INCH-POUND

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.

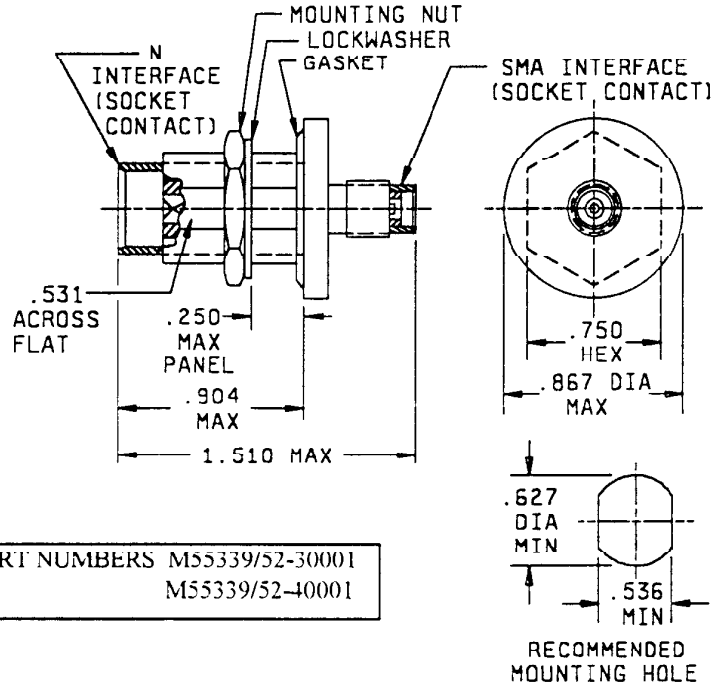
MIL-PRF-55339/52
8 February 1989

PERFORMANCE SPECIFICATION

# ADAPTER, CONNECTOR, ELECTRICAL, COAXIAL, RADIO FREQUENCY, (BETWEEN SERIES SMA TO N)

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

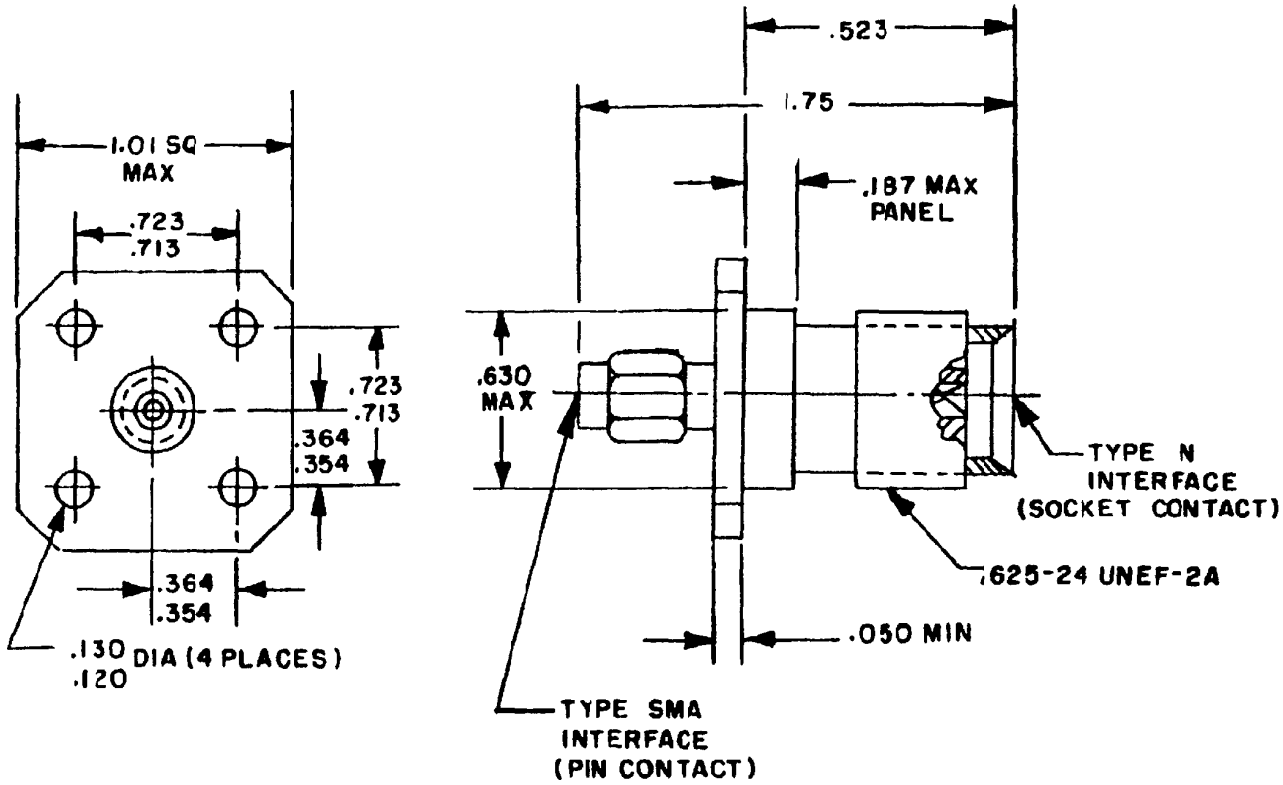
The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation: MIL-PRF-55339.




