

FIGURE 2. Mating dimensions for socket termination.

## ENGINEERING PARAMETERS:

Nominal impedance: 50 ohms.

Voltage rating: 600 Vrms maximum at sea level.

150 Vrms maximum at 70,000 feet.

Frequency range: 0 to 12.4 GHz.

Temperature rating: -65° to 105°C.

## REQUIREMENTS:

Design and construction: See figures 1 and 2 and table I.

Force to engage and disengage:

Torque - 2 inch-pounds maximum.

Longitudinal force - Not applicable.

Coupling proof torque: Not applicable.

Inspection note: For each test of threaded coupling connector where the test is performed on mated pairs, the pairs shall be torqued to 7 to 10 inch-pounds.

Contact gaging: See figure 3.

Contacts with spring members:

Center contact (socket)

Oversize test pin - .0375 +.0001

Test pin finish - 16 microinches.

Insertion depth - .030/.045.

Number of insertions - 3.

Insertion force test: Steel test pin diameter .0370 +.0001.

Insertion depth - .050/.075.

Test pin finish - 16 microinches.

Insertion force - 3 pounds maximum.

Withdrawal force test: Steel test pin diameter .0355 - .0001.

Insertion depth - .050/.075.

Withdrawal force - 1 ounce minimum.

Test pin finish - 16 microinches.

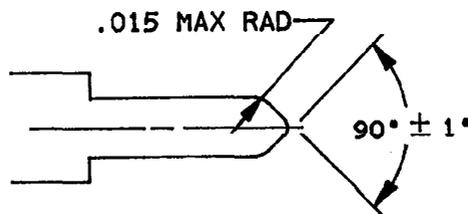


FIGURE 3. Test pin data.

TABLE I. Part number and characteristics.

Part no.	Connector figure no.	Characteristics
31001	1	Strip transmission line surface launch, right angle receptacle for 1/8" strip transmission line.
31002	1	Strip transmission line surface launch, right angle receptacle, for 1/4" strip transmission line

Permeability of nonmagnetic materials: Applicable.

Seal:

Hermetic sealed connectors: Not applicable.

Pressurized and weatherproof connectors: Not applicable.

Insulation resistance: 5,000 megohms minimum.

Center contact retention (excluding transition end):

Axial force: 6 pounds minimum.

Torque: 4 inch-ounces minimum.

Dielectric withstanding voltage: Applicable, test condition I.

Test voltage 1,000 Vrms.

Corrosion: Applicable, test condition B.

Voltage standing wave ratio (VSWR):

Test frequency range: From .5 to 12.4 GHz.

Swept frequency VSWR test setup:

Step 1: See basic specification.

Step 2: VSWR shall be less than 1.080 +.005 frequency (frequency in GHz).

Item 11p VSWR shall be less than 1.025 + .002 frequency (frequency in GHz).

Item 11j VSWR shall be less than 1.025 + .002 frequency (frequency in GHz).

Step 3: VSWR shall be less than (to be determined).

Test fixture - See figure 1 of basic specification.

Step 4: VSWR test shall be less than (to be determined).

RF transmission loss: (To be determined).

RF leakage: Not applicable.

Connector durability:

Interface:

500 cycles minimum at 12 cycles/minute maximum rate.

Connector shall meet contact gaging and force to engage and disengage requirements.

Contact resistance: In milliohms maximum.

	<u>Initial</u>	<u>After environment</u>
Center contact:	3.0	4.0
Outer contact:	2.0	Not applicable

Thermal shock: Applicable, test condition A.

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.

RF high potential withstanding voltage:

At a frequency between 5 to 7.5 MHz.

Leakage current - Not applicable.

RF voltage - 1,000 Vrms.

Coupling mechanism retention force: Not applicable.

Part number: M83517/8-(dash number from table I.)

Group qualification: See table II.

TABLE II. Group qualification.

Group	Submission and qualification of any of the following connectors <u>1/2/</u>	Qualifies the following connectors
I	3†001	3†001 3†002

1/ Individual connectors other than listed are self qualifying only.

2/ Qualification of connectors qualifies connectors of the same material only.

† Denotes finish.

Custodians:

Army - CR  
Navy - EC  
Air Force - 85

Preparing activity:

Air Force - 85  
(Project 5935-3159-8)

Review activities:

Army - AR, MI, AT  
Navy - SH, AS  
Air Force - 11, 99  
DLA - ES

User activities:

Navy - MC  
Air Force - 19