

INCH-POUND

MIL-PRF-55339/48B
30 April 2015
SUPERSEDING
MIL-PRF-55339/48A(USAF)
29 December 1988

PERFORMANCE SPECIFICATION

ADAPTER, CONNECTOR, COAXIAL, RADIO FREQUENCY,
(BETWEEN SERIES SMA TO SERIES TNC), CLASS 2, STRAIGHT PLUG

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-55339.

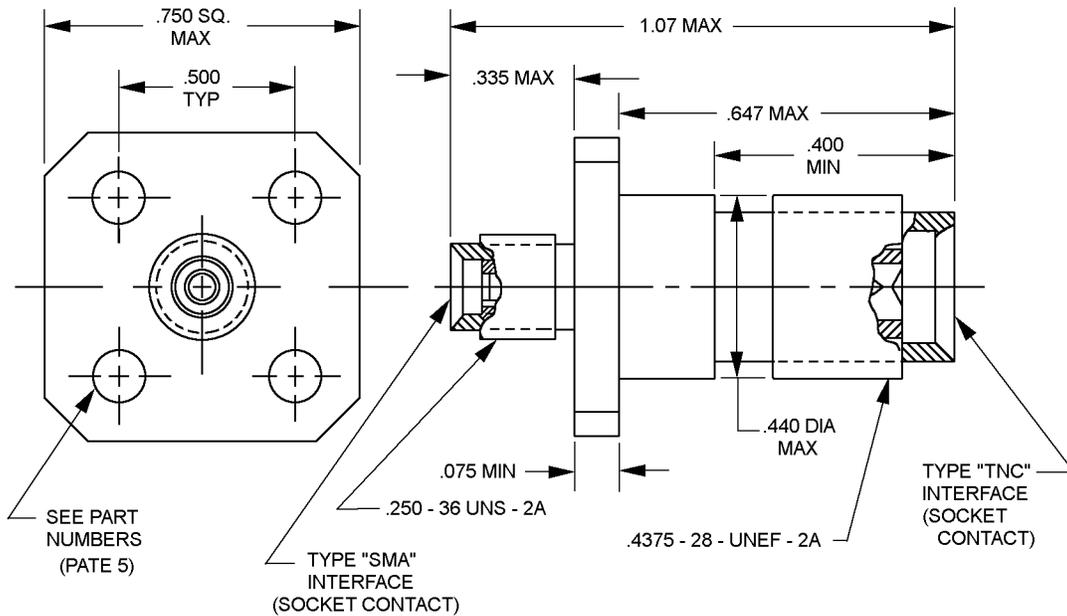
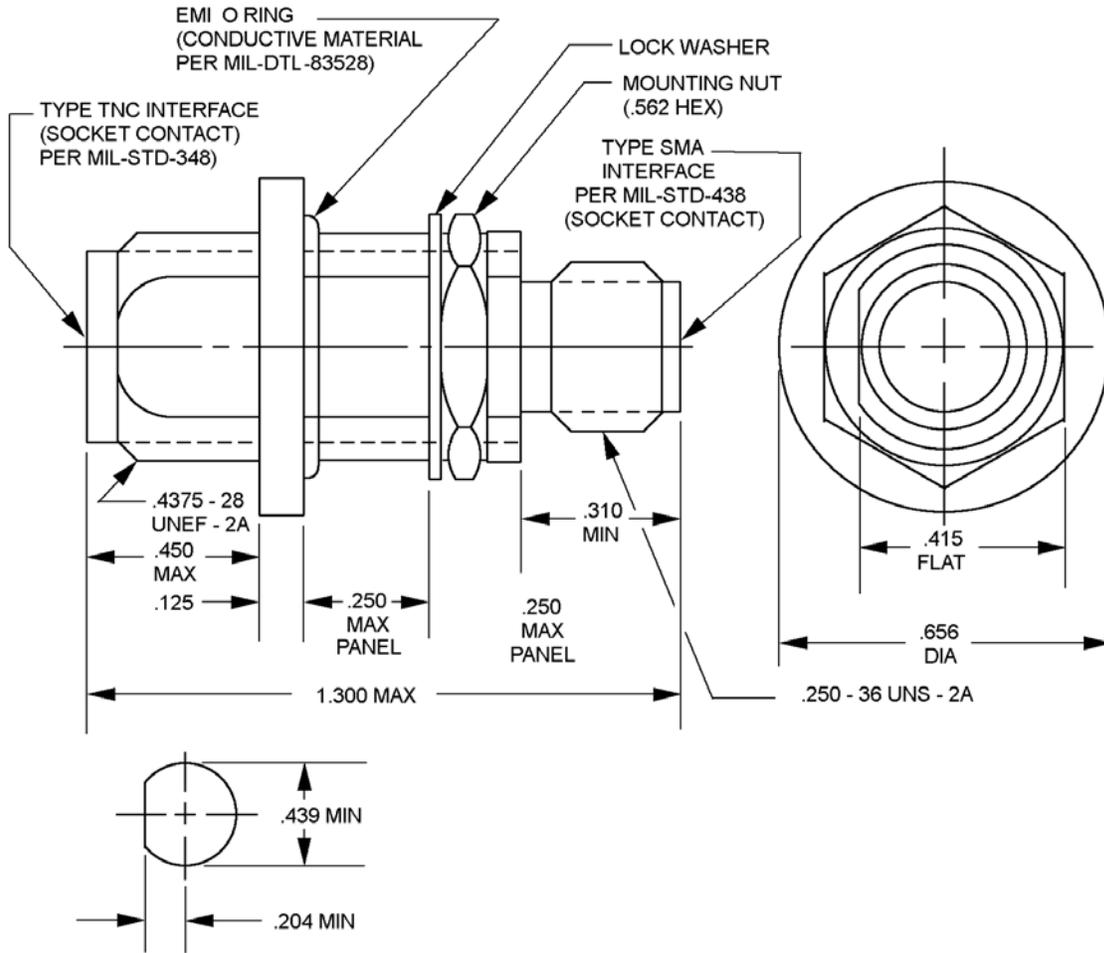


