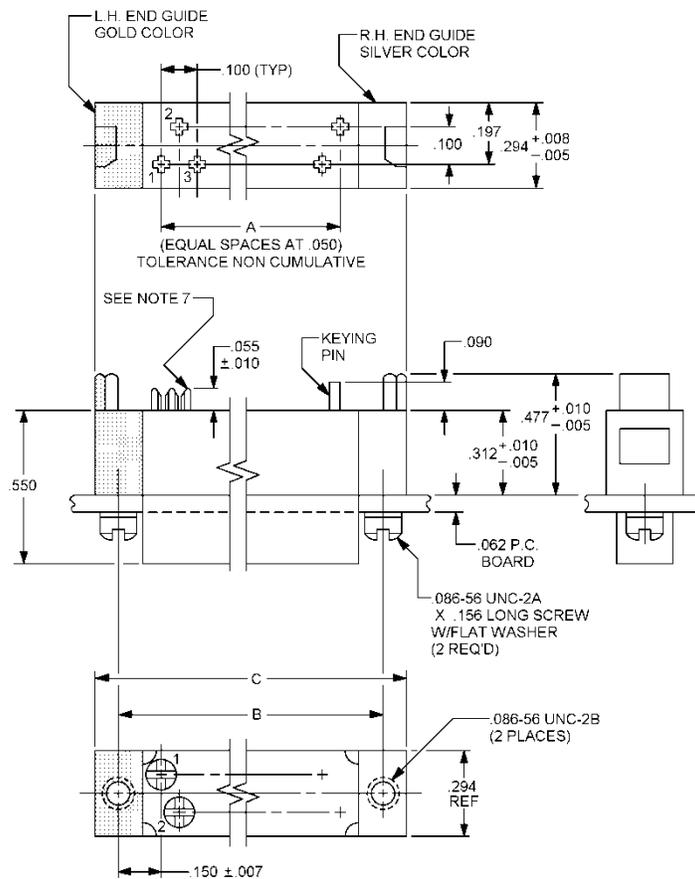


FIGURE 1. Connectors, receptacle, .100 (2.54 mm) spacing.

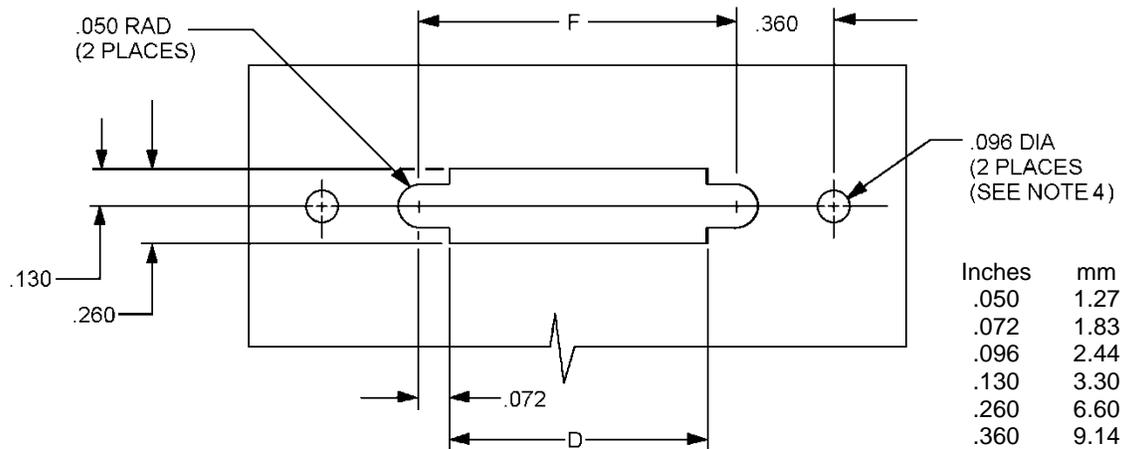
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Inches	mm	Inches	mm
.005	.13	.150	3.81
.007	.18	.156	3.96
.008	.20	.197	5.00
.010	.25	.246	6.25
.050	1.27	.273	6.93
.055	1.40	.294	7.47
.062	1.57	.312	7.92
.086	2.18	.477	12.12
.090	2.29	.550	13.97
.100	2.54		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances are  $\pm 0.005$  (0.13 mm).
4. When keying, mounting bracket or mounting bracket and keying is required, refer to the applicable dash and figure number in table I.
5. Contacts (class A in accordance with MIL-DTL-55302/97-01) are shipped loose in a plastic bag with each connector unless otherwise specified. When contacts are furnished separately, the letters "WO" shall appear immediately after the Part or Identifying Number (PIN) marking on the connector (i.e., M55302/102-02 WO).
6. For direct government procurements connectors shall be furnished with contacts in a plastic bag with each connector.
7. With connectors fully engaged the mating contacts shall have a minimum overlap distance of .062. As a minimum the contacts shall exhibit a wiping action through this distance.

FIGURE 1. Connectors, receptacle, .100 (2.54 mm) spacing – Continued.

