

INCH-POUND

MIL-PRF-39012/61C

14 May 2004

SUPERSEDING

MIL-PRF-39012/61B

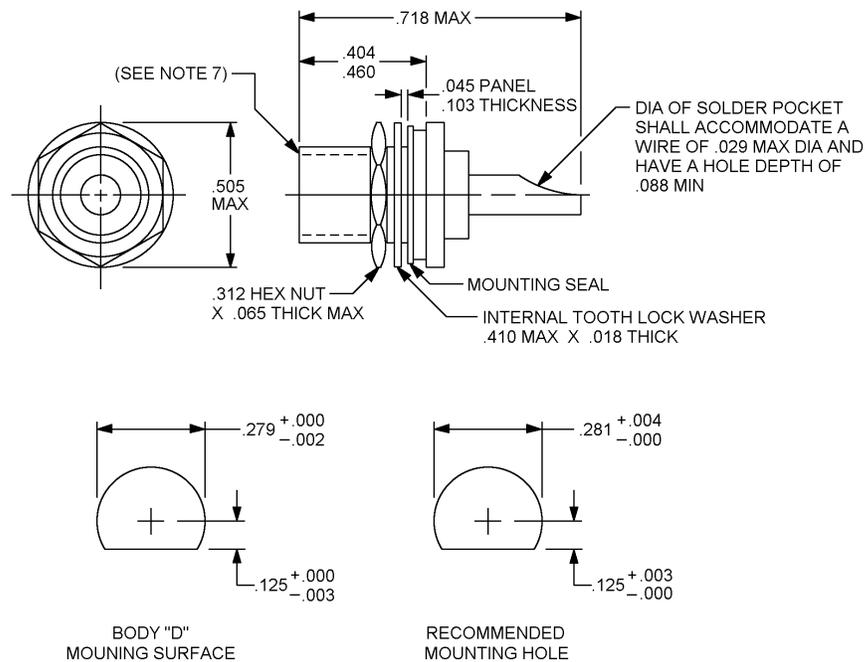
25 January 1995

PERFORMANCE SPECIFICATION SHEET

CONNECTORS, RECEPTACLES, ELECTRICAL, COAXIAL, RADIO FREQUENCY, SERIES SMA
(UNCABLED, SOCKET CONTACT, JAM NUT 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.

