

INCH-POUND

MIL-DTL-12883/1F  
18 February 2003  
SUPERSEDING  
MIL-PRF-12883/1E  
28 June 1996

DETAIL SPECIFICATION SHEET

SOCKETS AND ACCESSORIES FOR PLUG-IN ELECTRONIC COMPONENTS  
(ELECTRON TUBE, BOTTOM MOUNTING, SADDLE TYPE 8 CONTACT, RADIAL)

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 and MIL-DTL-12883.

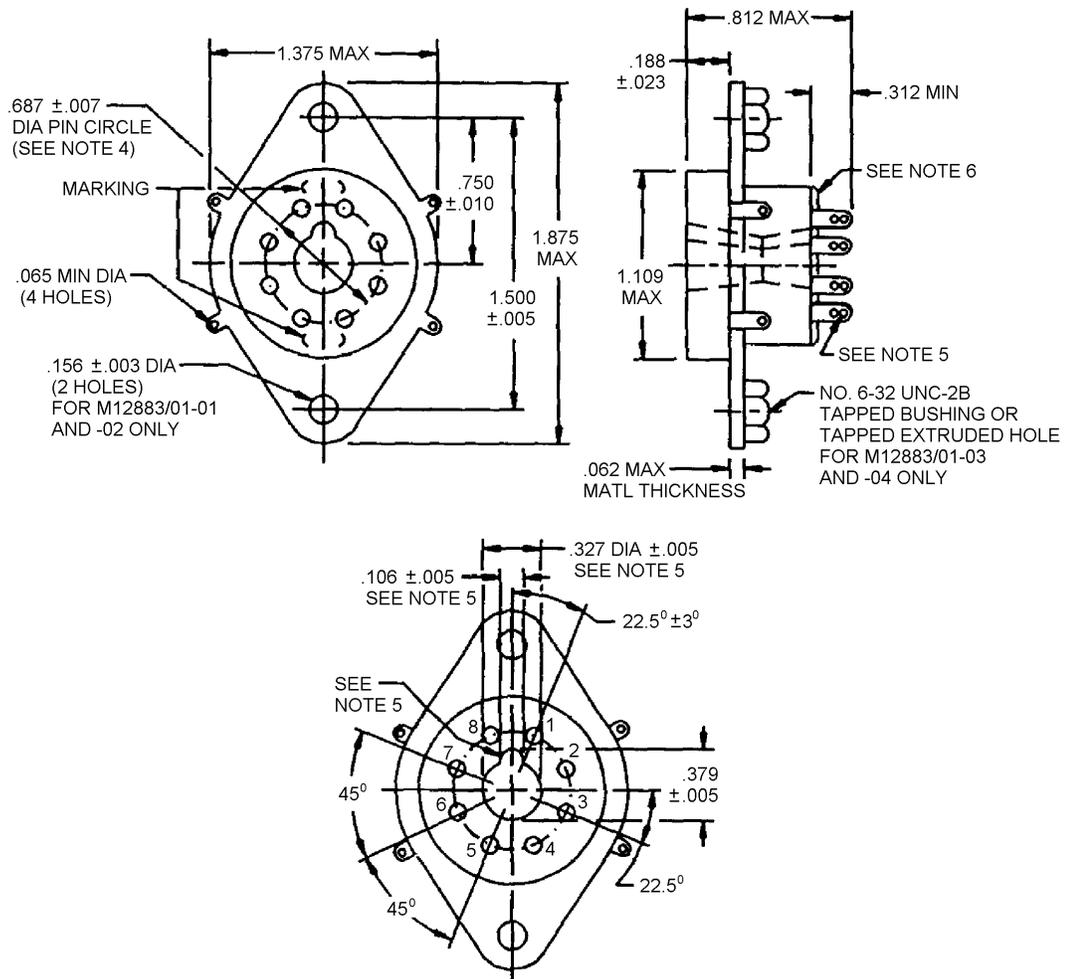


FIGURE 1. Socket configuration.

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Inches	mm	Inches	mm	Inches	mm	Inches	mm
.003	0.08	.062	1.57	.312	7.92	.812	20.62
.005	0.13	.065	1.65	.327	8.31	1.109	28.17
.007	0.18	.106	2.69	.379	9.63	1.375	34.93
.010	0.25	.156	3.96	.687	17.45	1.500	38.10
.023	0.58	.188	4.78	.750	19.05	1.875	47.63

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is  $\pm .016$  inch (0.41 mm) and  $\pm \frac{1}{2}^\circ$  on angles.
4. Eight contact cavities equally spaced, and each cavity located within  $\frac{1}{2}^\circ$  of true position, shall be established along the pin circle.
5. Each contact tab shall have either:
  - a. 1 hole of .125 inch (2.39 mm) minimum length and .065 inch (1.65 mm) minimum width.
  - b. 2 wire holes of .065 inch (1.65 mm) minimum diameter.

