

INCH-POUND

MIL-DTL-28754/60A
7 June 2016
SUPERSEDING
MIL-C-28754/60 (NAVY)
29 April 1985

DETAILS SPECIFICATION SHEET

CONNECTORS, ELECTRICAL, MODULAR, TYPE IV, CONNECTOR,
100 PIN, CENTER CONTACT TAILS ON .100 CENTERS

Inactive for new design after 19 February 1991 and is no longer used
except for replacement purposes.

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-28754.

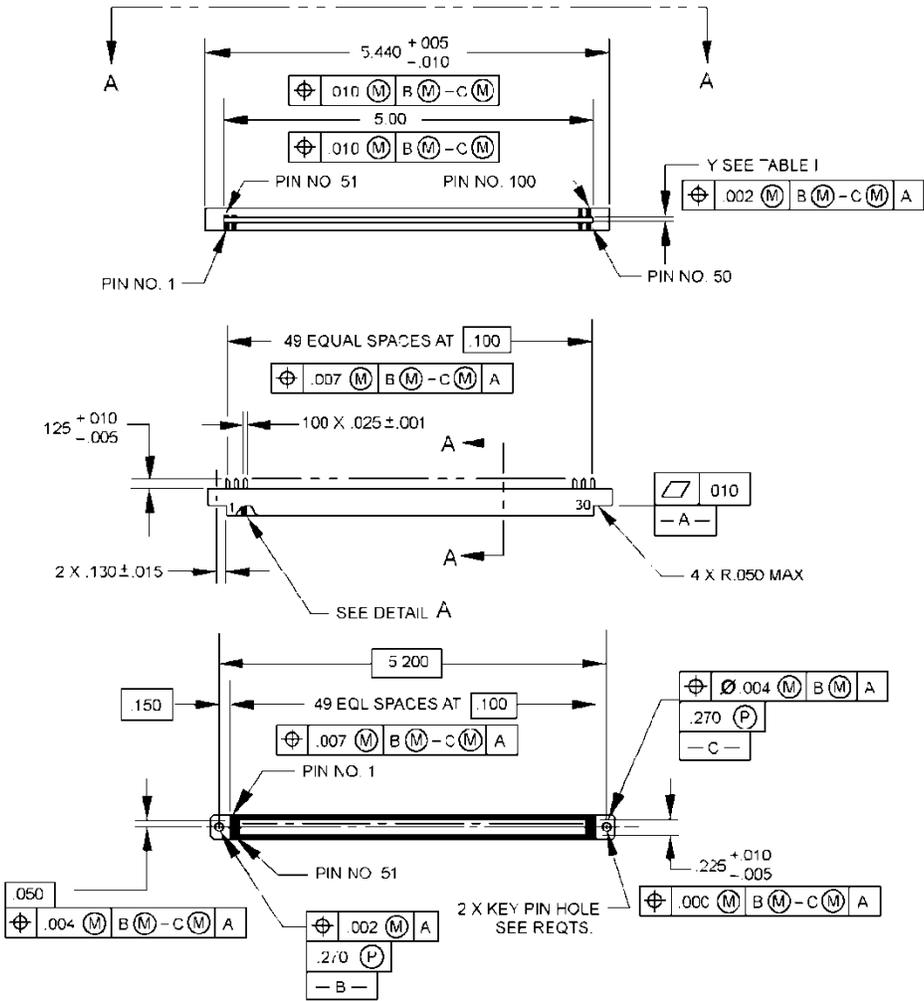
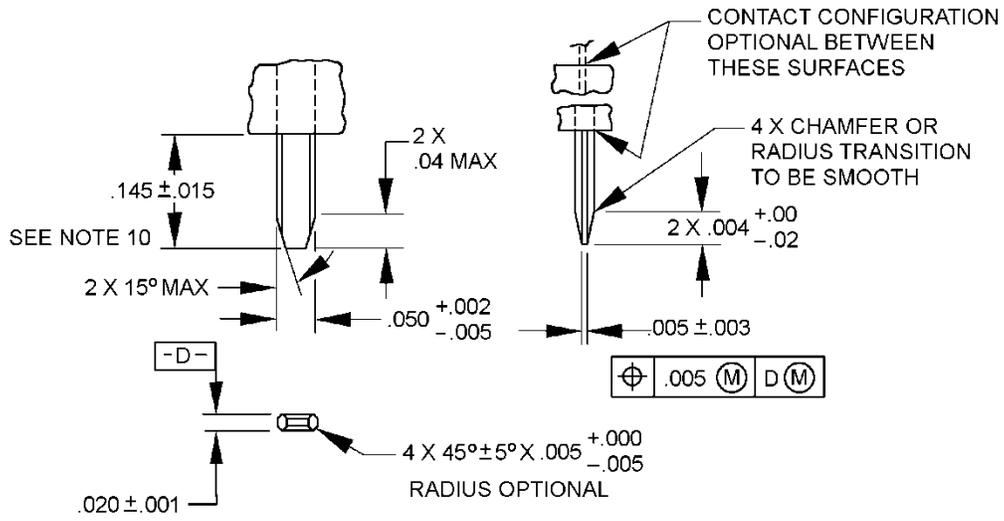
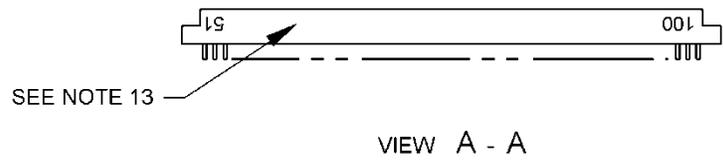