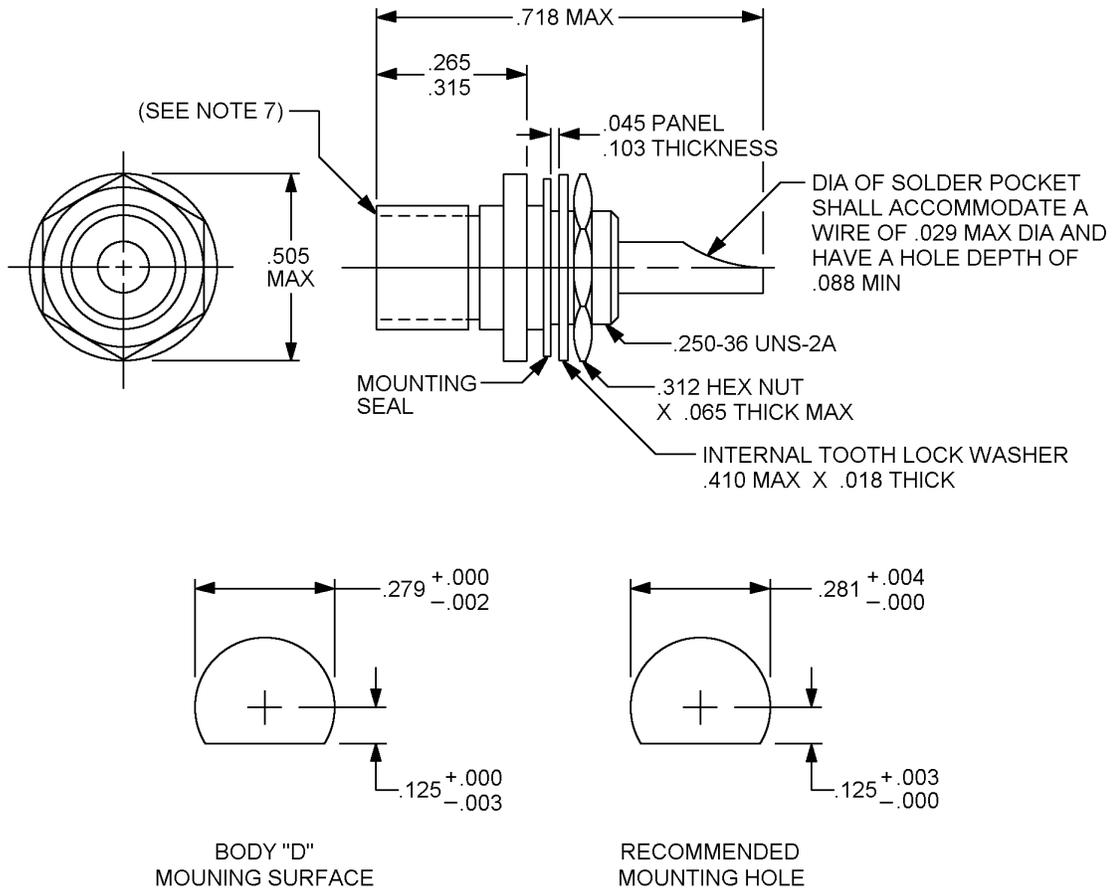


REAR MOUNT (M39012/61-3001 AND M39012/61-4001)

Inches	mm	Inches	mm	Inches	mm
.002	0.05	.088	2.24	.312	7.92
.003	0.08	.103	2.62	.315	8.00
.004	0.10	.125	3.18	.404	10.26
.018	0.46	.250	6.35	.410	10.41
.029	0.74	.265	6.73	.460	11.68
.045	1.14	.279	7.09	.505	12.83
.065	1.65	.281	7.14	.718	18.24

FIGURE 1. General configuration.

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FRONT MOUNT (M39012/61-3002 AND M39012/61-4002)

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Dimension .505 inch (12.83 mm) is the largest overall diameter of the connector.
4. All undimensioned 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. Solder pockets shall be gold plated in accordance with ASTM B488, type II, class I.27.
7. Series SMA, socket contact interface shall be in accordance with MIL-STD-348.

FIGURE 1. General configuration - Continued.

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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: $.0375 + .0001/-0.0000$ inch.

Test pin finish: 16 microinches.

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

Number of insertions: 3.

Insertion force test:

Steel test pin diameter: $.0370 + .0001/-0.0000$ inch.

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

Test pin finish: 16 microinches.

Insertion force: 2 pounds, maximum.

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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.

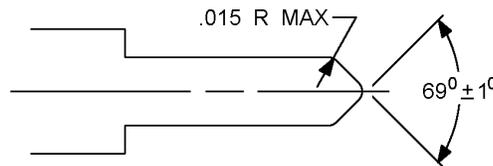


FIGURE 2. Test pin data

Hermetic seal: Not applicable.

Leakage (pressurized connectors): Connectors shall be mounted in mounting hole shown on figure 1 with mating end capped. Test applicable to mounting seal only.

Air pressure: 30 psi.

Duration: 30 seconds minimum, 2 minutes maximum.

Insulation resistance: Test procedure 021 of EIA 364, 5,000 megohms minimum.

Center contact retention:

Axial force: 6.0 pounds minimum.

Radial torque: 4 inch-ounces minimum.

Solderability: Method 208 of MIL-STD-202 (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): Test procedure 026 condition B of EIA 364.

Voltage standing wave ratio (VSWR): Not applicable.

Connector durability: Test procedure 009 of EIA 364, 500 cycles minimum at 12 cycles per minute maximum. The connector shall meet mating characteristics and force to engage and disengage requirements.

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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: Test procedure 020 condition of EIA 364, 1,000 volts rms.

Vibration, high frequency: Test procedure 028 test condition IV of EIA 364.

Shock: Test procedure 027 condition G of EIA 364, except test high temperature shall be +200°C.

Thermal shock: Test procedure 032 condition I, 5 cycles, except test high temperature shall be +200°C.

Humidity: Test procedure 031 method IV of EIA 364. No measurements at high humidity. Insulation resistance shall be at least 200 megohms 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.

Group qualification: See table I.

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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.

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

In addition to MIL-PRF-39012, this specification sheet references the following documents:

MIL-STD-202
MIL-STD-348
ASTM B488
EIA 364

CONCLUDING MATERIAL

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

Preparing activity:
DLA - CC
(Project 5935-4620-002)

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 <http://www.dodssp.daps.mil>.