

DETAIL SPECIFICATION SHEET

CONNECTORS, PRINTED CIRCUIT SUBASSEMBLY AND ACCESSORIES:
 PLUG, DECADE INCREMENT 10 THRU 120, 150, 160 AND 180 CONTACT POSITIONS,
 FOR PRINTED WIRING BOARDS (.075 SPACING)

This specification is approved for used 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.

Style 1 (internal keying) connectors are hereby canceled and superseded by style 2 (external keying) connectors, see table I for supersession data.

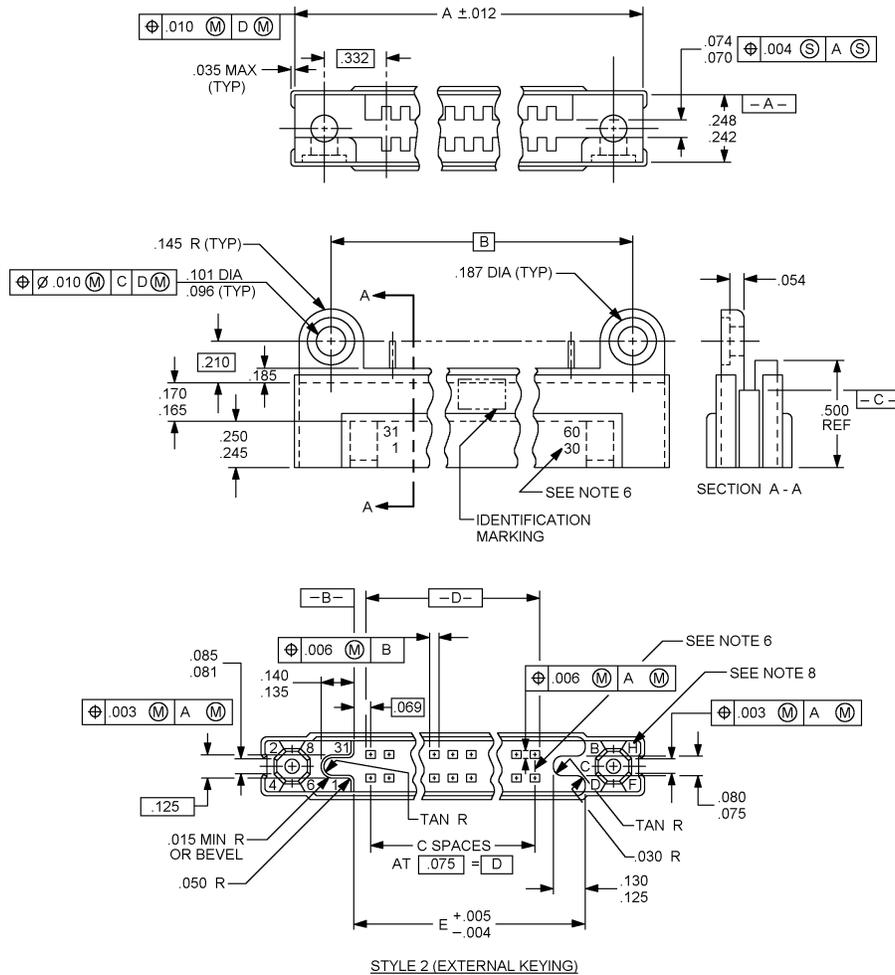


FIGURE 1. Connectors, plug, .075 (1.90 mm) spacing.

MIL-DTL-55302/23H

Dash <u>1</u> / numbers	Number of contacts	Dimensions					Contact identification numbers
		A	B	C	D	E	
16	10	1.255 (31.88)	.965 (24.51)	4	.300 (7.62)	.575 (14.61)	1 - 5 6 - 10
17	20	1.630 (41.40)	1.340 (34.04)	9	.675 (17.15)	.950 (24.13)	1 - 10 11 - 20
18	30	2.005 (50.93)	1.715 (43.56)	14	1.050 (26.67)	1.325 (33.66)	1 - 15 16 - 30
19	40	2.380 (60.45)	2.090 (53.09)	19	1.425 (36.20)	1.700 (43.18)	1 - 20 21 - 40
20	50	2.755 (69.98)	2.465 (62.61)	24	1.800 (45.72)	2.075 (52.71)	1 - 25 26 - 50
21	60	3.130 (79.50)	2.840 (72.14)	29	2.175 (55.25)	2.450 (62.23)	1 - 30 31 - 60
22	70	3.505 (89.03)	3.215 (81.66)	34	2.550 (64.77)	2.825 (71.76)	1 - 35 36 - 70
23	80	3.880 (98.55)	3.590 (91.19)	39	2.925 (74.30)	3.200 (81.28)	1 - 40 41 - 80
24	90	4.255 (108.08)	3.965 (100.71)	44	3.300 (83.82)	3.575 (90.81)	1 - 45 46 - 90
25	100	4.630 (117.60)	4.340 (110.24)	49	3.675 (93.35)	3.950 (100.33)	1 - 50 51 - 100
26	110	5.005 (127.13)	4.715 (119.76)	54	4.050 (102.87)	4.325 (109.86)	1 - 55 56 - 110
27	120	5.380 (136.65)	5.090 (129.29)	59	4.425 (112.40)	4.700 (119.38)	1 - 60 61 - 120
28	150	6.505 (165.23)	6.215 (157.86)	74	5.550 (140.97)	5.825 (147.96)	1 - 75 16 - 150
29	160	6.880 (174.75)	6.590 (167.39)	79	5.925 (150.50)	6.200 (157.48)	1 - 80 81 - 160
30	180	7.630 (193.80)	7.340 (186.44)	89	6.675 (169.55)	6.950 (176.53)	1 - 90 91 - 180

1/ Dash number 16 through 30 are for style 2 (external keying) connectors.

