

INCH-POUND

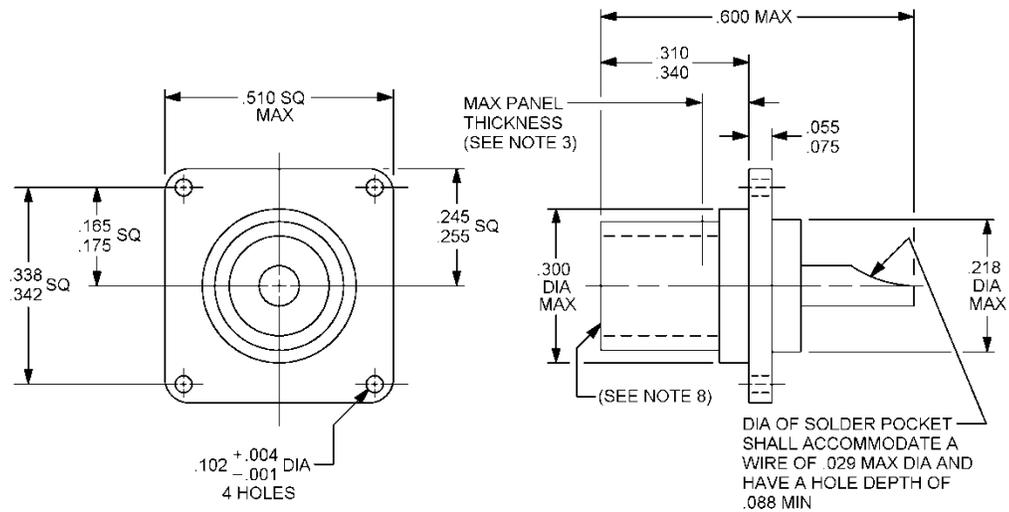
MIL-PRF-39012/60D
w/AMENDMENT 1
15 July 2016
SUPERSEDING
MIL-PRF-39012/60D
14 July 2011

PERFORMANCE SPECIFICATION SHEET

CONNECTORS, RECEPTACLES, ELECTRICAL, COAXIAL, RADIO FREQUENCY
SERIES SMA (UNCABLED, SOCKET CONTACT, FLANGE MOUNTED, CLASS 2)

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-PRF-39012.



4 - HOLE CONFIGURATION (M39012/60-3001 AND M39012/60-4001)

Inches	mm	Inches	mm	Inches	mm	Inches	mm
.001	0.02	.08	2.0	.235	5.97	.340	8.64
.004	0.10	.088	2.24	.245	6.22	.342	8.69
.010	0.25	.102	2.59	.255	6.48	.481	12.22
.029	0.74	.165	4.19	.300	7.62	.510	19.25
.055	1.40	.175	4.45	.310	7.78	.600	15.24
.075	1.91	.218	5.54	.338	8.49	.625	15.88

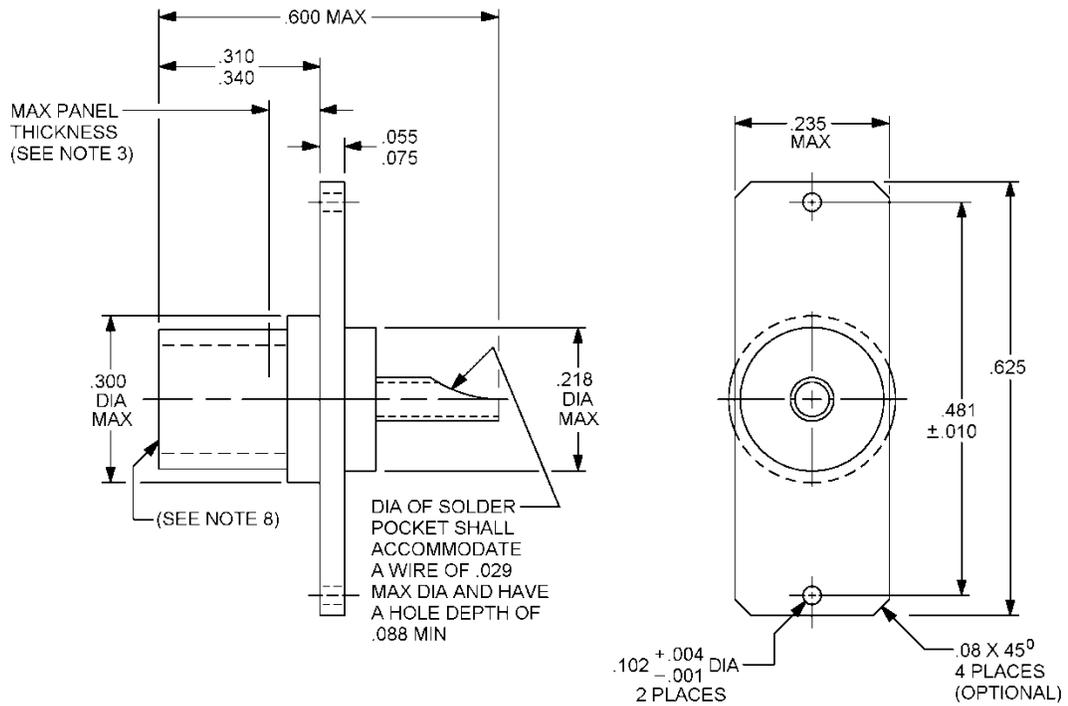
FIGURE 1. General configuration.

