

NOTE: The document identifier and heading has been changed on this page to reflect that this is a performance specification. There are no other changes to this document. The document identifier on subsequent pages has not been changed, but will be changed the next time this document is revised.

MIL-PRF-39012/318  
 22 December 1983  
 SUPERSEDING  
 MIL-C-39012/31A  
 11 January 1973

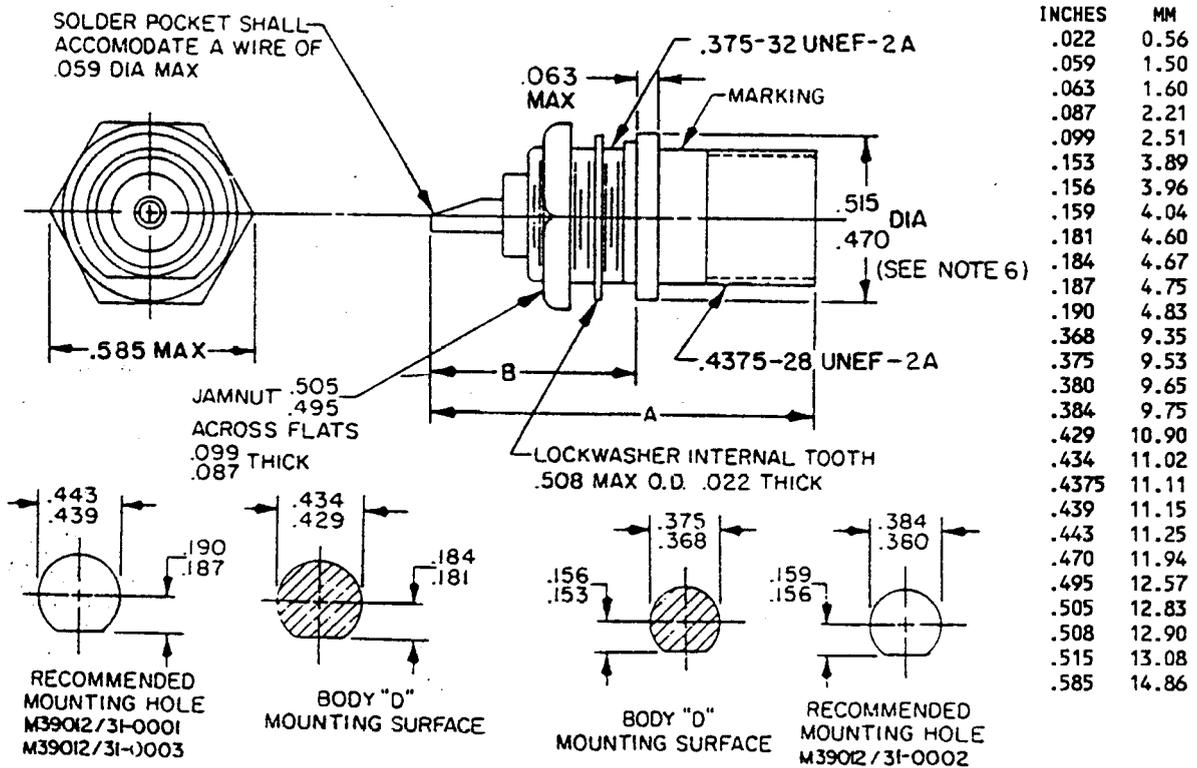
PERFORMANCE SPECIFICATION

CONNECTORS, COAXIAL, RADIO FREQUENCY

(SERIES TNC (UNCABLED - RECEPTACLES, SOCKET, JAM NUT MOUNTED, CLASS 2)

This specification is approved for use by all Departments and Agencies of the Department of Defense.

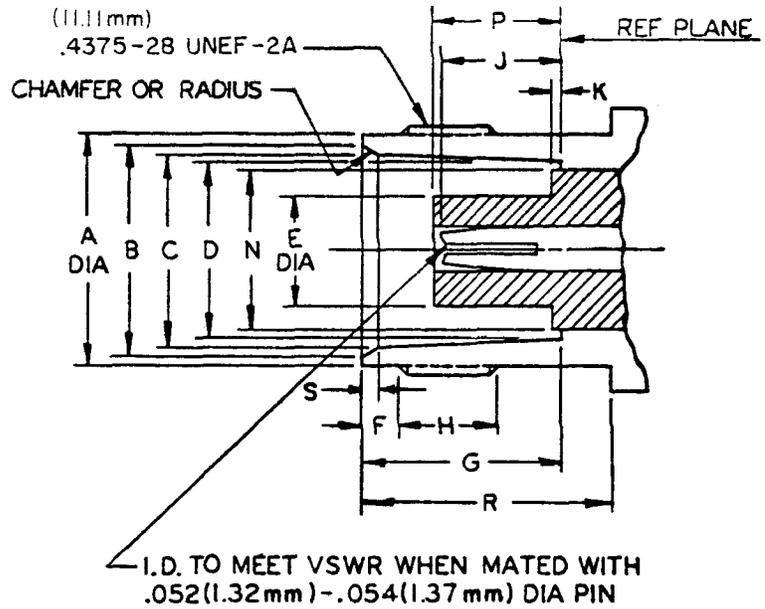
The complete requirements for acquiring the connectors described herein shall consist of this specification and the latest issue of MIL-PRF-39012.



