

INCH-POUND
 MIL-DTL-55302/127C
 4 June 2004
 SUPERSEDING
 MIL-C-55302/127B(USAF)
 6 MAY 1993

DETAIL SPECIFICATION SHEET

CONNECTORS, PRINTED CIRCUIT SUBASSEMBLY AND ACCESSORIES:
 RECEPTACLE, SINGLE ROW, 2 THROUGH 65 CONTACT POSITIONS,
 FOR PRINTED WIRING BOARDS (.062", .093", .125") (.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.

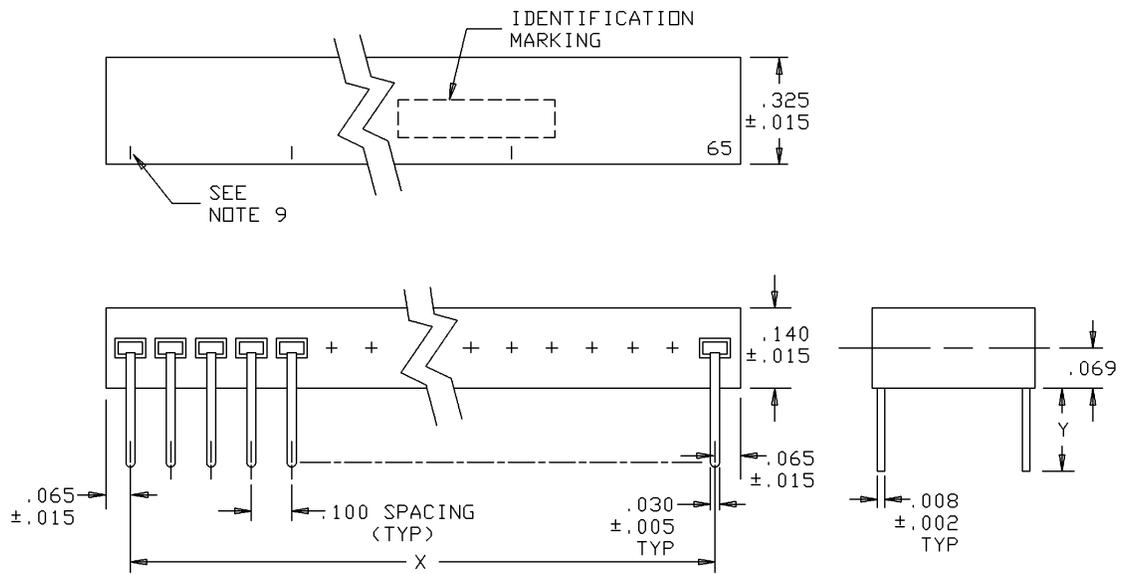
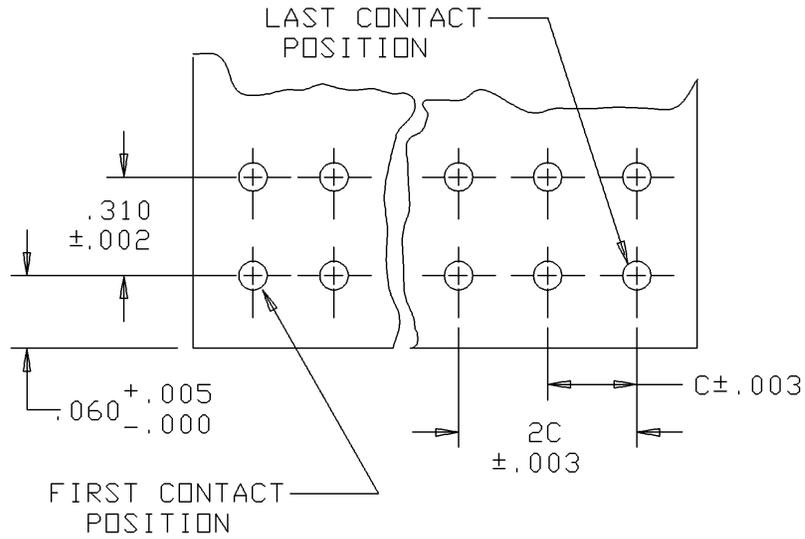


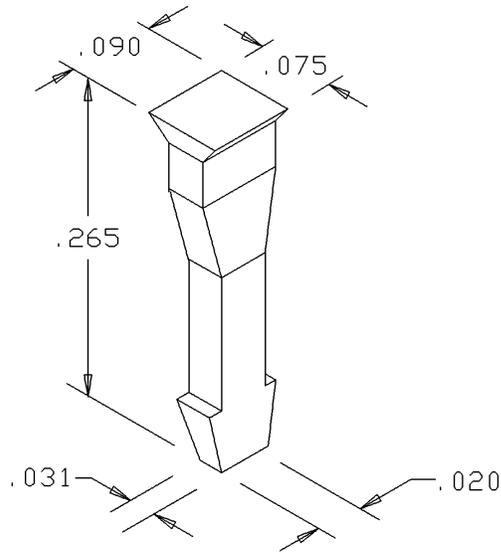
FIGURE 1. Connectors, receptacle, .100 (2.54 mm) spacing.