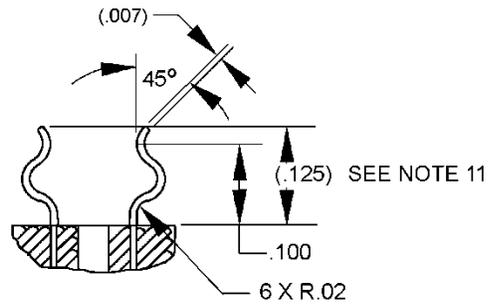
FIGURE 1. Dimensions and configurations.



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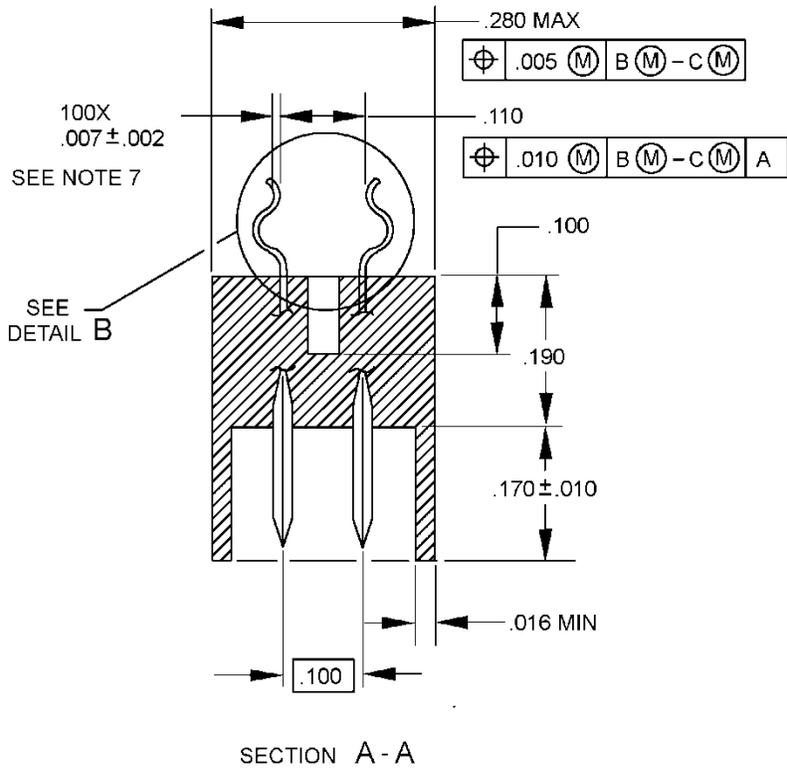
DETAIL A
100 X



DETAIL B

FIGURE 1. Dimensions and configurations – Continued.

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Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
.001	.03	.010	.25	.050	1.27	.150	3.81	5.000	127.00
.002	.05	.015	.38	.100	2.54	.170	4.31	5.200	132.08
.003	.08	.016	.41	.110	2.80	.190	4.83	5.440	138.18
.004	.10	.020	.51	.125	3.18	.225	5.72		
.005	.13	.025	.64	.130	3.30	.270	6.86		
.007	.18	.040	1.02	.145	3.68	.280	7.11		

FIGURE 1. Dimensions and configurations – Continued.

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only and are based upon 1.00 inch = 25.4 mm.
3. Unless otherwise specified, tolerances are $\pm .005$ (.13 mm) inch for three place decimals, $\pm .01$ (.3 mm) inch for two place decimals and $\pm 2^\circ$ for angles.
4. Flash around blade contacts not to exceed .010 (.25 mm) inch from the surface of the insulator and shall be firmly attached.
5. Pin shield shall be marked with contact numbers 1, 50, 51 and 100 in contrasting color ink .06 (1.5 mm) inch high.
6. Single or multiple piece construction is optional provided that the end requirements of the drawing are met. It is permissible for the connector to be installed in either an aluminum or thermoplastic shell which provides the pin shield and key pin hole features. The thermoplastic shall be type GLT-30F.
7. Dimension prior to solder coating.
8. Dimensions apply after plating.
9. See Table I for key pin hole size and body material.
10. Contact engagement length.
11. Shaded area shall be solder coated.
12. This connector is not to be used with ceramic circuit boards.
13. Connector shall be marked in approximate location shown with part number, manufacturer's number and date code with contrasting ink in characters .06 (1.5 mm) inch high.

FIGURE 1. Dimensions and configuration – Continued.

REQUIREMENTS:

Dimensions and configuration: See Figure 1 and Table I.

