

INCH-POUND

MIL-DTL-55302/128D
4 June 2004
SUPERSEDING
MIL-C-55302/128C(USAF)
6 MAY 1993

DETAIL SPECIFICATION SHEET

CONNECTORS, PRINTED CIRCUIT SUBASSEMBLY AND ACCESSORIES:
RECEPTACLE, DOUBLE ROW, 4 THROUGH 130 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.

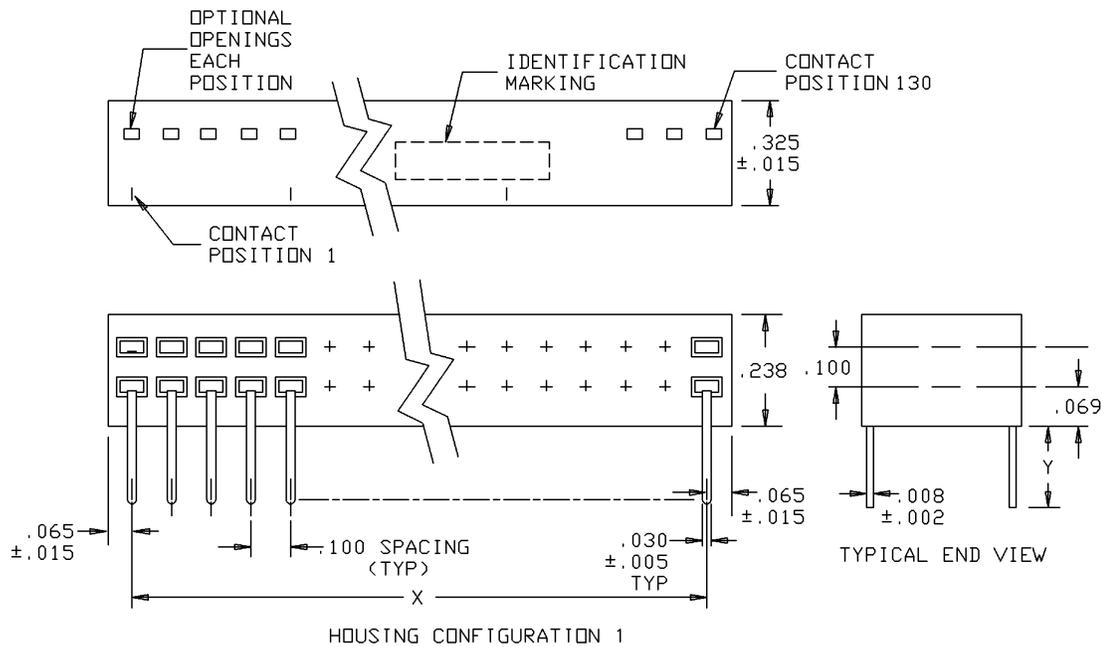


FIGURE 1. Connectors, receptacle, .100 (2.54 mm) spacing.