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Recommended printed circuit board hole layout

C – Contact centerline to be .100 (2.54 mm);
± .003 (.08 mm) tolerances not to
accumulate within one connector pattern.



Key plug
Part or Identifying Number (PIN) M55302/127-00KY

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, tolerance is $\pm .010$ (0.25 mm).
4. The mating post array must be maintained on .100 centerline grid spacing.
5. Post engagement length is .390 maximum, .308 minimum from edge of board, when connector is mounted in accordance with figure 1. Total mating positions to be determined by connector size in accordance with table I.
6. Post location tolerance not to accumulate.
7. Mating post tips must be maintained within .015 diameter true position allowance (total).
8. Mating posts may consist of post staked directly into printed circuit boards, or mounted in insulator bodies.
9. The first and last circuit shall be numbered and every fifth circuit shall have an identifiable mark on the top surface of the housing beginning with the first circuit on the left (no. 1) looking at the mating face of the connector.

Inches	mm	Inches	mm	Inches	mm
.002	0.05	.035	0.89	.100	2.54
.003	0.08	.060	1.52	.140	3.56
.005	0.13	.065	1.65	.265	6.73
.015	0.38	.069	1.75	.310	7.87
.020	0.51	.075	1.90	.325	8.26
.031	0.79	.090	2.29	.390	9.91

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

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TABLE I. Dimensions. ^{1/}

Number of contact positions	Dimension X	Number of contact positions	Dimension X	Number of contact positions	Dimension X	Number of contact positions	Dimension X
2	.100 (2.54)	18	1.700 (43.18)	34	3.300 (83.82)	50	4.900 (124.46)
3	.200 (5.08)	19	1.800 (45.72)	35	3.400 (86.36)	51	5.000 (127.00)
4	.300 (7.62)	20	1.900 (48.26)	36	3.500 (88.90)	52	5.100 (129.54)
5	.400 (10.16)	21	2.000 (50.80)	37	3.600 (91.44)	53	5.200 (132.08)
6	.500 (12.70)	22	2.100 (53.34)	38	3.700 (93.98)	54	5.300 (134.62)
7	.600 (15.24)	23	2.200 (55.88)	39	3.800 (96.52)	55	5.400 (137.16)
8	.700 (17.78)	24	2.300 (58.42)	40	3.900 (99.06)	56	5.500 (139.70)
9	.800 (20.32)	25	2.400 (60.96)	41	4.000 (101.60)	57	5.600 (142.24)
10	.900 (22.86)	26	2.500 (63.50)	42	4.100 (104.14)	58	5.700 (144.78)
11	1.000 (25.40)	27	2.600 (66.04)	43	4.200 (106.68)	59	5.800 (147.32)
12	1.100 (27.94)	28	2.700 (68.58)	44	4.300 (109.22)	60	5.900 (149.86)
13	1.200 (30.48)	29	2.800 (71.12)	45	4.400 (111.76)	61	6.000 (152.40)
14	1.300 (33.02)	30	2.900 (73.66)	46	4.500 (114.30)	62	6.100 (154.94)
15	1.400 (35.56)	31	3.000 (76.20)	47	4.600 (116.84)	63	6.200 (157.48)
16	1.500 (38.10)	32	3.100 (78.74)	48	4.700 (119.38)	64	6.300 (160.02)
17	1.600 (40.64)	33	3.200 (81.28)	49	4.800 (121.92)	65	6.400 (162.56)

^{1/} Metric equivalents are in parentheses.