The hole, or holes shall lie on the longitudinal centerline of the contact tab within  $\pm .008$  inch (0.20 mm).
6. Barriers and their shapes are optional. When present, barriers shall have a maximum height of 0.94 inch (2.39 mm).
7. Keyway may be square or rounded. For rounded keyways, radius shall be 0.53 inch (1.35 mm), and blending shall be allowed at the junction of the keyway and the center hole. Center-pin hole shall be relieved to allow the locating pin freedom to rock when a tube is withdrawn. Method of meeting this requirement is optional.
8. Material thickness of mounting flange shall be measured in an area where burring or dishing of the mounting hole is not present.

FIGURE 1. Socket configuration – Continued.

REQUIREMENTS:

Dimensions and configurations: See figure 1, and table I.

Insulating material: Ceramic, Diallyl Ortho-Phthalate in accordance with ASTM PS 15 type, SDG-F, GDI-30F, or mineral-filled Phenolic resin in accordance with ASTM D5948 type MFE, see table I.

Contact cavities: One shape only; D-shaped or circular, at option of the manufacturer.

Electrical:

Insulation resistance: 1,000 megohms minimum. Test pin diameter:  $.093 \pm .001$  inch (2.36  $\pm$  .03 mm).

Dielectric withstanding voltage:

Sea level: Test voltage: 3,500 volts root mean square (ms). Test pin diameter  $.093 \pm .001$  inch (2.36  $\pm$  .03 mm).

High altitude: Test voltage: 1,000 volts rms. Test pin diameter:  $.093 \pm .001$  inch (2.36  $\pm$  .03 mm).

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Contact resistance:

Average for all contacts: 0.015 ohm maximum.

Individual contacts: 0.03 ohm maximum.

Continuity test circuit: The header shall be the one used for electron tube 6AC7WA.

Mechanical:

Insertion and withdrawal force:

Initial insertion force: 25 pounds (111 newton) maximum.

Initial withdrawal force: 8 pounds (36 newton) minimum, 20 pounds (89 newton) maximum.

Torque: M12883/01-03 and -04 sockets shall be subjected to a torque of 12 pounds-inches (53 newton).

Vibration: The test gage shall be in accordance with MIL-DTL-12883 (see appendix).

Durability: After the durability test, the withdrawal force shall be 5 pounds (22 newton) minimum.

Static load: 80 pounds (356 newton).

The part shall be designed to operate at the following conditions:

Environmental:

Operating temperature: See table I.

TABLE I. Dash number, and characteristics.

Dash number	Operating temperature °C	Insulating material	Mounting style	Old type designator
-01	200	Ceramic	Clearance hole	TS101C01
-02	100	SDG-F, GDI-30, or MFE	Clearance hole	TS101P01
-03	200	Ceramic	Threaded bushing	TS101C02
-04	100	SDG-F, GDI-30, or MFE	Threaded bushing	TS101P02

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Test gage details: See table II and MIL-DTL-12883 (see appendix).

TABLE II. Test gage details. 1/ 2/

Inspection	A Pin length (mm)	B Pin dia (mm)	M Test-end dia (mm)	C Pin-circle dia (mm)
Insertion and withdrawal force	.437 ±.005 (11.10 ±0.13)	.0905 ±.0001 (2.999 ±0.003)	---	.6870 (17.450) basic
Contact resistance	.437 ±.005 (11.10 ±0.13)	.0905 ±.0001 (2.999 ±0.003)	---	.6870 (17.450) basic
Contact retention	.437 ±.005 (11.10 ±0.13)	---	.0905 ±.0001 (2.999 ±0.003)	---
Durability	.437 ±.005 (11.10 ±0.13)	.0955 ±.0001 (2.426 ±0.003)	---	.6870 (17.450) basic