PART NUMBERS M55339/52-30001
M55339/52-40001

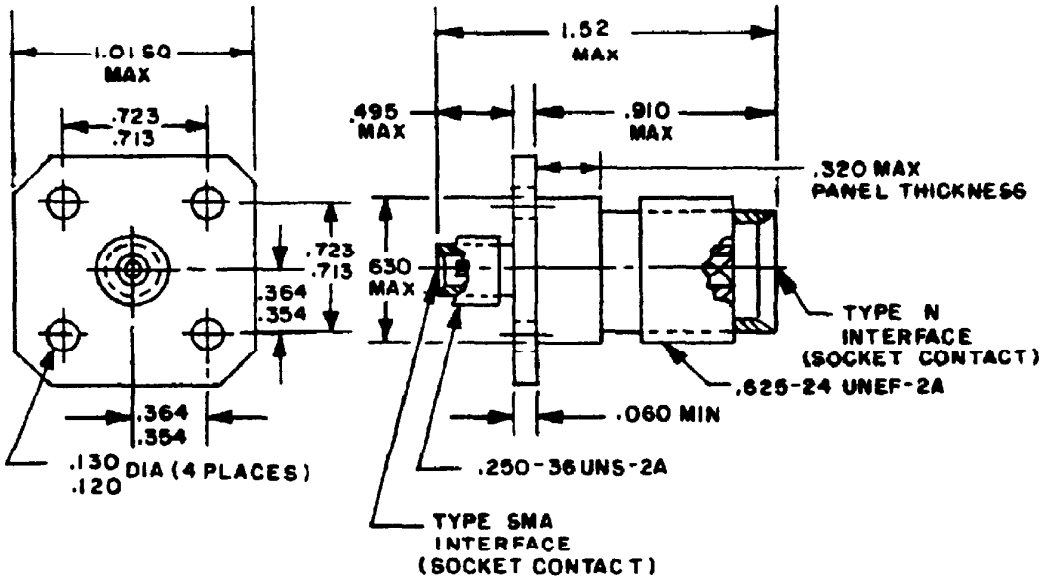
FIGURE 1. General configuration.


DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.




| | |
|---|---|
| PART NUMBERS | M55339/52-30002 |
| | M55339/52-40002 |

FIGURE 1. General configurations - Continued.




| PART NUMBERS | M55339/52-30003<br>M55339/52-40003 |
|---|---|

| Inches | mm | Inches | mm |
|---|---|---|---|
| .015 | 0.38 | .627 | 15.93 |
| .050 | 1.27 | .630 | 16.00 |
| .060 | 1.52 | .713 | 18.11 |
| .120 | 3.04 | .723 | 18.36 |
| .130 | 3.30 | .750 | 19.05 |
| 187 | 4.75 | .904 | 22.96 |
| .259 | 6.35 | .910 | 23.11 |
| .320 | 8.13 | 1.01 | 25.7 |
| .354 | 8.99 | 1.232 | 31.29 |
| 364 | 9.25 | 1.52 | 38.61 |
| .495 | 12.57 | 1.75 | 44.45 |
| .531 | 13.49 | | |
| .536 | 13.61 | | |
| .625 | 15.88 | | |

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ±.015 (0.38 mm).
4. All undimensioned pictorial configurations are for reference purpose only.
5. N and SMA interfaces shall be in accordance with MIL-STD-348.

