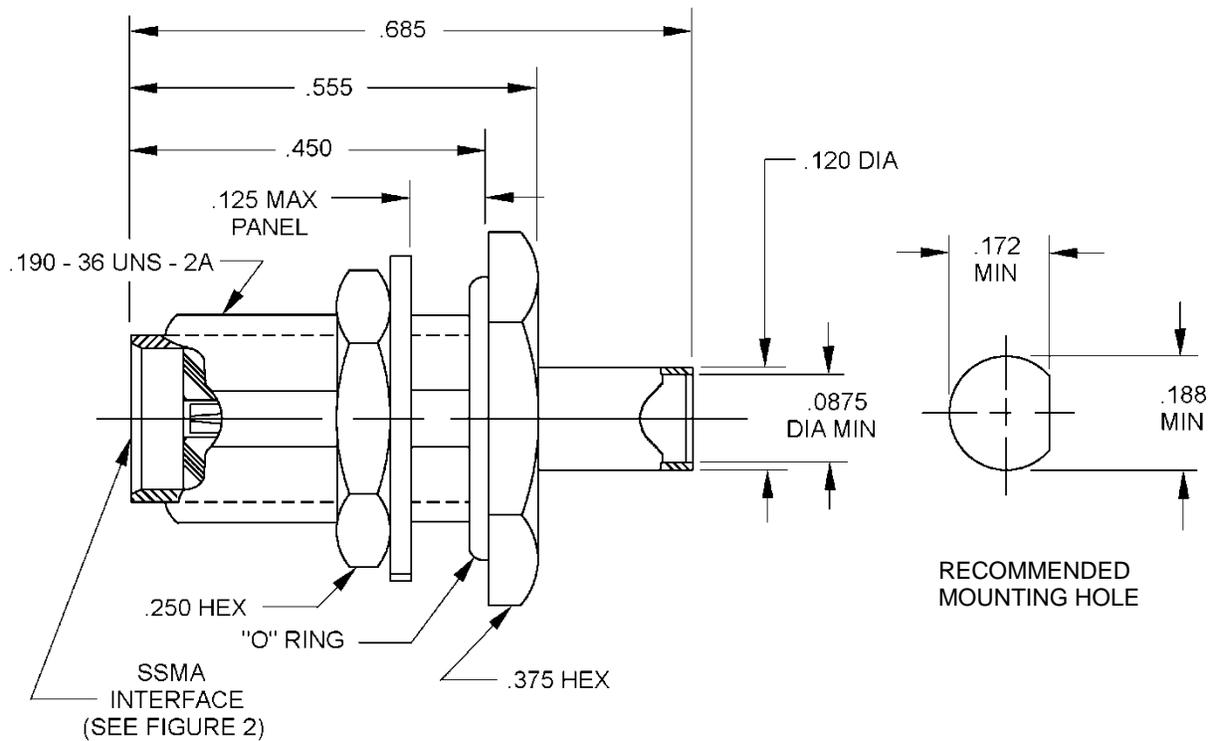


MIL-PRF-39012/138A
w/AMENDMENT 1
15 July 2016
SUPERSEDING
MIL-PRF-39012/138A
28 January 2013

PERFORMANCE SPECIFICATION SHEET
CONNECTOR, RECEPTACLE, ELECTRICAL, SERIES SSMA,
SOCKET CONTACT, FOR SEMIRIGID CABLE

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.



NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Mating dimensions in accordance with MIL-STD-348.
4. Wrench flats are to accommodate standard wrench opening in accordance with FED-STD-H28.
5. All undimensioned pictorial representations are for reference only.
6. Dimension .685 (17.40 mm) defines the maximum overall length of the connector when assembled to the cable.
7. Method of the assembly to the cable shall be solder.
8. Unless otherwise specified, tolerances are ± 0.005 (0.13 mm).

Inches	mm
.087	2.22
.120	3.04
.125	3.17
.172	4.36
.188	4.77
.190	4.82
.259	6.35
.375	9.52
.450	11.43
.555	14.09
.685	17.40

FIGURE 1. General configuration.



TABLE I. Dash number and applicable cable.