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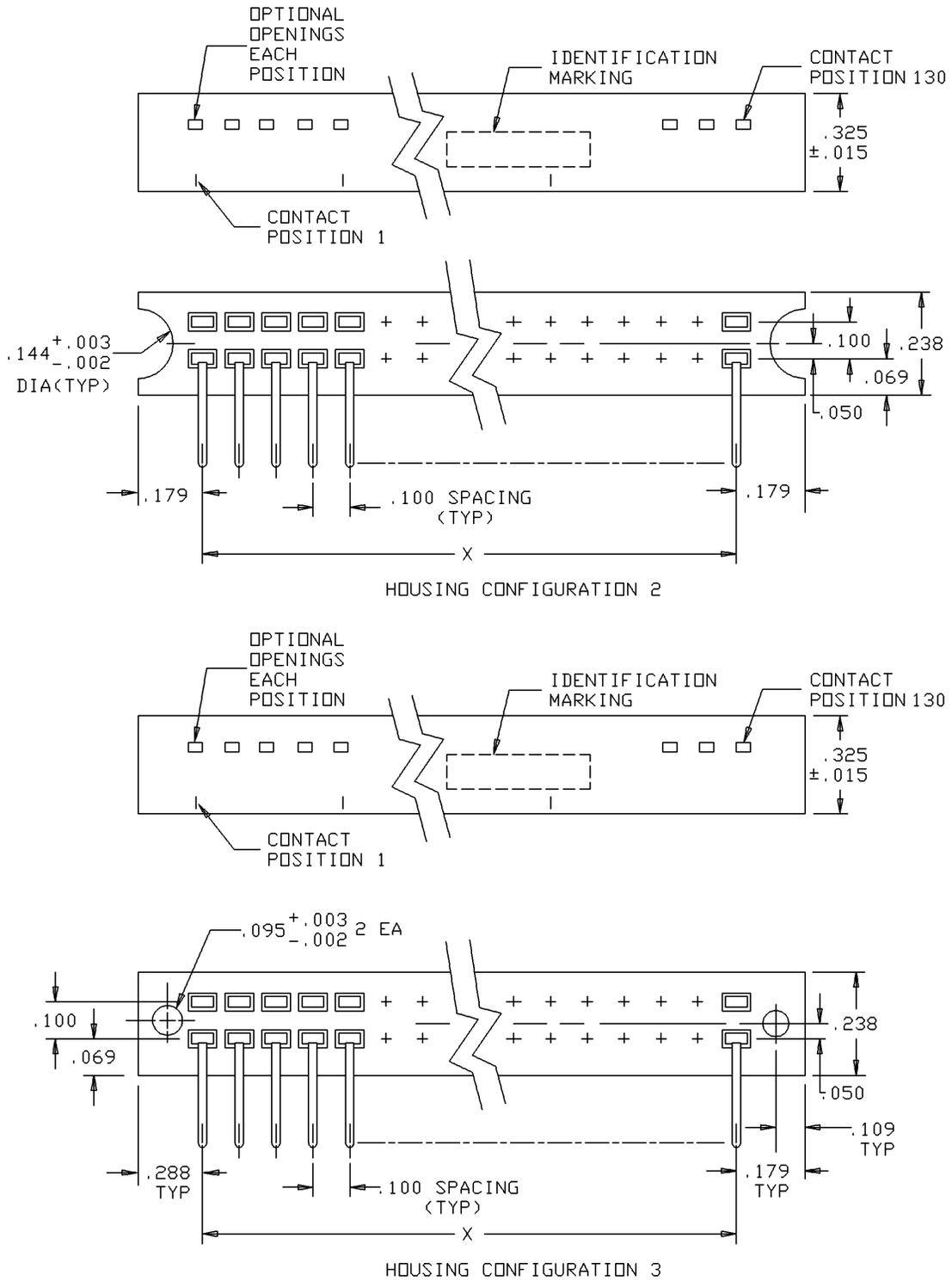


FIGURE 1. Connectors, receptacle, .100 (2.54 mm) spacing – Continued.

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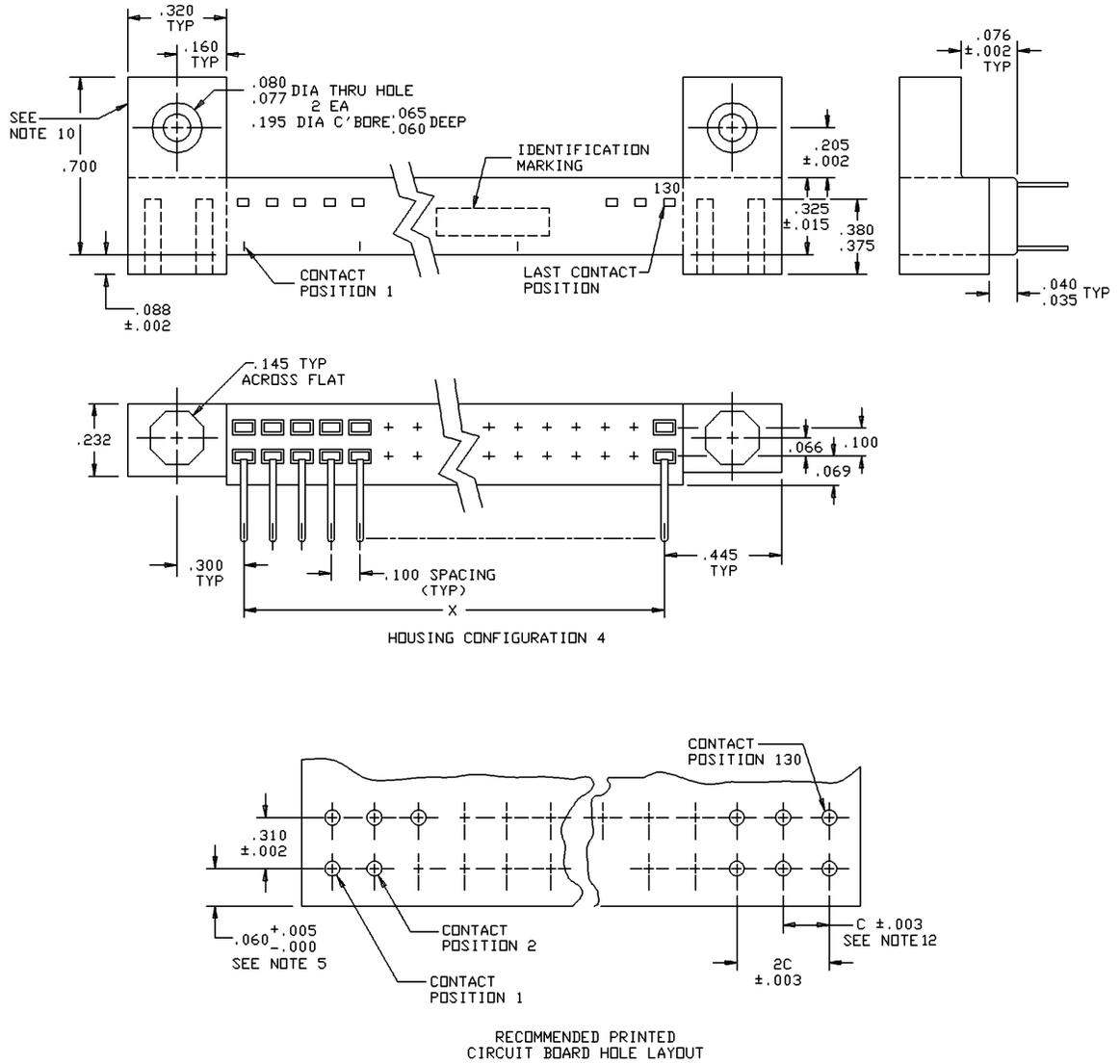


