

INCH-POUND

MIL-PRF-39012/96A
w/AMENDMENT 4
3 June 2022
SUPERSEDING
MIL-PRF-39012/96A
w/AMENDMENT 3
21 April 2020

PERFORMANCE SPECIFICATION SHEET

CONNECTORS, RECEPTACLE, ELECTRICAL, COAXIAL, RADIO FREQUENCY,
SERIES SMB (UNCABLED, MALE, PRINTED CIRCUIT, RIGHT ANGLE, 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.

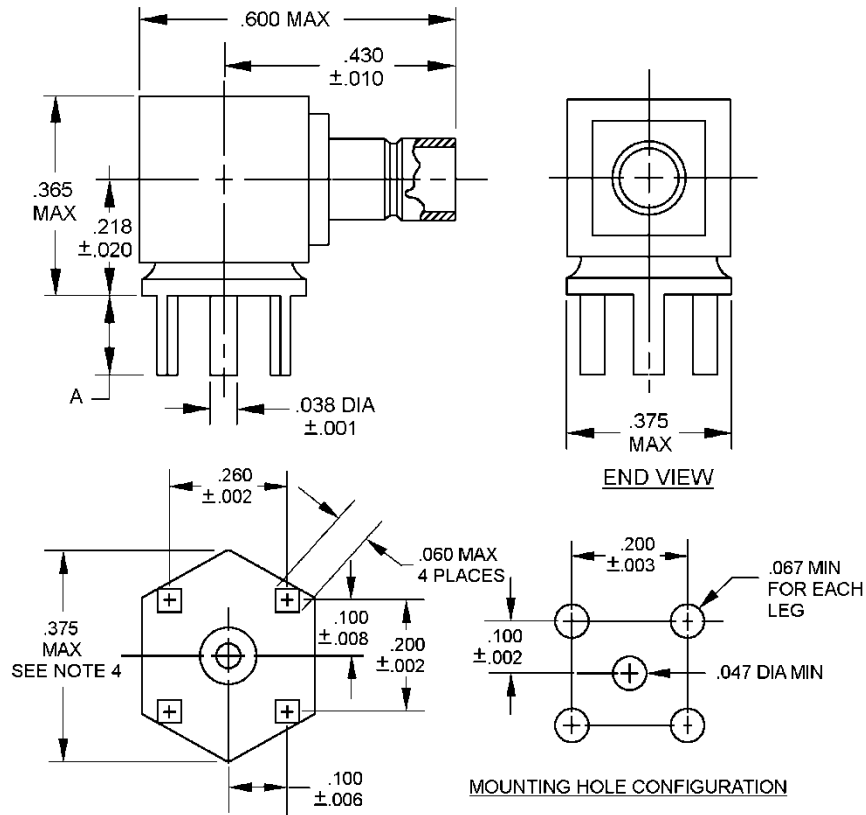


FIGURE 1. General configuration.



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Dash number		Dimension A
0001 (see note 6)	0004	.155 (3.94) $\pm$.010 (.25)
0002 (see note 6)	0005	.125 (3.18) $\pm$.010 (.25)
0003 (see note 6)	0006	.093 (2.38) $\pm$.010 (.25)

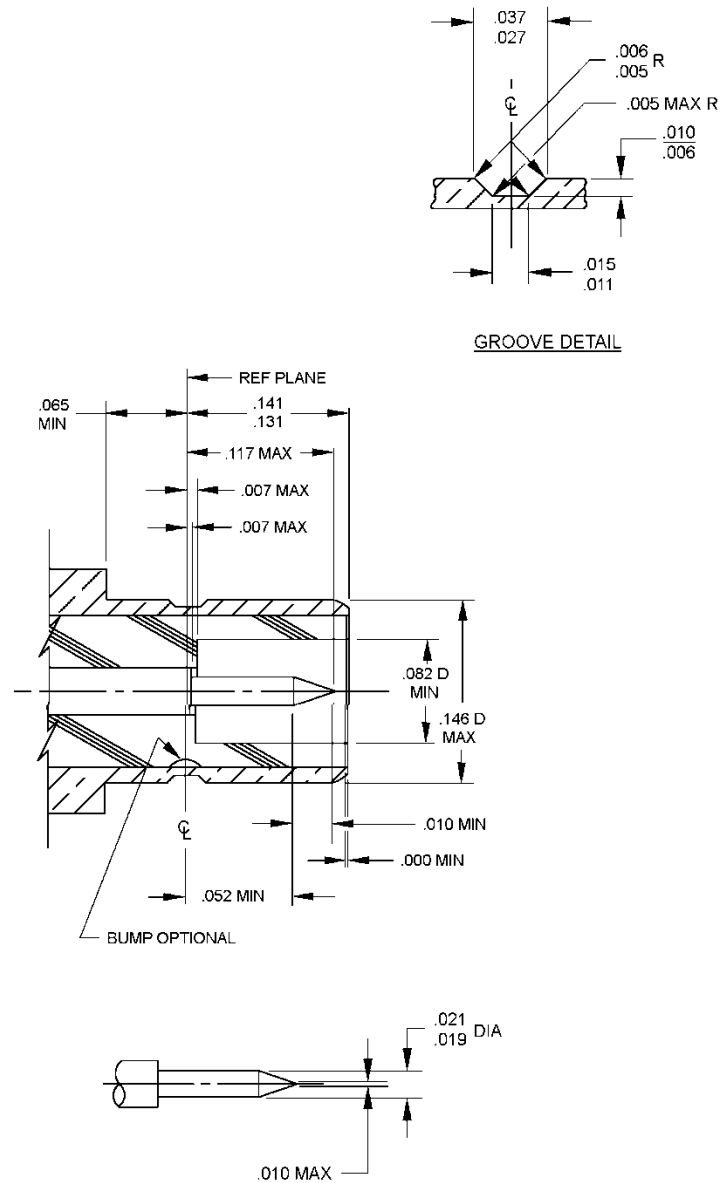
INCHES	MM	INCHES	MM
.001	.02	.100	2.54
.002	.05	.200	5.08
.003	.08	.218	5.54
.008	.20	.367	9.32
.020	.51	.375	9.52
.038	.97	.385	9.78
.047	1.19	.430	10.92
.060	1.52	.600	15.24
.067	1.70		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. All undimensioned pictorial representations are for reference purposes only.
4. Configuration optional: dimension .375 (9.52 mm) is the maximum envelope diameter.
5. Not for NAVAIR use.
6. Connector bodies shall be gold-plated in accordance with ASTM B488, type II, code C, class 1.27.

