

INCH-POUND

MIL-PRF-39012/139A

10 July 2007

SUPERSEDING

MIL-C-39012/139

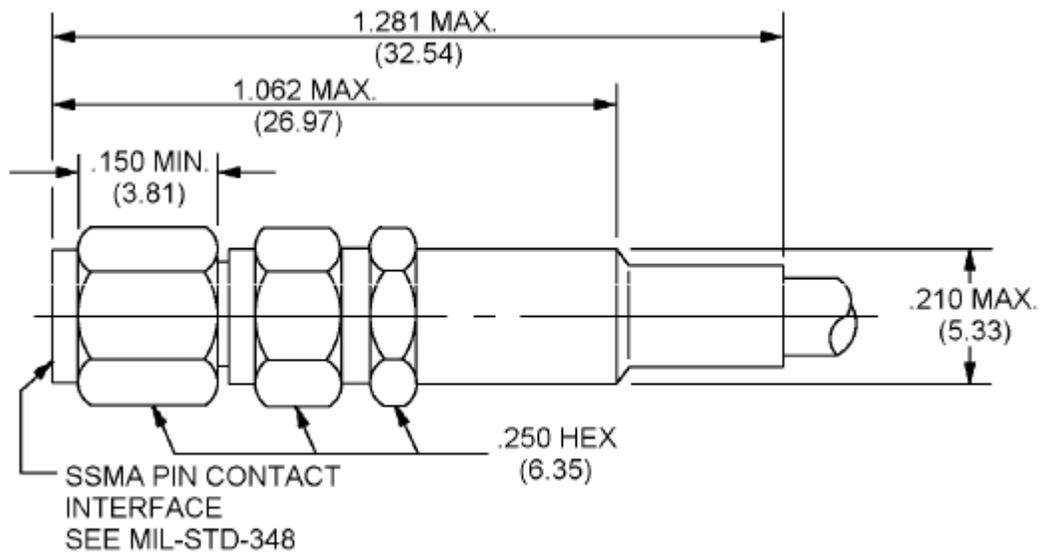
27 June 1989

PERFORMANCE SPECIFICATION SHEET

CONNECTOR, PLUG, ELECTRICAL, SERIES SSMA, PIN CONTACT, FOR FLEXIBLE CABLE, 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.



NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Wrench flats are to accommodate standard wrench opening in accordance with FED-STD-H28, appendix 10.
4. All undimensioned pictorial configurations are for reference purposes only.
5. Dimension 1.281 (32.54 mm) defines the maximum overall length of the connector when assembled to the cable.
6. Steel bodied connectors shall be furnished with passivated coupling nuts.
7. Unless otherwise specified, tolerances are $\pm .005$ inch (0.13 mm).
8. Safety wire holes, three holes equally spaced $.018$ (0.45 mm) $+.004$ (0.10 mm), $-.002$ (1.29 mm) inch diameter.

FIGURE 1. General configuration.

TABLE I. Dash number and applicable cable.

Dash number. <u>1/</u> <u>2/</u> <u>3/</u>	Applicable cable <u>4/</u>
CATEGORY A – FIELD SERVICEABLE <u>5/</u> (NO SPECIAL TOOLS REQUIRED)	
3001 3101 <u>6/</u> 4001 4101 <u>6/</u>	Cable group II M17/113-RG316*
CATEGORY C – FIELD REPLACEABLE <u>7/</u> <u>8/</u> (MIL-DTL-22520 CRIMP TOOL, SEE FIGURE 2)	
3002 3102 <u>6/</u> 4002 4102 <u>6/</u>	Cable group IIa M17/113-RG316*

* Cable to be used when performing tests requiring cable.

1/ These connectors have captivated center contacts.

2/ For logistics purposes, only connectors with safety wire holes will be stocked.

3/ Coupling nuts shall be corrosion-resistant steel with a passivated finish in accordance with MIL-F-14072. (Applies to “-3XXX” series connectors only.)