FIGURE 1. Connector, receptacle, .100 (2.54 mm) spacing - Continued.

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Inches	mm	Inches	mm	Inches	mm	Inches	mm
.002	0.05	.066	1.68	.145	3.68	.300	7.62
.003	0.08	.069	1.75	.160	4.06	.310	7.87
.005	0.13	.076	1.93	.179	4.55	.320	8.13
.015	0.38	.077	1.96	.195	4.95	.325	8.26
.035	0.89	.080	2.03	.206	5.21	.375	9.52
.040	1.02	.088	2.24	.232	5.89	.380	9.65
.050	1.27	.095	2.41	.238	6.05	.445	11.30
.060	1.52	.100	2.54	.288	7.32	.700	17.78
.065	1.65	.144	3.66				

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 .323 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.
10. Mounting ears shall be molded or bonded to the insulator.
11. Housing configurations 1, 3, and 4 terminate directly to the board and therefore do not meet the requirements of IPC-D275.
12. Dimension C, contact centerline, to be .100 (2.54 mm); $\pm .003$ (0.08) tolerances not to accumulate within one connector pattern.

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

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TABLE I. Dimensions. 1/

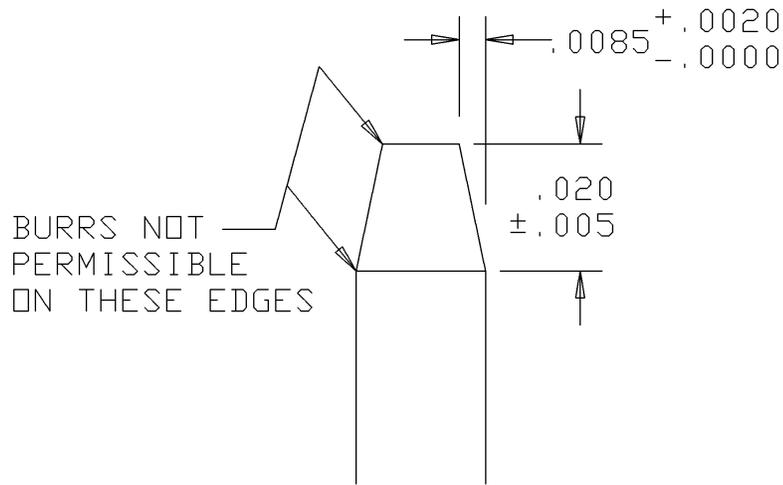
Code	Number of contact positions	Dimension X	Code	Number of contact positions	Dimension X	Code	Number of contact positions	Dimension X	Code	Number of contact positions	Dimension X
AA	4	.100 (2.54)	BA	36	1.700 (43.18)	CA	68	3.300 (83.82)	DA	100	4.900 (124.46)
AB	6	.200 (5.08)	BB	38	1.800 (45.72)	CB	70	3.400 (86.36)	DB	102	5.000 (127.00)
AC	8	.300 (7.62)	BC	40	1.900 (48.26)	CC	72	3.500 (88.90)	DC	104	5.100 (129.54)
AD	10	.400 (10.16)	BD	42	2.000 (50.80)	CD	74	3.600 (91.44)	DD	106	5.200 (132.08)
AE	12	.500 (12.70)	BE	44	2.100 (53.34)	CE	76	3.700 (93.98)	DE	108	5.300 (134.62)
AF	14	.600 (15.24)	BF	46	2.200 (55.88)	CF	78	3.800 (96.52)	DF	110	5.400 (137.16)
AG	16	.700 (17.78)	BG	48	2.300 (58.42)	CG	80	3.900 (99.06)	DG	112	5.500 (139.70)
AH	18	.800 (20.32)	BH	50	2.400 (60.96)	CH	82	4.000 (101.60)	DH	114	5.600 (142.24)
AJ	20	.900 (22.86)	BJ	52	2.500 (63.50)	CJ	84	4.100 (104.14)	DJ	116	5.700 (144.78)
AK	22	1.000 (25.40)	BK	54	2.600 (66.04)	CK	86	4.200 (106.68)	DK	118	5.800 (147.32)
AL	24	1.100 (27.94)	BL	56	2.700 (68.58)	CL	88	4.300 (109.22)	DL	120	5.900 (149.86)
AM	26	1.200 (30.48)	BM	58	2.800 (71.12)	CM	90	4.400 (111.76)	DM	122	6.000 (152.40)
AN	28	1.300 (33.02)	BN	60	2.900 (73.66)	CN	92	4.500 (114.30)	DN	124	6.100 (154.94)
AP	30	1.400 (35.56)	BP	62	3.000 (76.20)	CP	94	4.600 (116.84)	DP	126	6.200 (157.48)
AQ	32	1.500 (38.10)	BQ	64	3.100 (78.74)	CQ	96	4.700 (119.38)	DQ	128	6.300 (160.02)
AR	34	1.600 (40.64)	BR	66	3.200 (81.28)	CR	98	4.800 (121.92)	DR	130	6.400 (162.56)