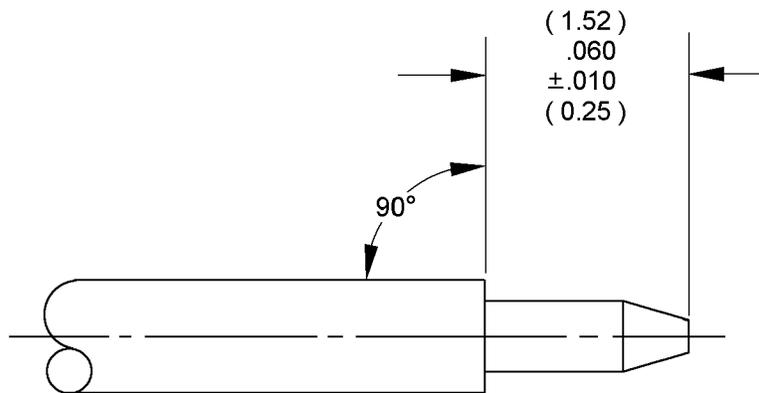
Dash no. <u>1/</u>	Applicable cable <u>2/</u>
Category A Field serviceable (no special tools required)	
3001	M17/133 RG405*
4001	M17/133-00001 through -00011
Category E Field serviceable (standard assembly tool kit) <u>3/</u> (see figure 2)	
3002	M17/133 RG405*
4002	M17/133-00001 through -00011

* Cable to be used when performing tests requiring cable.

1/ These connectors have captivated center contacts.

2/ MIL-DTL-17 cables are specified by the basic number. The latest version of each cable shall be applicable.

3/ All corrosion resistant steel bodied connectors shall be gold plated in accordance with ASTM B488, type II, code C, class 1.27 at least in the area of solder attachment.



NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.

FIGURE 2. Cable stripping dimensions for category E connectors.

ENGINEERING DATA:

Nominal impedance: 50 ohms.
Frequency range: 0 to 35 GHz.
Voltage rating:
 250 V rms at sea level.
 60 V rms at 70,000 feet.
Operating temperature: -65 C to 165 C.

REQUIREMENTS:

Dimensions and configurations: See figure 1.

Force to engage and disengage;
 Longitudinal force: Not applicable.
 Torque: 2.0 inch-pounds maximum.

Mating characteristics:

Center contact (socket):
 Oversized test pin: .0213 +.0001 -.0000 inch.
 Test pin finish: 16 microinches.
 Insertion depth: .045.
 Number of insertions: 1.

Insertion force test:
 Steel test pin diameter: .0208 +.0001, -.0000 inch.
 Insertion depth: .050 to .065.
 Test pin finish: 16 microinches.
 Insertion force: 3 pounds maximum.

Withdrawal force test:
 Steel test pin diameter: .0195 +.0000, -.0001 inches.
 Insertion depth: .050 to .065.
 Withdrawal force: 1 ounce.
 Test pin finish: 16 microinches.

Coupling proof torque: Not applicable.
Recommended mating torque: 2 inch-pounds.
Hermetic seal: Not applicable.
Leakage (pressurized connectors): Not applicable.
Center contact retention: 4 pounds minimum, axial force.
Radial torque: Not applicable.
Voltage standing wave ratio (Vswr): $1.07 + .010F$ (F in GHz), maximum.

Moisture resistance: In accordance with MIL-STD-202-106, no measurement at high humidity. Insulation resistance shall be at least 200 megohms, within 5 minutes after removal from humidity.

Contact resistance: In milliohms, maximum:

	<u>Initial</u>	<u>After environment</u>
Center contact:	4.0	4.0
Outer contact:	2.0	Not Applicable
Outer conductor to body:	0.5	Not Applicable

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Dielectric withstanding voltage: 750 Vrms, minimum at sea level.

Vibration, high frequency: In accordance with MIL-STD-202-204.

Corona level:

Altitude. 70,000 feet, 190 Vrms minimum.

Shock (specified pulse): In accordance with MIL-STD-202-213.

Thermal shock: in accordance with MIL-STD-202-107, except test high temperature shall be +85°C.

Barometric pressure (reduced): Not applicable.

RF high potential withstanding voltage: 500 Vrms minimum.

Frequency: 5 MHz.

Leakage current: Not applicable.

Cable retention force: 30 pounds minimum.

Torque: 16 inch-ounces minimum.

Coupling mechanism retention force: Not applicable.

RF leakage: -90°F (F in Ghz) dB, minimum.

RF insertion loss: $.04\sqrt{F, GHz} dB$, maximum.

Part or Identifying Number (PIN): M39012/138- (dash number from table I).

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-DTL-17	MIL-STD-202-107	MIL-STD-348
FED-STD-H28	MIL-STD-202-204	ASTM B488
MIL-STD-202-106	MIL-STD-202-213	

CONCLUDING MATERIAL

Custodians:

Army - CR

Navy - EC

Air Force - 85

DLA - CC

Preparing activity:

DLA - CC

(Project 5935-2016-109)

Review activities:

Army - AR, AT, 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>.