

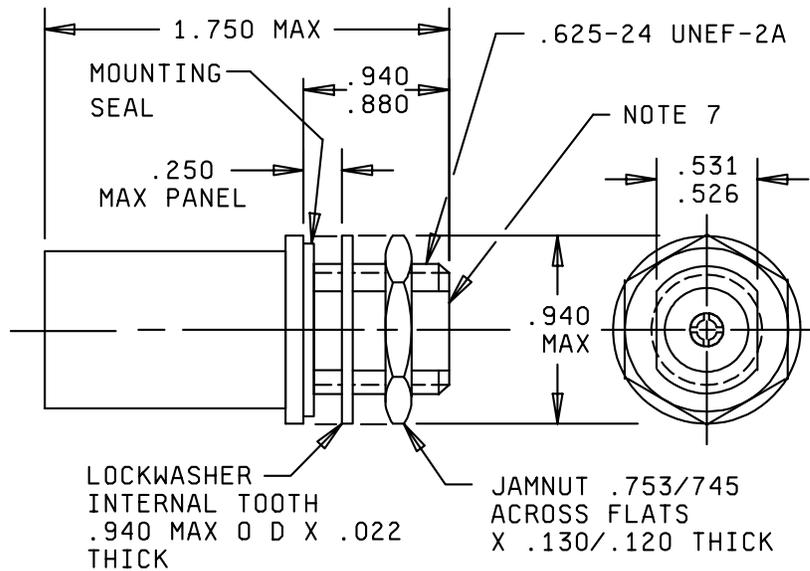
REVISIONS

LTR	DESCRIPTION	DATE	APPROVED
A	Add source 26805.	29 Nov 1988	Randy Larson
B	Change vendor part numbers. Editorial changes throughout.	8 Oct 1991	Randy Larson
C	Add new vendor PINs and address change for CAGE 95077.	10 Nov 1994	Randy Larson
D	PIN and source update.	16 Nov 2001	Robert M. Heber

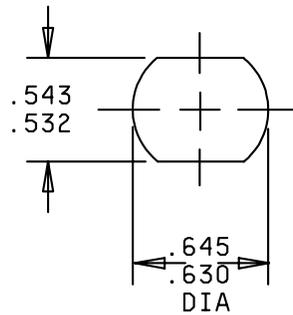
Prepared in accordance with MIL-STD-100

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PMIC N/A	PREPARED BY Ron Gary		DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OHIO 43216-5000															
Original date of drawing 16 May 1986	CHECKED BY C. W. Koeller		TITLE CONNECTOR, RECEPTACLE, ELECTRICAL, COAXIAL, RADIO FREQUENCY, SERIES N FOR SEMIRIGID CABLE															
	APPROVED BY R. Larson																	
	SIZE A	CAGE CODE 037Z3	DWG. NO. 86106															
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Inches	mm
.022	0.56
.120	3.05
.130	3.30
.250	6.35
.526	13.36
.531	13.49
.532	13.51
.543	13.79
.625	15.88
.630	16.00
.645	16.38
.745	18.92
.753	19.13
.880	22.35
.940	23.88
1.750	44.45



SUGGESTED MOUNTING HOLE

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Dimensions 1.750 (44.45 mm) and .940 (23.88 mm) are the largest overall dimensions of the connector.
4. Wrench flats, when applicable, are to accommodate standard wrench opening in accordance with FED-STD-H28, appendix 10.
5. All undimensioned pictorial representations are for reference purposes only.
6. Dimension 1.750 (44.45 mm) defines the maximum length of the connector when assembled to the appropriate cable.
7. Interface shall be in accordance with MIL-STD-348, series N, socket contact.
8. Gold plating (when required) shall be applied at least in the area of solder attachment.

FIGURE 1. Dimensions and configuration.

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Inches	mm
.100	2.54
.125	3.18

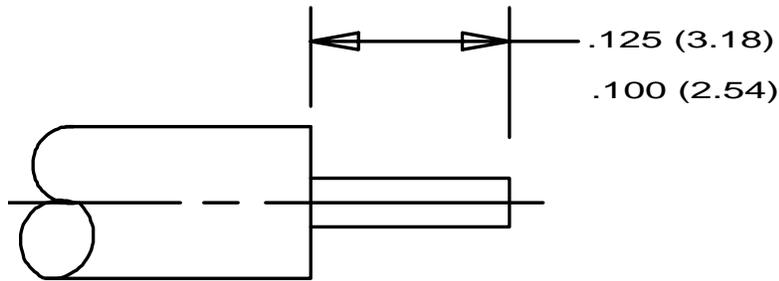


FIGURE 2. Cable strip dimensions.

ENGINEERING DATA:

Nominal impedance: 50 ohms.

Frequency range: 0 to 18 GHz.

Voltage rating:

500 volts rms maximum working voltage at sea level.

125 volts rms maximum at 70,000 feet.

Temperature rating:

-65°C to +105°C for M17/129-RG401.

-65°C to +105°C for M17/130-RG402, M17/130-00001, 00002, 00003.

REQUIREMENTS: Requirements of drawing 84148 are applicable.

Dimensions and configuration: See figure 1.