FIGURE 1. General configuration.





RECOMMENDED MOUNTING HOLE

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is $\pm .015$ (0.38 mm).
4. All undimensioned pictorial configurations are for reference purposes only.
5. Interfaces shall be in accordance with MIL-STD-348.

| Inches | mm | Inches | mm |
|--------|-------|--------|--------|
| .010 | 0.25 | .4375 | 11.113 |
| .015 | 0.38 | .439 | 11.15 |
| .075 | 1.91 | .450 | 11.43 |
| .125 | 3.18 | .500 | 12.70 |
| .204 | 5.18 | .562 | 14.27 |
| .250 | 6.35 | .647 | 16.43 |
| .310 | 7.87 | .656 | 16.66 |
| .335 | 8.51 | .750 | 19.05 |
| .400 | 10.16 | 1.07 | 27.2 |
| .415 | 10.54 | 1.300 | 33.02 |
| .440 | 11.18 | | |

FIGURE 1. General configuration – Continued.

ENGINEERING DATA:

Nominal impedance: 50 ohms.

Frequency range: 0 to 15 GHz.

Voltage rating:

335 V rms at sea level.

85 V rms at 70,000 feet.

Operating temperature range: -65°C to +165°C.

Performance: Installation torque 7 to 10 inch-pounds, series SMA; 4 to 6 inch-pounds series TNC.

REQUIREMENTS:

Dimensions and configuration: See figure 1 and MIL-STD-348.

| Center contact retention: | <u>Series SMA</u> | <u>Series TNC</u> |
|--|-------------------|--|
| Axial force (pounds, minimum) | 6 | 6 |
| Torque | Not applicable | Not applicable |
| Force to engage and disengage: | <u>Series SMA</u> | <u>Series TNC</u> |
| Longitudinal force (pounds, minimum) | Not applicable | Not applicable |
| Torque (inch-pounds, maximum) | 2 | 2 |
| Mating characteristics: | <u>Series SMA</u> | <u>Series TNC</u> |
| Center contact (socket): | | |
| Oversize test pin diameter (inch) | .0375 + .0001 | .057 diameter minimum (nonclosed entry contacts only) |
| Insertion depth (inch, minimum) | .030/.045 | .125 |
| Number of insertions | 3 | 1 |
| Pin finish (microinches) | 16 | -- |
| Maximum test pin (insertion force test): | | |
| Steel test pin diameter (inch, minimum) | .0370 + .0001 | .054 |
| Pin finish (microinches) | 16 | 16 |
| Insertion force (pounds, maximum) | 3 | 2 |
| Insertion depth (inch, minimum) | .050/.075 | -- |