Materials: Contacts shall be either copper alloy sheet or strip, UNS Number C72500, temper 1/4 hard minimum, in accordance with ASTM B 122/B122M or brass, ASTM B36/B36M, UNS number C26000, temper H02.

Connector body shall be either polyetherimide, Type GLT-20F or GLT-30F, molded thermoplastic in accordance with MIL-M-24519 or molding plastic, diallyl phthalate Type GDI-30F or Type SDG-F in accordance with ASTM D5948. Optional end block shall be aluminum alloy 6061-T6 in accordance with AMS4150.

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The pin shield shall be aluminum alloy 5052-H34 in accordance with AMS4017, 6063-T6 in accordance with ASTM B241/B241M or ASTM B221, or molded thermoplastic type GLT-20F or GLT-30F, in accordance with MIL-M-24519. Pin shield thickness for molded thermoplastic shall be 0.020 (.51 mm) inch minimum.

Plating: Contacts shall be finished on all exposed surfaces. The contact engagement length indicated shall be finished with gold plate, MIL-DTL-45204, Type II, Grade C, Class 1 or equivalent, over nickel plating, SAE-AMS-QQ-N-290, Class 1, 0.000050 (0.00013 mm) inch minimum thickness.

Selectively solder coat the leads as shown in the shaded area in accordance with J-STD-006, SN60 or SN63 to a thickness of 0.0005 – 0.003 (0.0005 – 0.0800 mm) inch using flux, J-STD-004, Type RMA.

All aluminum alloy parts shall be anodic coated in accordance with MIL-A-8625, Type III, Class 2, black.

Key pin holes: For M28754/60-03 material, $.095 \pm .001$ (2.41 \pm .03 mm) inch diameter x .150 (3.81 mm) inch deep.

For M28754/60-02 and -05 material, $.098 \pm .01$ (2.90 \pm .00-.13 mm) inch diameter x .150 (3.81 mm) inch deep.

For M28754/60-01 and -04 material, $.114 \pm .000$ -.005 (2.90 \pm .00-.13 mm) inch dia x .150 (3.81 mm) inch deep.

C'bore $.134 \pm .005$ -.000 (3.40 \pm .13-.00 mm) inch dia x $.020 \pm .005$ -.000 (.51 \pm .13 -.00 mm) inch deep.

Three equally spaced 0.010 (.25 mm) inch rad beads x .150 (3.81 mm) inch deep around the periphery of the $.114$ (2.90 mm) inch diameter shall be utilized.

Electrical requirements:

Dielectric withstanding voltage: The connector shall be tested in accordance with test procedure EIA-364-20, Method A, test condition IV, test voltage 600 VAC (rms) 60 Hz, or 850 VDC. The point of measurement shall be between adjacent contacts.

Low level (dry circuit): Voltage drop shall not exceed 36 millivolts. Wire size is not applicable.

Contact resistance: Voltage drop shall not exceed 36 millivolts. Current Rating, 3 Amp.

Temperature rating: -55°C to +125°C.

Voltage rating: 300 Volts, AC (RMS), at sea level.

Durability: In accordance with MIL-DTL-28754 and shall not exceed 36 millivolts.

Solderability: In accordance with MIL-DTL-28754.

Part or Identifying Number (PIN): M28754/60- (Dash number from Table I).

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TABLE I

Dash number	Dimension "Y"	Key pin hole size Inch (mm)	Shell material
01	.034 ± .002 (0.86 ± .05)	.114 +.000-.005 (2.90 +.00-.13 mm)	Type GDI-30F or SDG-F
02	.034 ± .002 (0.86 ± .05)	.098 ± .001 (2.49 ± .03)	Aluminum Alloy
03	.034 ± .002 (0.86 ± .05)	.095 ± .001 (2.41 ± .03)	Type GLT-20F or GLT-30F
04	.060 ± .002 (1.52 ± .05)	.114 +.000-.005 (2.90 +.00-.13 mm)	Type GLT-20F or GLT-30F
05	.060 ± .002 (1.52 ± .05)	.098 ± .001 (2.41 ± .03)	Aluminum Alloy
06	.060 ± .002 (1.52 ± .05)	.095 ± .001 (2.41 ± .03)	Type GLT-20F or GLT-30F

Warning: The GLT-20F or GLT-30F may be susceptible to stress cracking when exposed to certain cleaning solvents.

First article testing: Perform the applicable tests as specified in MIL-DTL-28754 and the appendix thereto.

Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue 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 and relationship to the previous issue.

Referenced documents. In addition to MIL-DTL-28754, this document references the following:

MIL-A-8625
MIL-M-24519
MIL-DTL-45204
ASTM D5948
ASTM B 122/B122M
ASTM B36/B36M
ASTM B221
ASTM B241/B241M
EIA-364-20
J-STD-004
J-STD-006
SAE AMS4017
SAE AMS4150
SAE-AMS-QQ-N-290

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CONCLUDING MATERIAL

Custodians:
Navy – AS
Air Force - 85
DLA - CC

Preparing activity:
DLA – CC

(Project 5935-2016-080)

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/>.