FIGURE 1. General configuration – Continued.

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INCHES	MM	INCHES	MM
.002	.05	.027	.69
.005	.13	.037	.94
.006	.15	.052	1.32
.007	.18	.065	1.65
.010	.25	.082	2.08
.011	.28	.117	2.97
.015	.38	.131	3.33
.019	.48	.141	3.58
.021	.53	.146	3.71

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. All undimensioned pictorial representations are for reference purposes only.

FIGURE 2. Mating dimensions for male terminations.

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ENGINEERING DATA:

Nominal impedance: 50 ohms.

Frequency range: 0 to 4 GHz.

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

Temperature rating: -65° to +165°C.

REQUIREMENTS:

Dimensions and configuration: See figure 1.

Force to engage and disengage:

Longitudinal force: 14 pounds maximum engage, 2 pounds minimum disengage.

Torque: Not applicable.

Coupling proof torque: Not applicable.

Inspection conditions: Not applicable.

Mating characteristics: See figure 2 for dimensions.

Hermetic seal: Not applicable.

Leakage (pressurized connectors): Not applicable.

Insulation resistance: In accordance with MIL-STD-202-302, test condition B, 1,000 megohms minimum.

Center contact retention:

Minimum axial force. 6.0 pounds from mating end; 4.0 pounds from opposite end.

Torque: 3 inch-ounces.

Solderability: MIL-STD-202-208. For quality conformance inspection, the test shall be performed in group B following the insulation resistance test.

Salt atmosphere (corrosion): In accordance with MIL-STD-202-101, test condition B.

Voltage standing wave ratio (VSWR): Not applicable.

Swept frequency VSWR test setup: Not applicable.

Connector durability:

Insertion and withdrawal force: 500 cycles minimum at 12 cycles per minute maximum.

The mating force shall meet the mating characteristics requirements.

Initial: 14 pounds maximum.

Final: 14 pounds maximum engage and disengage, 2 pounds minimum disengagement.

Contact resistance: In milliohms maximum.

	Initial	After environment
Center contact	6.0	8.0
Outer contact	1.0	1.5
Braid to body	Not applicable	Not applicable

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Dielectric withstanding voltage: MIL-STD-202-301, 1,000 volts rms minimum at sea level.

Vibration, high frequency: MIL-STD-202-204, test condition B.

Shock: MIL-STD-202-213, test condition H.

Thermal shock: MIL-STD-202-107, test condition B.

Moisture resistance: Not applicable.

Corona Level: Not applicable.

RF high potential withstanding voltage:

Voltage and frequency: 600 volts rms at 5 MHz.

Leakage current: Not applicable.

Cable retention force: Not applicable.

Coupling mechanism retention force: Not applicable.

RF Leakage: Not applicable.

Insertion loss: Not applicable.

PIN: M39012/96 - (dash number from figure).

Group qualification: See table I.

TABLE I. Group qualification.

Group	Submission and qualification of any of the following connectors	Qualifies the following connectors
I	M39012/96-0001 M39012/96-0002 M39012/96-0003	M39012/96-0001, M39012/96-0004 <u>1/</u> M39012/96-0002, M39012/96-0005 <u>1/</u> M39012/96-0003, M39012/96-0006 <u>1/</u>

1/ Corrosion (salt spray) and contact resistance data must be submitted to the qualifying activity before qualification approval may be granted.

NOTE: If a connector manufacturer produces a connector which meets all the requirements for two or more connector types (within the same series), the manufacturer may receive qualification approval for the two or more connector types by qualifying the one connector. It is not necessary that such connectors be in the same group. Each connector, however, must be marked with its own appropriate part number.

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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:

MIL-STD-202-101	MIL-STD-202-208	MIL-STD-202-302
MIL-STD-202-107	MIL-STD-202-213	
MIL-STD-202-204	MIL-STD-202-301	ASTM B488

CONCLUDING MATERIAL

Custodians:

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

Preparing activity:
DLA - CC

(Project 5935-2022-110)

Review activities:

Army - AM, AT, AR, CR4, MI
Navy - AS, MC, OS, SA, SH
Air Force - 19

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>.