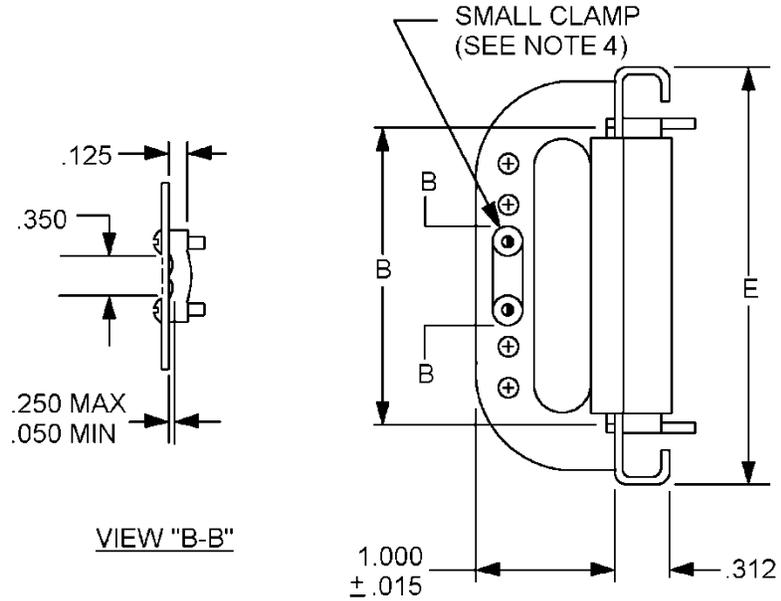


NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances are  $\pm 0.005$  (0.13 mm).
4. When bracket assembly (see figure 3, 4, or 5) to chassis mounting is required, it is suggested that support pins be used.

FIGURE 2. Typical cutout for receptacle in nonconductive chassis.

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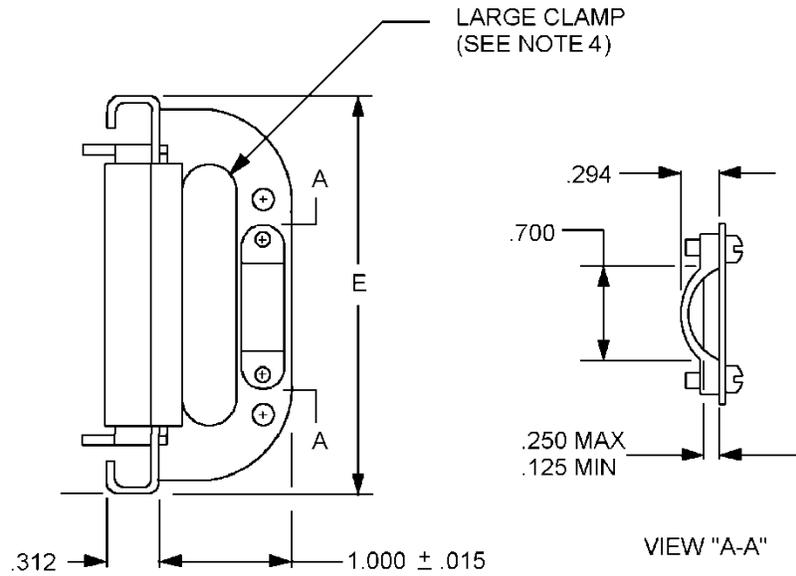
Inches	mm
.015	.38
.050	1.27
.125	3.18
.250	6.35
.312	7.92
.350	8.89
1.000	25.40

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. Mounting brackets assembled with the insulator will have the clamping hardware shipped loose.

FIGURE 3. Mounting bracket assembly with small clamp.

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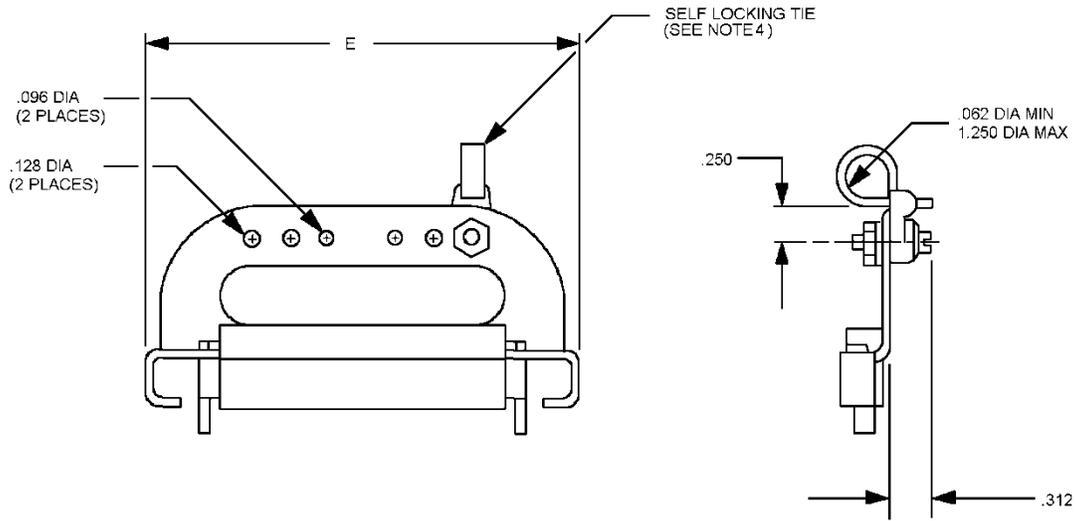
Inches	mm
.015	.38
.125	3.18
.250	6.35
.294	7.47
.312	7.92
.700	17.78
1.000	25.40

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. Mounting brackets assembled with the insulator will have the clamping hardware shipped loose.