| Minimum test pin (withdrawal force): | <u>Series SMA</u> | <u>Series TNC</u> |
|--------------------------------------|-------------------|-------------------|
| Steel test pin diameter (inch) | .0355 - .0001 | .052 |
| Pin finish (microinches) | 16 | 16 |
| Withdrawal force (ounces, minimum) | 1 | 2 |
| Insertion depth (inch, minimum) | .050/.075 | -- |

Permeability: Less than 2.0, air = 1.0.

Seal:

Pressurized: Not applicable.

Weatherproof: Not applicable.

Insulation resistance: 5,000 megohms, minimum.

VSWR:

1.05 + .008 F (GHz) at .5 to 12.4 GHz.

1.09 + .009 F (GHz) at 12.4 to 15 GHz.

RF leakage (total): -65 dB, minimum, 2 to 3 GHz.

RF insertion loss: .18 dB, maximum, at 9 GHz.

Durability: 500 cycles minimum at 12 cycles per minute, maximum, the adapter shall meet the mating characteristics and force to engage disengage requirements.

Dielectric withstanding voltage:

Test voltage: 1,000 V rms, minimum (sea level).

Contact resistance (milliohms, maximum):

| Contact | Initial | After environmental |
|---------|-------------------|---------------------|
| Center | 4.1 ^{1/} | 6.0 |
| Outer | 2.2 | Not applicable |

^{1/} Two center contacts must be mated to the center conductor under test, therefore doubling "center contact" resistance.

Vibration, high frequency:

Interruptions: 1 μs, maximum, test condition D.

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

Thermal shock: Method 107 of MIL-STD-202, test condition C.

Moisture resistance: 200 megohms, minimum, within 5 minutes after removal from humidity.

Salt spray: Method 101 of MIL-STD-202, test condition B.

Corona level:

Voltage: 250 V, minimum.

Altitude, 70,000 feet, minimum.

RF high potential withstanding voltage:

RF voltage: 1,000 V rms, minimum.

Frequency: 5 MHz, minimum.

Group qualification: See table I.

Part or identifying numbers (PIN): Also see table II.

M55339/48-00002 (for .125 inch diameter through holes).
 M55339/48-00003 (tapped holes to accommodate 3-56 UNF mounting screws).
 M55339/48-30001 (for .125 inch diameter through holes).
 M55339/48-30002 (tapped holes to accommodate 3-56 UNF mounting screws).
 M55339/48-00004 (jam-nut mounted).
 M55339/48-30003 (jam-nut mounted).

Marking: As specified in MIL-PRF-55339.

TABLE I. Group qualification.

| Group | Submission and qualification of any of the following adapters | Qualifies the following adapters |
|-------|---|---|
| 1 | M55339/48-00002 M55339/48-00003 M55339/48-00004 | M55339/48-00002 M55339/48-00003 M55339/48-00004 |
| 2 | M55339/48-30001 M55339/48-30002 M55339/48-30003 | M55339/48-30001 M55339/48-30002 M55339/48-30003 |

NOTE: When a QPL source is obtained, DESC drawing 85018 will be canceled.

TABLE II. Cross reference of PIN.

| Preferred PIN | Superseded PIN |
|-----------------|-----------------|
| M55339/48-00002 | M55339/48-00001 |

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-55339, this document references the following:

MIL-STD-202
 MIL-STD-348
 MIL-DTL-83528

CONCLUDING MATERIAL

Custodians:
Air Force – 85
DLA – CC

Preparing activity:
DLA - CC

(Project 5935-2015-027)

Review activities:
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 information above using the ASSIST Online database at <https://assist.dla.mil>.