FIGURE 1. Connectors, plug, .075 (1.90 mm) spacing - Continued.

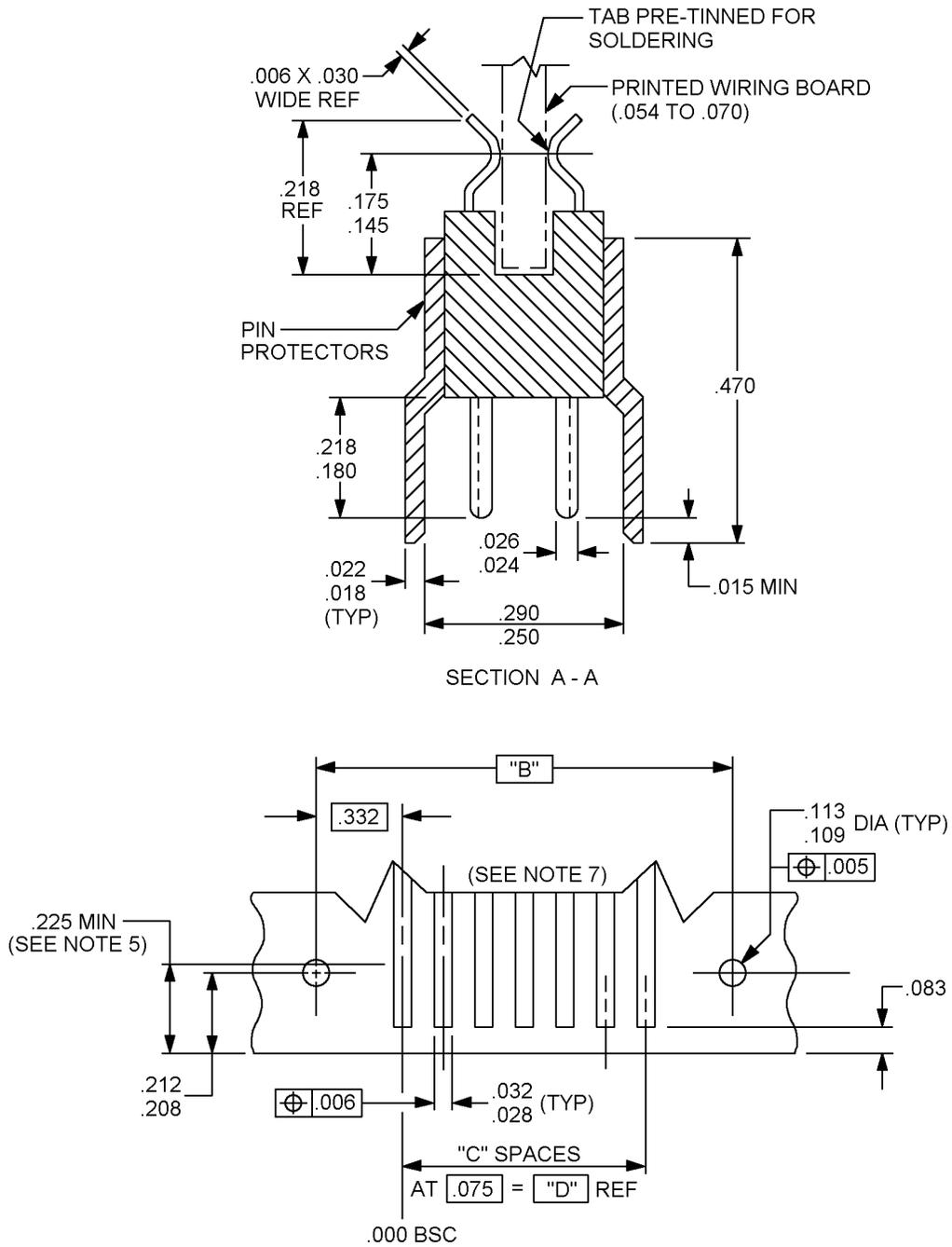


FIGURE 1. Connectors, plug, .075 (1.90 mm) spacing - Continued.