FIGURE 4. Mounting bracket assembly with large clamp.

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Inches	mm
.062	1.57
.128	3.25
.250	6.35
.312	7.92

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances are  $\pm 0.005$  (0.13 mm).
4. Mounting brackets assembled with the insulator will have the clamping hardware shipped loose.

FIGURE 5. Mounting bracket assembly with self locking tie.

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TABLE I. Dash number and dimensions.

Dash number <u>1/</u>	Number of contacts	Figure number	Dimensions <u>2/</u> , <u>3/</u>					
			A	B ±.010	C Ref.	D	E Ref.	F
01 02 03 04	18	1 3 4 5	.850 (21.59)	1.150 (29.21)	1.300 (33.02)	1.006 (25.55)	1.990 (50.55)	1.150 (29.221)
05 06 07 08	30	1 3 4 5	1.450 (36.83)	1.750 (44.45)	1.900 (48.26)	1.606 (40.79)	2.590 (65.79)	1.750 (44.45)
09 10 11 12	36	1 3 4 5	1.750 (44.45)	2.050 (52.07)	2.200 (55.88)	1.906 (48.41)	2.890 (73.41)	2.050 (52.07)
13 14 15 16	42	1 3 4 5	2.050 (52.07)	2.350 (59.69)	2.500 (63.50)	2.206 (56.03)	3.190 (81.03)	2.350 (59.69)
17 18 19 20	54	1 3 4 5	2.650 (67.31)	2.950 (74.93)	3.100 (78.740)	2.806 (71.27)	3.790 (96.27)	2.950 (74.93)
21 22 23 24	72	1 3 4 5	3.550 (90.17)	3.850 (97.79)	4.100 (104.14)	3.706 (94.13)	4.690 (119.13)	3.850 (97.79)

1/ See requirements for complete PIN when keying pin is required.

2/ Dimensions are in inches.

3/ Metric equivalents are given for information only.

REQUIREMENTS:

Design and construction:

Dimensions and configuration: See figures 1 through 5.

Material:

Insulator: ASTM D5948, type SDG-F.

Bracket, mounting: Cold rolled steel, 1/4 HD, in accordance with QQ-S-698; plated in accordance with SAE AMS-QQ-P-416, class 3, type II.

End guides: Left hand, sintered brass 90/10, clear chromate in accordance with MIL-DTL-5541, class 1A. Right hand, sintered brass 90/10, nickel plate 300 microinches in accordance with MIL-DTL-14072.

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Clamps, large and small: Aluminum alloy 380, in accordance with SAE AMS-QQ-A-591, cadmium plated in accordance with SAE AMS-QQ-P-416, class 3, type II.

Keying pin: Aluminum alloy 2011-T3 with clear chromate in accordance with MIL-DTL-5541, class 1A.

Self locking tie: Nylon 6.6.

Mounting screw: Brass, cadmium plated, gold chromate finish.

Flat washer: Stainless steel.

Contact identification: Contact locations are identified in numerical sequence (see figure 1).

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 retention: 6.0 pounds minimum after 5 insertions and withdrawals from the same connector.

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

Dry circuit: Connectors shall be tested in accordance with test procedure EIA-364-23. The contact resistance shall not exceed 20 milliohms.

Dielectric withstanding voltage:

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

High altitude: 300 volts rms, 60 hertz.

Current rating, maximum: 5 amperes.

Keying : When required, one of the following codes shall be added to the dash number:

“P” – Specifying location by contact number where keying pin shall be inserted; for example, M55302/102-01P17. (Keying pin inserted in place of contact number 17.)

“H” – Specifying location by contact number where contact shall be omitted for mating; for example, M55302/102-01H17. (Keying pin hole has contact number 17 omitted.)

Contact crimp removable (Class A or B): Shall conform to MIL-DTL-55302/97.

Contact removal tool: Shall conform to MIL-I-81969/4.

Contact insertion tool: Shall conform to MIL-I-81969/5.

Contract crimp tool: Shall conform to M22520/17-02.

Mating plug: Shall conform to MIL-DTL-55302/53 and MIL-DTL-55302/54.

PIN: M55302/102-(dash number from table I).

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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.

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-5541  
MIL-DTL-14072  
MIL-DTL-55302/53  
MIL-DTL-55302/54  
MIL-DTL-55302/97  
MIL-I-81969/4  
MIL-I-81969/5  
ASTM D5948  
EIA-364-23  
QQ-S-698  
SAE AMS-QQ-P-416  
SAE AMS-QQ-A-591

CONCLUDING MATERIAL

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

Preparing activity:  
DLA – CC

(Project 5935-2012-103)

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>.