AMSC N/A

FSC 5935



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2 - HOLE CONFIGURATION (M39012/60-3002 AND M39012/60-4002)

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Receptacle recommended for component part use and for use on panels with a .090 inch (2.29 mm) maximum thickness.
4. All un-dimensioned pictorial configurations are for reference purposes only.
5. There shall be a solid barrier in the socket between the pin entry and the solder pocket to prevent solder wicking.
6. Unless otherwise specified, tolerance is ± 0.005 (0.13 mm) on three-place decimals .010 inch (0.25 mm) on two-place decimals and $\pm 2^\circ$ on angles.
7. Solder pockets shall be gold plated in accordance with ASTM B488, type II, code C, class 1.27.
8. Series SMA, socket contact interface shall be in accordance with MIL-STD-348.

FIGURE 1. General configuration - Continued.

ENGINEERING DATA:

Nominal impedance: 50 ohms.

Frequency range: Not rated.

Voltage rating: 335 volts rms maximum at sea level, 85 volts rms maximum at 70,000 feet.

Temperature rating: -65°C to +165°C.

REQUIREMENTS:

Dimensions and configuration: See figure 1 and MIL-STD-348.

Force to engage and disengage:

Longitudinal force: Not applicable.

Torque: 2 inch-pounds, maximum.

Coupling proof torque: Not applicable.

Inspection conditions: For each test of threaded coupling connector where the test is performed on mated pairs, the pairs shall be torqued to 7 to 10 inch-pounds.

Mating characteristics: See MIL-STD-348 and figure 2 for dimensions.

Contacts with spring members.

Center contact (female):

Oversize test pin: $.0375 +.0001/-.0000$ inch.

Test pin finish: 16 microinches.

Insertion depth: $.030/.045$ inch.

Number of insertions: 3.

Insertion force test:

Steel test pin diameter: $.0370 +.0001/-.0000$ inch.

Insertion depth: $.050/.075$ inch.

Test pin finish: 16 microinches.

Insertion force: 2 pounds, maximum.

Withdrawal force test:

Steel test pin diameter: $.0355 +.0000/-.00001$ inch.

Insertion depth: $.050/.075$ inch.

Test pin finish: 16 microinches.

Withdrawal force: 1 ounce, minimum.

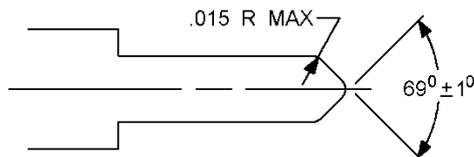


FIGURE 2. Test pin data.

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Hermetic seal: Not applicable.

Leakage (pressurized connectors): Not applicable.

Insulation resistance: In accordance with test procedure EIA - 364-21, 5,000 mega ohms minimum.

Center contact retention:

Axial force: 6.0 pounds minimum.

Radial torque: 4 inch-ounces minimum.

Solderability: In accordance with MIL-STD-202-208 (for quality conformance inspection, the test shall be performed in group B following the insulation resistance test.)

Resistance to test probe damage: Not applicable.

Corrosion (salt spray): In accordance with test procedure EIA - 364-26.

Voltage standing wave ratio (VSWR): Not applicable.

Connector durability: In accordance with test procedure EIA - 364-09, 500 cycles minimum at 12 cycles per minute maximum. The connector shall meet mating characteristics and force to engage and disengage requirements.

Contact resistance: In milliohms, maximum.

	<u>Initial</u>	<u>After environment</u>
Center contact:	3.0	4.0
Outer contact:	2.0	Not applicable

Dielectric withstanding voltage at sea level: In accordance with test procedure EIA - 364-20, 1,000 Volts rms.

Vibration, high frequency: In accordance with test procedure EIA - 364-28, test condition IV.

Shock: In accordance with test procedure EIA - 364-27, condition G.

Thermal shock: In accordance with test procedure EIA - 364-32, 5 cycles, except test high temperature shall be +200°C.

Humidity: In accordance with test procedure EIA - 364-31. No measurements at high humidity.

Insulation resistance shall be at least 200 mega ohms within 5 minutes after removal from humidity.

Corona level:

Voltage: 250 volts minimum.

Altitude: 70,000 feet.

RF high potential withstanding voltage:

Voltage and frequency: 670 Volts rms at 5 MHz.

Leakage current: Not applicable.

Cable retention force: Not applicable.

Coupling mechanism retention force: Not applicable.

RF leakage: Not applicable.

RF insertion loss: Not applicable.

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Group qualification: See table I.

TABLE I. Group qualification and retention testing.

Group	PINs <u>1/</u> <u>2/</u>
I	M39012/60-3001 M39012/60-3002 M39012/61-3001 M39012/61-3002
II	M39012/60-4001 M39012/60-4002 M39012/61-4001 M39012/61-4002

1/ Submission and qualification of any connector in a group qualifies any and all connectors of the entire group.

2/ For qualification retention, data may be supplied on any part in a group to retain qualification for that entire group.

Amendment notations. The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. 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.

Referenced documents. In addition to MIL-PRF-39012, this document references the following documents:

MIL-STD-202-208	EIA - 364-09	EIA - 364-27
MIL-STD-348	EIA - 364-20	EIA - 364-28
ASTM B488	EIA - 364-21	EIA - 364-31
	EIA - 364-26	EIA - 364-32

CONCLUDING MATERIAL

Custodians:

Army - CR
Navy - EC
Air Force - 85
DLA - CC

Preparing activity:
DLA - CC

(Project 5935-2016-103)

Review activities:

Army - AM, AT, CR4, MI
Navy - AS, MC, OS, SH
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 <https://assist.dla.mil>.