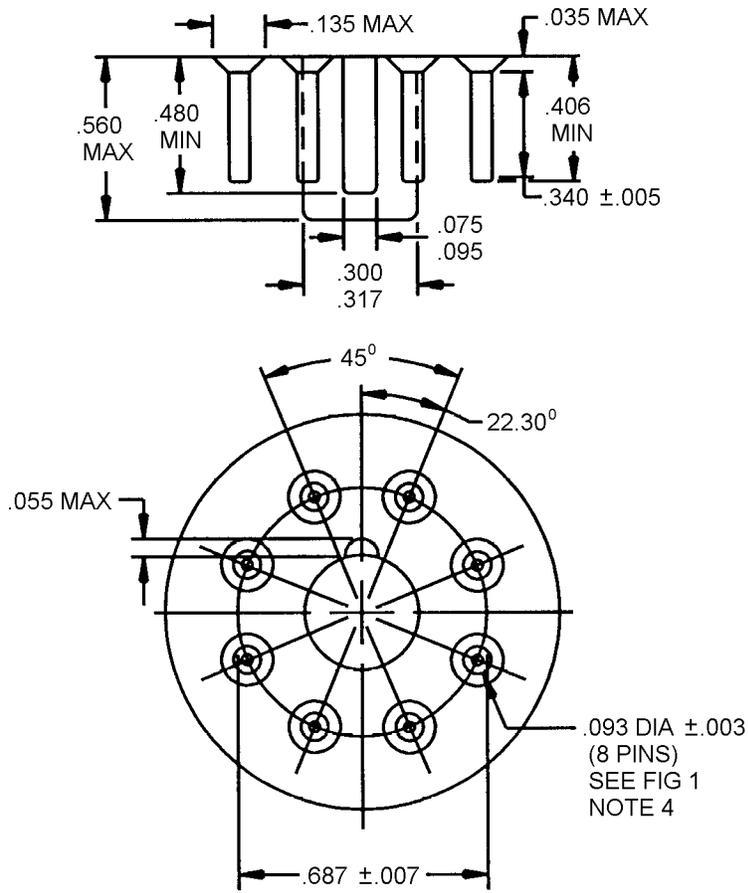
Inspection	N Probe-end dia (mm)	D Gage dia max (mm)	No. of pins	Total weight of gage ounces (grams) (±5%)
Insertion and withdrawal force	---	1-7/64 (28.18)	8	---
Contact resistance	---	1-7/64 (28.18)	8	---
Contact retention	.0955 ±.0001 (2.426 ±0.003)	---	---	2 (56.7)
Durability	---	1-7/64 (28.18)	8	---

1/ Dimensions are in inches.

2/ Metric equivalents are given for general information only.

Mating-base dimensions: Sockets shall accommodate plug-in components having mating-base dimensions as shown on figure 2.

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Inches	mm
.003	0.08
.005	0.13
.007	0.18
.035	0.89
.055	1.40
.075	1.91
.093	2.36
.095	2.41
.135	3.43
.300	7.62
.317	7.66
.340	8.64
.406	10.31
.480	12.19
.560	14.22
.687	17.45

NOTES:

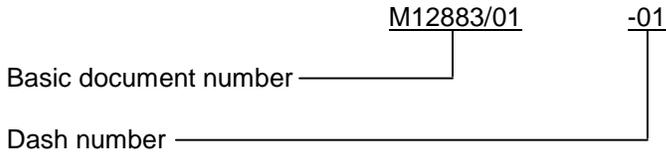
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FIGURE 2. Mating-base dimensions.

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Part or identifying number (PIN): The PIN shall consist of the basic number of this specification sheet and the dash number from table I.

Example:



NOTES:

1. This specification is subject to NATO international standardization agreement NEPR 67.
2. The Government PIN, specified in table III, supersedes the following commercial PINs.

TABLE III. Supersession and cross reference data.

Active Government PIN	Superseded PIN					
	CAGE 72825	CAGE 32657	CAGE 49956	CAGE 08385	CAGE 56232	CAGE 06481
M12883/01-01	9751-084-01	R883B15	282-1043P2	305001572	752854-002	900999-6662
M12883/01-02	9751-077	2	NA	NA	NA	NA
M12883/01-03	9751-084-03	NA	NA	NA	NA	NA
M12883/01-04	TBD	NA	NA	NA	NA	NA

TABLE III. Supersession and cross reference data – Continued.

Active Government PIN	Superseded PIN		
	CAGE 02734	CAGE 49671	CAGE H0203
M12883/01-01	99393-2	99393-2	35225002816
M12883/01-02	NA	NA	6
M12883/01-03	NA	NA	NA
M12883/01-04	NA	NA	NA

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CONCLUDING MATERIAL

Custodians:

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

Preparing activity:  
DLA – CC

(Project 5935-4344-01)

Review activities:

Army – AT, AV, CR4, EA, MI  
Navy – AS, CG, MC, SH  
Air Force – 99