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.

PERFORMANCE SPECIFICATION

CONNECTORS, COAXIAL, RADIO FREQUENCY

(SERIES TNC (UNCABLED - RECEPTACLE, SOCKET, RIGHT ANGLE, CLASS 2))

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

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

![Diagram of connector with dimensions and tolerances]

### Table 1

<table>
<thead>
<tr>
<th>INCHES</th>
<th>MM</th>
<th>INCHES</th>
<th>MM</th>
<th>INCHES</th>
<th>MM</th>
</tr>
</thead>
<tbody>
<tr>
<td>.022</td>
<td>.56</td>
<td>.184</td>
<td>4.67</td>
<td>.434</td>
<td>11.02</td>
</tr>
<tr>
<td>.059</td>
<td>1.50</td>
<td>.187</td>
<td>4.75</td>
<td>.439</td>
<td>11.15</td>
</tr>
<tr>
<td>.087</td>
<td>2.21</td>
<td>.190</td>
<td>4.83</td>
<td>.443</td>
<td>11.25</td>
</tr>
<tr>
<td>.099</td>
<td>2.51</td>
<td>.368</td>
<td>9.35</td>
<td>.495</td>
<td>12.57</td>
</tr>
<tr>
<td>.153</td>
<td>3.89</td>
<td>.375</td>
<td>9.53</td>
<td>.505</td>
<td>12.83</td>
</tr>
<tr>
<td>.156</td>
<td>3.96</td>
<td>.380</td>
<td>9.65</td>
<td>.508</td>
<td>12.90</td>
</tr>
<tr>
<td>.159</td>
<td>4.04</td>
<td>.384</td>
<td>9.75</td>
<td>.585</td>
<td>14.86</td>
</tr>
<tr>
<td>.181</td>
<td>4.60</td>
<td>.429</td>
<td>10.90</td>
<td>.605</td>
<td>15.37</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.781</td>
<td>19.84</td>
<td>.781</td>
<td>19.84</td>
</tr>
</tbody>
</table>

**NOTES:**
1. Dimensions are in inches.
2. For dimension A see Table I.
3. Metric equivalents (to the nearest .01 mm) 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.

**FIGURE 1. General configuration.**
NOTES:
1. Metric equivalents (to the nearest .01 mm) 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.

<table>
<thead>
<tr>
<th>Dash No.</th>
<th>Dim</th>
<th>Inches-millimeters ¹/² Maximum</th>
<th>Maximum panel thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>0001</td>
<td>A</td>
<td>1.500 (38.10)</td>
<td>.250 (6.35)</td>
</tr>
<tr>
<td>0002</td>
<td>A</td>
<td>1.359 (34.52)</td>
<td>.125 (3.18)</td>
</tr>
</tbody>
</table>

¹/² Millimeters are in parentheses.

### TABLE II. Group qualification.

<table>
<thead>
<tr>
<th>Group</th>
<th>Submission and qualification of any of the following connectors</th>
<th>Qualifies the following connectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>0001 0002</td>
<td>0001 0002</td>
</tr>
</tbody>
</table>
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 diameter minimum (non-closed entry contacts only).
Insertion depth - .125 minimum.
Number of insertions - 1.

Insertion force test - Steel test pin dia .054 minimum.
Test pin finish - 16 microinches.
Insertion force - 2 pounds maximum.

Withdrawal force test: Steel test pin dia .052 maximum.
Withdrawal force - 2 oz. minimum.
Test pin finish - 16 microinches.

Hermetic seal: Not applicable.

Leakage: Connector mounted in mounting hole specified on figure 1 with mating end capped. Test applicable to mounting seal only. Air pressure - 30 psi.
Duration - 30 seconds minimum.
Applicable to M39012/33-0001 only.


Center contact retention:
6 lbs minimum axial force.
4 inch-ounces radial torque minimum.


Voltage standing wave ratio (VSWR):
Not applicable.

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

Contact resistance: In milliohms maximum.
<table>
<thead>
<tr>
<th>Center contact</th>
<th>Initial</th>
<th>After environment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2.0</td>
<td>2.5</td>
</tr>
</tbody>
</table>

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


Temperature cycling: Method 102, test condition C, MIL-STD-202, except test high temperature shall be +200°C.

Thermal shock: Not applicable.


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: M39012/33-
(dash number from table 1).
Custodians:
Army - EL
Navy - EC
Air Force - 80

Review activities:
Army - MU, MI, EL
Navy - EC
Air Force - 11, 17, 80
DSA - ES

User activities:
Army - AT, AV, ME
Navy - AS, OS
Air Force - 19

Preparing activity:
Army - EL

Agent:
DSA - ES

(Project 5935-1799)