Force to engage and disengage:

Longitudinal force: Not applicable.

Torque: 6 inch-pounds maximum.

Inspection conditions: For each test of threaded coupling connector where the test is performed on mated pairs, the pairs shall be torque to 6 to 10 inch-pounds.

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Mating characteristics:

See MIL-STD-348 for dimensions.

Center contact (socket):

Oversize test pin: 0.074 diameter minimum (nonclosed entry contact only).

Insertion depth: .125 minimum.

Number of insertions: 1.

Insertion force test: Steel test pin diameter .066 minimum.

Test pin finish: 16 microinches.

Insertion force: 2 pounds maximum.

Insertion depth: .125/.140.

Withdrawal force test: Steel test pin diameter .063 maximum.

Withdrawal force: 2 ounces minimum.

Test pin finish: 16 microinches.

Insulation resistance: Method 3003 of MIL-STD-1344; 5,000 megohms minimum.

Center contact retention (applicable to captivated center contact connectors only): 6 pounds minimum axial force.

Corrosion (salt spray): Method 1001 of MIL-STD-1344, test condition B.

Voltage standing wave ratio (VSWR): From 2.0 to 18.0 GHz, 1.15 +.012 times frequency (GHz).

Swept frequency VSWR test setup:

Item 6: VSWR shall be less than 1.008 +.002 F (F in GHz).

Item 16: VSWR shall be less than 1.008 +.002 F (F in GHz).

Second step of VSWR checkout procedure: VSWR shall be less than 1.012 +.004 F (F in GHz).

Group B inspection: VSWR shall be less than 1.024 +.007 F (F in GHz).

Qualification and group C inspection: VSWR shall not exceed 1.08.

Connector durability: Method 2016 of MIL-STD-1344.

500 cycles at 12 cycles per minute maximum:

The connector shall meet the mating characteristics and force to engage and disengage requirements.

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Contact resistance (in milliohms maximum):

	<u>Initial</u>	<u>After environmental</u>
Center contact	1.5	2.0
Outer contact	.2	Not applicable
Outer contact (stainless steel)	2.0	Not applicable
Cable outer conductor to body	.05	Not applicable
Cable outer conductor to stainless steel body	2.0	Not applicable

Dielectric withstanding voltage: Method 3001 of MIL-STD-1344. 1,500 volts rms minimum at sea level.

Vibration, high frequency: Method 2005 of MIL-STD-1344, test condition IV, except the method of mounting shall be approved by the qualifying activity, and 30 g's peak will be applicable.

Shock: Method 2004 of MIL-STD-1344, test condition G.

Thermal shock: Method 1003 of MIL-STD-1344, test condition A, except test high temperature shall be +115°C.

Humidity: Method 1002 of MIL-STD-1344. No measurements at high humidity. Insulation resistance shall be at 200 megohms within 5 minutes after removal from humidity.

Corona level:

Altitude: 70,000 feet.

<u>Cable (semirigid)</u>	<u>V rms</u>
M17/129-RG401	500
M17/130-RG402, M17/130-00001, 00002, 00003	375

RF high potential withstanding voltage:

Frequency: 5 to 7.5 MHz inclusive.

Leakage current: Not applicable.

<u>Cable (semirigid)</u>	<u>V rms</u>
M17/129-RG401	1,200
M17/130-RG402, M17/130-00001, 00002, 00003	1,000

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Cable retention:

<u>Cable</u>	<u>Force</u>	<u>Torque</u>
M17/129-RG401	90 pounds minimum	70 inch-ounces minimum
M17/130-RG402, M17/130-00001, 00002, 00003	60 pounds minimum	55 inch-ounces minimum

RF leakage: -90 dB minimum, tested at a frequency between 2 and 3 GHz.

Insertion loss: dB maximum = $.10\sqrt{f(\text{GHz})}$. Test frequency 6.0 GHz.

Part or Identifying Number (PIN): See table I.

TABLE I. PIN to cable accommodation.

Connector PIN <u>1/</u> <u>2/</u> <u>3/</u>	Cable
86106NBSA	M17/130-RG402
86106NSGA	M17/130-00001 M17/130-00002 M17/130-00003
86106NBSB	M17/129-RG401
86106NSGB	

1/ These connectors have captivated center contacts.

2/ Connectors for RG401 (.250 inch) cable shall not be assembled by solder or by special tools.

3/ These parts are for use in general radio frequency applications.

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Approved sources of supply are listed herein. Additional sources will be added as they become available. The vendors listed herein have agreed to this drawing and a certificate of compliance has been submitted to the DSCC-VAI.

DSCC drawing PIN 1/	Vendor CAGE number	Vendor reference PIN 1/	Replacement military specification PIN
86106NBSA	95077	6545-0021	M39012/132-0003
86106NBSB	95077	6545-0022	M39012/132-0002
86106NSGA	95077	6545-6021	M39012/132-3003
86106NSGB	95077	6545-6022	M39012/132-3002

1/ Parts must be purchased to this DSCC PIN to assure that all performance requirements and tests are met.

Vendor CAGE
number

95077

Vendor name
and address

Solitron/Vector Microwave Products
3301 Electronics Way
West Palm Beach, FL 33407

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