FIGURE 1. General configurations - Continued.

ENGINEERING DATA.

Nominal impedance: 50 ohms.

Frequency range: 18 GHz.

Voltage rating:

335 V rms at sea level.

85 V rms at 70,000 feet.

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

REQUIREMENTS:

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

| Center contact retention: | Series SMA 1/ | Series N |
|---|---|---|
| Axial force (pounds, minimum) - - - - | 6 | 6 |
| Torque - - - - - - - - - - - - - - - - - - | Not applicable | Not applicable |
| Coupling proof torque 2/ - - - - - - - - | 15 inch-pounds, minimum | |
| **Force to engage and disengage:** | **Series SMA 1/** | **Series N** |
| Longitudinal force (pounds, maximum) - | Not applicable | 3 |
| Torque (inch-pounds, maximum) - - - - | 2 | 6 |
| **Mating characteristics: In accordance with MIL-STD-348.** | **Series SMA 1/** | **Series N** |
| Center contact (socket): | | |
| Oversize test pin diameter (inch) - | .0375 + .0001 | .074 minimum |
| Insertion depth (inch, minimum) - | .030/.045 | .125 |
| Number of insertions - - - - - - - - | 3 | 1 |
| Pin finish (microinches) - - - - - | 16 | 16 |
| Maximum test pin (insertion force test): | | |
| Steel test pin diameter (inch, minimum) | .0370 + .0001 | .066 |
| Pin finish (microinches) - - - - - - | 16 | 16 |
| Insertion force (pounds, maximum) - | 3 | 2 |
| Insertion depth (inch, minimum) - - | .050/.075 | .125 |

1/ Socket contact.
2/ Pin contact.

| Minimum test pin (withdrawal force): | Series SMA | Series N |
|---|---|---|
| Steel test pin diameter (inch) | .0355 - .0001 | .063 |
| Pin finish (microinches) - - - - - - | 16 | 16 |
| Withdrawal force (ounce, minimum) - | 1 | 1 |
| Insertion depth (inch, minimum) - - | .050/.075 | 125 |

Permeability: Less than 2.0, air = 1.0.

Seal:

Pressurized: Not applicable.

Weatherproof: Not applicable.

Insulation resistance: 5,000 megohms, minimum.

VSWR:

1.06 + .005 F (GHz); dc to 12.4 GHz.

.83 + .023·F (GHz); 12.4 to 18 GHz.

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

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

Dielectric withstanding voltage: 1,000 V rms at sea level, minimum.

Contact resistance (milliohms maximum):

| Contact | Initial | After environmental |
|---|---|---|
| Center | 4.1 3/ | 6.0 |
| Outer | 2.2 | Not applicable |

Vibration, high frequency: Interruptions, 1 μs maximum, method 204 of MIL-STD-202, 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: Method 106 of MIL-STD-202.

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

3/ Two center contacts must be mated to the center conductor under test, therefore doubling "center contact" resistance.

Corona level:

Voltage: 250 V, minimum, at 70,000 feet, minimum.

RF high potential withstanding voltage:

RF voltage. 1,000 V rms, minimum, at 5 MHz, minimum.

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

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

Part or identifying numbers (PIN): See figure 1

Marking: As specified in MIL-A-55339.

NOTE: When a QPL source is obtained, DESC drawing 85038 will be canceled.

## CONCLUDING MATERIAL

Custodians:
Army - CR
Air Force - 85
Navy - EC
NASA - NA

Review activities:
Army - AR, MI
Navy - OS, SH
Air Force - 11, 99
DLA - ES

User activities:
Army - AT
Navy - AS, MC, SH
Air Force - 19

Preparing activity:
Army - CR

Agent:
DLA - ES

(Project 5935-3663-01)