



# PRODUCT SPECIFICATION

## 1.0 SCOPE

This Product Specification covers BNC Connectors

## 2.0 PRODUCT DESCRIPTION

### 2.1 PRODUCT NAME

BNC

## 3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

MIL-STD -348A

## 4.0 RATINGS

### 4.1 VOLTAGE

1000 Vrms

### 4.2 TEMPERATURE

Rating: - 65°C TO + 165°C  
- 65°C TO + 95°C (Commercial)

### 4.3 FREQUENCY RATING

50 OHM: DC to 10 GHz Maximum  
DC to 4 GHz Optimum  
DC to 2 GHz (Commercial)

75 OHM: DC to 4 GHz Maximum  
DC to 2 GHz Optimum  
DC to 2 GHz (Commercial)

### 4.4 NOMINAL IMPEDANCE

50 or 75 Ohms (See Sales Drawing)

|                                         |                                                                               |                                        |                                |
|-----------------------------------------|-------------------------------------------------------------------------------|----------------------------------------|--------------------------------|
| REVISION:<br><b>A2</b>                  | ECR/ECN INFORMATION:<br>EC No: <b>URF2010-0044</b><br>DATE: <b>2009/07/17</b> | TITLE:<br><b>PS-89675-1030<br/>BNC</b> | SHEET No.<br><b>1 of 3</b>     |
| DOCUMENT NUMBER:<br><b>PS-89675-103</b> | CREATED / REVISED BY:<br><b>EDC/JDW</b>                                       | CHECKED BY:<br><b>DHG/SSS</b>          | APPROVED BY:<br><b>GMH/JDW</b> |



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## 5.0 PERFORMANCE

### 5.1 ELECTRICAL REQUIREMENTS

| ITEM | DESCRIPTION                     | TEST CONDITION                                                   | REQUIREMENT                                                       |
|------|---------------------------------|------------------------------------------------------------------|-------------------------------------------------------------------|
| 1    | Insulation Resistance           | MIL-PRF-39012, paragraph 3.11                                    | 5000 Megohms                                                      |
| 2    | Dielectric Withstanding Voltage | MIL-PRF-39012, paragraph 3.17                                    | 1500 Vrms                                                         |
| 3    | RF High Potential Withstanding  | MIL-PRF-39012, paragraph 3.23                                    | 1000 Vrms @ 5 MHz to 7.5 MHz                                      |
| 4    | Contact Resistance              | MIL-PRF-39012, paragraph 3.16<br>Center Contact<br>Outer Contact | 1.5 Milliohms Max<br>1.0 Milliohms Max                            |
| 5    | Voltage Standing Wave Ratio     | MIL-PRF-39012, paragraph 3.14                                    | 1.25 TYP<br>(Optimum Frequency of Operation)                      |
| 6    | RF Leakage                      | MIL-PRF-39012, paragraph 3.26                                    | -60 dB Min @ 3 GHz                                                |
| 7    | RF Insertion Loss               | MIL-PRF-39012, paragraph 3.27                                    | .12 x $\sqrt{f}$ (GHz) dB TYP<br>(Optimum Frequency of Operation) |

### 5.2 MECHANICAL REQUIREMENTS

| ITEM | DESCRIPTION               | TEST CONDITION                 | REQUIREMENT                 |
|------|---------------------------|--------------------------------|-----------------------------|
| 8    | Material                  | MIL-PRF-39012, paragraph 3.3   | See Sales Drawing           |
| 9    | Finish                    | MIL-PRF-39012, paragraph 3.3.1 | See Sales Drawing           |
| 10   | Design                    | MIL-PRF-39012, paragraph 3.4   | See Sales Drawing           |
| 11   | Recommended Mating Torque | N/A                            | N/A                         |
| 12   | Force to Engage           | Axial<br>Radial                | 3.0 lb Max<br>2.5 in-lb Max |
| 13   | Force to Disengage        | Axial<br>Radial                | 3.0 lb Max<br>2.5 in-lb Max |
| 14   | Coupling Nut Retention    | Axial Force                    | 100 lbs (444.82 N)          |
| 15   | Coupling Proof Torque     | MIL-PRF-39012, paragraph 3.6   | N/A                         |

|                                         |                                                                               |                                        |                                |
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## 5.2 MECHANICAL REQUIREMENTS (continued)

| ITEM | DESCRIPTION              | TEST CONDITION                                    | REQUIREMENT                           |
|------|--------------------------|---------------------------------------------------|---------------------------------------|
| 16   | Mating Characteristics   | MIL-PRF-39012, paragraph 3.7                      | MIL-STD-348<br>Fig. 301-1 and 301-2   |
| 17   | Connector Durability     | MIL-PRF-39012, paragraph 3.15                     | 500 Cycles Min                        |
| 18   | Center Contact Retention | MIL-PRF-39012, paragraph 3.12<br>Axial Force      | 6 lbs<br>(Captivated Contact Designs) |
| 19   | Hermetic Seal            | MIL-PRF-39012, paragraph 3.9<br>Helium Tracer Gas | See Sales Drawing<br>(if applicable)  |

## 5.3 ENVIRONMENTAL REQUIREMENTS

| ITEM | DESCRIPTION            | TEST CONDITION                                               | REQUIREMENT                  |
|------|------------------------|--------------------------------------------------------------|------------------------------|
| 20   | Vibration              | MIL-PRF-39012, paragraph 3.18<br>Per MIL-STD-202, Method 204 | Test Condition B             |
| 21   | Shock                  | MIL-PRF-39012, paragraph 3.19<br>Per MIL-STD-202, Method 213 | Test Condition I             |
| 22   | Shock (Thermal)        | MIL-PRF-39012, paragraph 3.2<br>Per MIL-STD-202, Method 107  | Test Condition B (85°C)      |
| 23   | Corrosion (Salt Spray) | MIL-PRF-39012, paragraph 3.13<br>Per MIL-STD-202, Method 101 | Test Condition B             |
| 24   | Moisture Resistance    | MIL-PRF-39012, paragraph 3.21<br>Per MIL-STD-202, Method 106 | DWV 1500 Vrms (after drying) |
| 25   | Corona Level           | MIL-PRF-39012, paragraph 3.22<br>At 70,000 Feet              | 375 Vrms                     |

|                                         |                                                                               |                                        |                                |
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