1/ Metric equivalents are in parentheses.

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TABLE II. Printed circuit board and plating thickness.

Code	Board thickness	Y dimension	Contact area plating thickness	Remainder plating thickness
A	.062	.115	Class 1	Flash
B	.062	.115	Class 1	Class 1
C	.093	.145	Class 1	Flash
D	.093	.145	Class 1	Class 1
E	.125	.175	Class 1	Flash
F	.125	.175	Class 1	Class 1
G	.062	.115	Class 1	Tin/lead dipped or plated
H	.093	.145	Class 1	Tin/lead dipped or plated
I	.125	.175	Class 1	Tin/lead dipped or plated



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

NOTES:

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

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 II, over nickel in accordance with MIL-DTL-55302.

Contact cavities: See figure 1.

Printed wiring terminations: See figure 1.

Contact identification: See figure 1.

Polarization: Connector polarization may be accomplished by use of a keying plug (Part or Identifying Number (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.

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

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.

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 wrappost, gold plated. Maximum post engagement length is .323 inch and minimum post engagement length is .308 inch, when connector is mounted as shown on figure 1.

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

Current rating: 3.0 amperes maximum.

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

Contact retention: Not applicable.

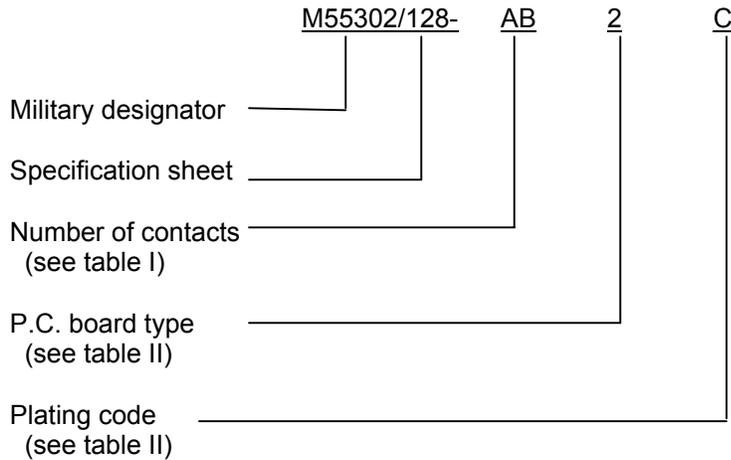
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Dielectric withstanding voltage:

Sea level: 750 volts rms.
High altitude: 275 volts rms.

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.

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:

ASTM D4066
IPC-D275

MIL-DTL-55302/128D

CONCLUDING MATERIAL

Custodians:

Army - CR
Navy - EC
Air Force - 11
DLA - CC

Preparing activity:

DLA - CC

(Project 5935-4480-000)

Review activities:

Army - AR, AT, AV, CR4, MI
Navy - AS, MC, OS, SH
Air Force - 19

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>.