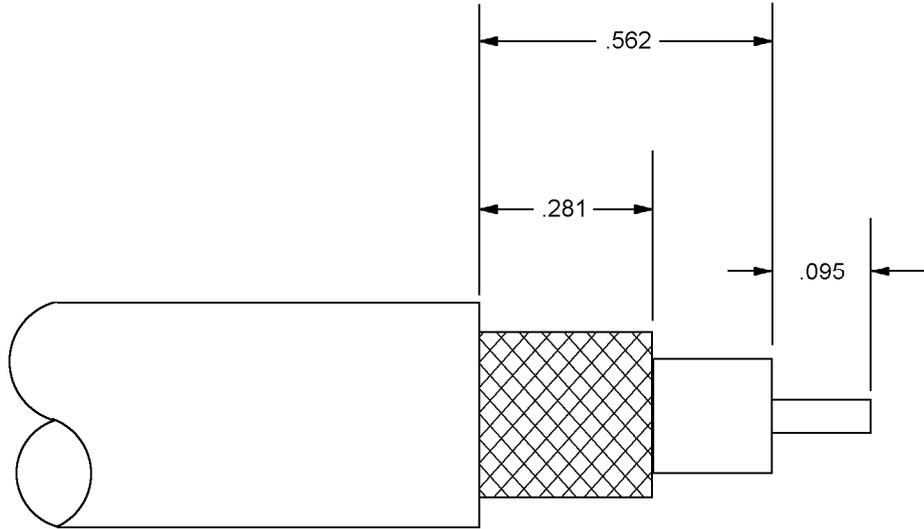
4/ Although only one MIL-DTL-17 cable Part Identifying Number (PIN) is specified, all cables in the specification sheet specified accommodate the connectors referenced herein, as shown in table I.

5/ 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.

6/ No safety wire holes.

7/ These connectors are assembled, using the applicable crimp tool, to the specified cables stripped as shown on figure 2.

8/ Preferred die is M22520/5-03, closure A.



Inches	mm
.095	0.41
.281	7.14
.562	14.27

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances shall be $\pm .005$ inch (0.13 mm).

FIGURE 2. Cable stripping dimensions for field replaceable connectors.

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ENGINEERING INFORMATION:

Impedance: 50 Ohms, nominal.

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 configuration: See figure 1.

Interface: MIL-STD-348. The following exception applies.

SSMA pin contact interface, dimension "L" shall not apply.

Force to engage and disengage:

Longitudinal force: Not applicable.

Torque: 2 inch-pounds, maximum.

Coupling proof torque: 7 inch-pounds, minimum.

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): $1.07 + .015F$ (F in GHz) dB, maximum.

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

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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

Dielectric withstanding voltage: 750 V rms, minimum at sea level.

Vibration, high frequency: In accordance with MIL-STD-202, method 204, test condition D.

Corona level:

Altitude: 70,000 feet, 190 V rms, minimum.

Shock (specified pulse): In accordance with MIL-STD-202, method 213, test condition I.

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

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

Barometric pressure (reduced): Not applicable.

RF high potential voltage: 500 V rms, minimum.

Frequency: 5 MHz.

Leakage current: Not applicable.

Cable retention force: 20 pounds, minimum.

Torque: Not applicable.

Coupling mechanism retention force: 60 pounds, minimum.

RF leakage: $-90 + F$ (F in GHz) dB, minimum.

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

PIN: M39012/139- (dash number from table I).

NOTE: This specification sheet supersedes DESC drawing 86119 once a QPL source is obtained.

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

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

FED-STD-H28
MIL-STD-202
MIL-STD-348
MIL-F-14072
MIL-DTL-22520
MIL-DTL-17
ASTM B488
86119

CONCLUDING MATERIAL

Custodians:

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

Preparing activity:
DLA - CC

(Project 5935-2006-044)

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 <http://assist.daps.dla.mil>.