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Inches	mm	Inches	mm	Inches	mm
.003	0.08	.070	1.78	.175	4.44
.004	0.10	.074	1.88	.180	4.57
.005	0.13	.075	1.90	.185	4.70
.006	0.15	.080	2.03	.187	4.75
.010	0.25	.081	2.06	.208	5.28
.012	0.30	.083	2.11	.210	5.33
.015	0.38	.085	2.16	.212	5.38
.018	0.46	.096	2.44	.218	5.54
.022	0.56	.101	2.57	.225	5.72
.024	0.61	.109	2.77	.242	6.15
.026	0.66	.113	2.87	.245	6.22
.028	0.71	.125	3.18	.248	6.30
.030	0.76	.130	3.30	.250	6.35
.032	0.81	.135	3.43	.290	7.37
.035	0.89	.140	3.56	.332	8.43
.050	1.27	.145	3.68	.470	11.94
.054	1.37	.165	4.19	.500	12.70
.069	1.75	.170	4.32		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances are ± 0.005 (0.13 mm) on three place decimals and $\pm 2^\circ$ on angles.
4. These connectors mate with connectors specified in MIL-DTL-55302/24 and MIL-DTL-55302/25.
5. Minimum pad length on printed circuit board.
6. Numbers indication, every 5 cavities marked or molded on side (except 10 position). Numbers indicating end cavities and lines indicating every 5 cavities molded or marked on mating face.
7. Termination layout on .025 (0.64 mm) modular grid.
8. Location indicators embossed on surface.

FIGURE 1. Connectors, plug, .075 (1.90 mm) spacing - Continued.

REQUIREMENTS:

Design and construction:

Dimensions and configuration: See figure 1.

Material:

Insulator body: Insulator material shall be in accordance with MIL-DTL-55302 or type GLCP-30F in accordance with ASTM D5138 or MIL-M-24519.

Contact material: Contact material in accordance with MIL-DTL-55302 or beryllium copper alloy CDA174 in accordance with ASTM B768.

Plating: The contact plating for the engagement area, .150 inch (3.81 mm) minimum length, shall be gold in accordance with MIL-DTL-55302 over nickel in accordance with MIL-DTL-55302. The contact plating for the solder tail area, .160 inch (4.06 mm) minimum length, shall be tin lead over nickel, with a tin lead dip in accordance with MIL-DTL-55302 for .080 inch (2.03 mm) minimum length. The remainder of the contact shall be nickel plated in accordance with MIL-DTL-55302.

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Contact identification: See figure 1.

Coating: The aluminum pin protector shall be coated in accordance with MIL-A-8625, type II or epoxy coated .001 to .003 inch (0.03 to 0.08 mm) thick.

Current rating: 3.0 amperes maximum per contact, 2.25 amperes continuous per contact at room ambient.

Keying: See MIL-DTL-55302/31.

Mating and unmating: The maximum mating force in pounds shall be the number of contacts multiplied by .25 and the withdrawal force in pounds shall be a minimum of .025 times the number of contacts and shall not exceed the measured insertion force.

Contact resistance: The average contact resistance of all contact measured shall not exceed .015 ohm, and no individual contact pair shall have a resistance exceeding .020 ohm.

Contact retention: 3 pound minimum.

Dielectric withstanding voltage:

Sea level: 900 volts rms.

High altitude: 200 volts rms.

Part or Identifying Number (PIN): M55302/23-(dash number from figure 1).

Patent number 3,404,367. The Government has a royalty free license under this patent for the benefit of manufacturers of the item either for the Government or for use in equipment to be delivered to the Government.

Supersession data: See table I.

TABLE I. Style 1 (Internal keying) supersession data.

Style 1 (Internal keying) PIN	Superseding style 2 (External keying) PIN ^{1/}
M55302/23-01	M55302/23-16
M55302/23-02	M55302/23-17
M55302/23-03	M55302/23-18
M55302/23-04	M55302/23-19
M55302/23-05	M55302/23-20
M55302/23-06	M55302/23-21
M55302/23-07	M55302/23-22
M55302/23-08	M55302/23-23
M55302/23-09	M55302/23-24
M55302/23-10	M55302/23-25
M55302/23-11	M55302/23-26
M55302/23-12	M55302/23-27
M55302/23-13	M55302/23-28
M55302/23-14	M55302/23-29
M55302/23-15	M55302/23-30

^{1/} Style 2 (external keying) plugs can be mated to existing style 1 (internal keying) receptacles.

Group qualification: See table II.

TABLE II. Group qualification.

Qualification of any of the following connectors <u>1/</u> , <u>2/</u>	Qualifies the following connectors	Retains qualification on the following
M55302/23- **	M55302/23- ** M55302/26- **	M55302/23- ** M55302/26- **
M55302/26- **	M55302/26- **	

- 1/ For initial qualification, connectors with the largest number of contact positions from the left hand column shall be used to obtain qualification for parts in corresponding center column.
- 2/ For qualification retention, data may be supplied on any two parts from the left hand column in order to retain qualification for the parts listed in the right hand column.
- **** Signifies number of contacts.

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

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

- MIL-A-8625
- MIL-DTL-55302/24
- MIL-DTL-55302/25
- MIL-DTL-55302/26
- MIL-DTL-55302/31
- MIL-M-24519
- ASTM B768
- ASTM D5138

CONCLUDING MATERIAL

Custodians:
Air Force - 11
DLA - CC

Preparing activity:
DLA - CC

(Project 5935-4412-001)

Review activities:
Air Force - 19, 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 www.dodssp.daps.mil.