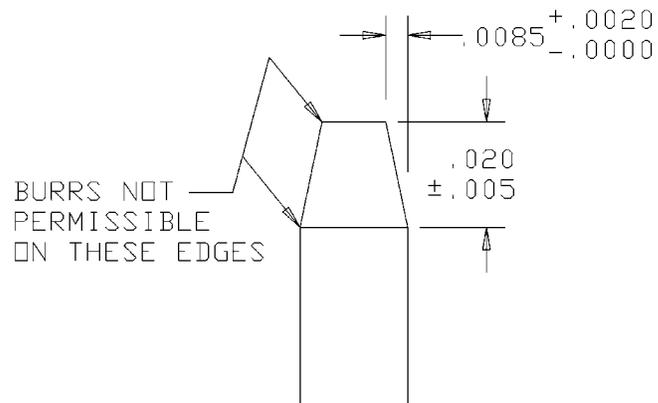
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TABLE II. P. C. board thickness.

Type	Board thickness	Y
1	.062	.115
2	.093	.145
3	.125	.175

TABLE III. Contact plating.

Code	Contact	Reminder
A	Class 1	Flash
B	Class 1	Class 1
C	Class 1	Tin/lead plated or dipped



NOTES:

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

Inches	mm
.0020	0.051
.005	0.13
.0085	0.216
.020	0.51

FIGURE 2. Mating post tip configuration.

REQUIREMENTS

Design and construction:

Dimensions and configurations: See figures 1 and 2 and tables I and II.

Material:

Body: In accordance with MIL-DTL-55302.

Plating: The contact plating shall be gold in accordance with MIL-DTL-55302 as specified in table III, over nickel in accordance with MIL-DTL-55302.

Contact identification: See figure 1.

Mating and unmating: The maximum connector mating force shall be 7 ounces times the number of contact positions, and the minimum connector unmating force shall be .75 ounce times the number of contact positions. For purposes of testing, the mating plug connector shall be considered to be the correct number of .025 square wrappost, gold plated. Maximum post engagement length is .390 inch and minimum post engagement length is .308 inch, when connector is mounted as shown on figure 1.

Contact resistance: No individual contact pair shall have a resistance exceeding 12 milliohms when mated to a gold plated .025 square wrappost.

Dielectric withstanding voltage:

Sea level: 750 volts rms.

High altitude: 275 volts rms.

Current rating: 3.0 amperes maximum.

Mating post: See figure 2. For total mating positions, see table I.

Contact engagement and separation force:

Engagement force: Shall be 6 ounces maximum after three insertions of a .0260 + .0000, -.0001 inch square pin.

Separation force: Shall be .75 ounce minimum.

Printed wiring terminations: See figure 1.

Polarization: Connector polarization may be accomplished by use of a keying plug (PIN M55302/127-00KY) which is inserted into the particular contact circuit to be keyed. Keying plug is nylon in accordance with ASTM D4066.

Color: Natural.

Alignment: To be accomplished by user.

Method of mounting: Not applicable.

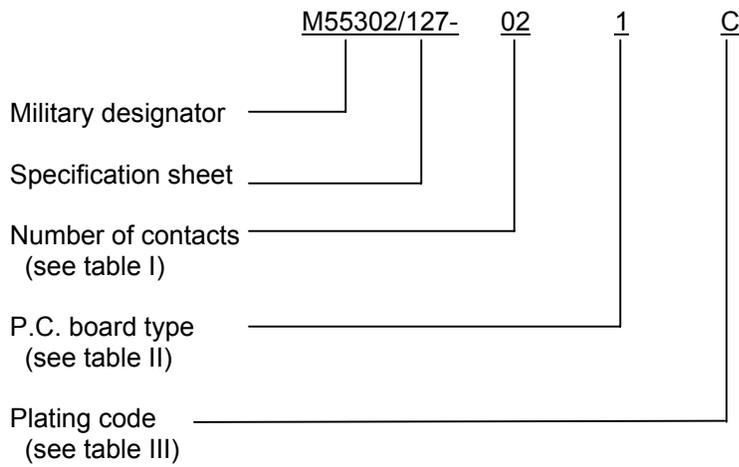
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Oversize pin exclusion: Applies to sockets only, shall not accept a .050 inch diameter pin.

Contact bend test: The body of the contact shall be slowly inclined so as to bend the contact through 90° and then return it to the original position. A bend through 90° and return to original position shall be defined as one bend. The test shall include three bending cycles.

Markings: In accordance with MIL-STD-1285. Cavity identification in accordance with figure 1.

PIN example:



Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the extent of the changes.

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

- MIL-STD-1285
- ASTM D4066

CONCLUDING MATERIAL

Custodians:
Air Force – 11
DLA - CC

Preparing activity:
DLA - CC

Review activities:
Air Force – 19, 99

(Project 5935-4479-000)

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 <http://www.dodssp.daps.mil>.