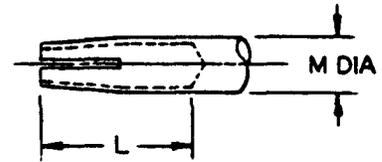
NOTES:

1. Dimensions are in inches.
2. For dimensions A and B see table I.
3. Metric equivalents are given for general information only and are based upon 1 inch = 25.4 mm.
4. All undimensioned pictorial configurations are for reference purposes only.
5. Wrench flats to accommodate standard wrench opening per H-28, app. 10.
6. Full threads to within .063 (1.60 mm) of shoulder; 1 1/2 maximum uneven threads to shoulder.
7. There shall be a solid barrier in the socket between the pin entry and the solder pocket to prevent solder wicking.

FIGURE 1. General configuration.



Ltr	Dimensions in inches with metric equivalents (mm) in parentheses	
	Minimum	Maximum
A	.378 (9.60)	.381 (9.68)
B	.345 (8.76)	.356 (9.04)
C	.327 (8.31)	.333 (8.46)
D	.319 (8.10)	.321 (8.15)
E		.186 (4.72)
F	.068 (1.73)	.088 (2.24)
G	.329 (8.36)	.333 (8.46)
H	.187 (4.75)	
J	.186 (4.72)	.206 (5.23)
K		.006 (.15)
L	.195 (4.95)	
M	.081 (2.06)	.087 (2.21)
N		.256 (6.50)
P	.188 (4.78)	.208 (5.28)
R	.415 (10.56)	
S	.015 (.38)	.030 (.76)



\*N dimension applies to that portion (if applicable) of the dielectric which protrudes beyond the metal shoulder (or reference plane) by dimension K.

NOTES:

1. Metric equivalents are given for general information only and are based upon 1 inch = 25.4 mm.
2. All undimensioned pictorial configurations are for reference purposes only.

FIGURE 2. Mating dimensions for socket terminations.

TABLE I. Dash number and overall dimensions.

Dash no.	Dim	Inches-millimeters <u>1/</u>		Maximum panel thickness	Minimum panel thickness
		Minimum	Maximum		
0001	A		1.187 (30.15)	.125 (3.18)	.045 (1.14)
	B	.529 (13.44)	.653 (16.59)		
0002 <u>2/</u>	A		1.312 (33.32)	.250 (6.35)	.045 (1.14)
	B	.654 (16.61)	.778 (19.76)		
0003	A		1.312 (30.15)	.260 (6.35)	.045 (1.14)
	B	.654 (16.61)	.778 (19.76)		

1/ Millimeters are in parentheses.

2/ Not for use in air force equipment.

TABLE II. Group qualification.

Group	Submission and qualification of any of the following connectors	Qualifies the following connectors
I	/31-0001 /31-0002 /32-0001	/31-0001 /31-0002 /32-0001

## ENGINEERING DATA:

Nominal impedance: 50 ohms.

Frequency range: 0 to 11,000 MHz.

Voltage rating: 500 volts rms maximum working voltage at sea level; 125 volts rms maximum at 70,000 feet.

Temperature rating: -65°C to +165°C.

## REQUIREMENTS:

Dimensions and configuration: See figure 1.

Force to engage and disengage:

Longitudinal force: Not applicable.  
Torque: 2 inch-pounds maximum.

Coupling proof torque: Not applicable.

Inspection conditions:

Coupling torque: 4 to 6 inch-pounds.

Mating characteristics: See figure 2 for dimensions.

Center contact (female):

Oversize test pin - .057 inch diameter minimum (nonclosed entry contacts only).

Insertion depth - .125 inch minimum.

Number of insertions - 1.

Insertion force test: Steel test pin diameter .054 inch minimum.

Test pin finish: 16 microinches.

Insertion force: 2 lbs maximum.

Withdrawal force test: Steel test pin diameter .052 inch maximum.

Withdrawal force: 2 oz. minimum.

Test pin finish: 16 microinches.

Hermetic seal: Not applicable.

Leakage: Not applicable.

Insulation resistance: Method 302, test condition B, MIL-STD-202. 5,000 megohms minimum.

Center contact retention:

6 lbs minimum axial force.

4 inch-ounces radial torque minimum.

Corrosion (salt spray): Method 101, test condition B, MIL-STD-202.

Voltage standing wave ratio (VSWR): Not applicable.

Connector durability: 500 cycles at 12 cycles per minute maximum. The connector shall meet the mating characteristics and force to engage and disengage requirements.

Contact resistance: In milliohms maximum.

	<u>Initial</u>	<u>After environment</u>
Center contact	1.5	2.0
Outer contact	.2	Not applicable

Dielectric withstanding voltage: Method 301 of MIL-STD-202. 1,500 volts rms minimum at sea level.

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

Shock: Method 213 of MIL-STD-202, test condition I.

Thermal shock: Method 107 of MIL-STD-202, test condition B, except high temperature shall be +200°C.

Moisture resistance: Method 106 of MIL-STD-202. No measurements at high humidity. Insulation resistance shall be at least 200 megohms within 5 minutes after removal from humidity.

Corona level:

Voltage: 375 volts, minimum.

Altitude: 70,000 feet.

RF high potential withstanding voltage:

Voltage and frequency: 1,000 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.

Part number: M39012/31- (dash number from table I).

Custodians:

Army - CR  
Navy - EC  
Air Force - 85

Preparing activity:

Army - CR

(Project 5935-3364)

Review activities:

Army - MI  
Navy - SH  
Air Force - 11, 17, 99  
DLA - ES

User activities:

Army - AM, AT, ME  
Navy - AS, MC, OS  
Air Force - 19

Agent:

DLA - ES