

Detail specification for radio frequency connectors (Type BNC) — Sealed, soldered, captive contact, 50 Ω — Full assessment level

UDC 621.37/.39:621.315.683

Confirmed December 2009

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 21 and a back cover.

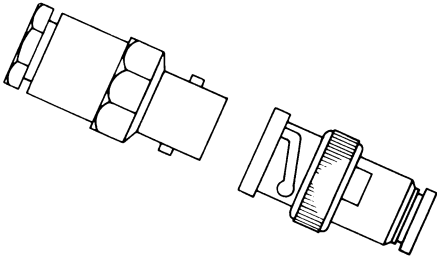
This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Amendments issued since publication

Amd. No.	Date	Comments

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ELECTRONIC COMPONENTS OF ASSESSED QUALITY: DETAIL SPECIFICATION	
Typical outline, styles 01-03 and 06-02  For other styles and dimensions see Appendix A	RADIO FREQUENCY CONNECTOR
	FULL ASSESSMENT LEVEL
	TYPE BNC SEALED, SOLDERED, CAPTIVE CONTACT, 50 Ω

1 Physical characteristics

1.1

Connector style	Description	Mass (Grams) Max.	Connector variant	Cables BS 2316/URM No
01-03 <				

1.2 Body finish. Silver

NOTE Galvanic corrosion may occur when connectors with dissimilar finishes are mated.

1.3 Centre contact finish. Silver**2 Ratings (including limiting conditions of use) and characteristics**Nominal characteristic impedance 50 Ω

<u>Reflection coefficient (and VSWR) max.</u>	Matched variants		Unmatched variants
	Up to 1 GHz	Up to 3 GHz	not measured
a) Straight cable outlet styles	0.024 (1.05)	0.091 (1.20)	
b) Adaptor, straight	0.048 (1.10)	0.130 (1.30)	
c) Solder-bucket styles	Not measured		
Capacitance (maximum) (solder-bucket styles only)	5 pF		
R.F. shunt res (minimum) (solder-bucket styles only)	1 MΩ at 30 MHz		
Working voltage (d.c. or a.c. peak)	Inner conductor to shell		
a) At sea level	500 V		
b) At altitude of 26 km	125 V		
Proof voltage (d.c. or a.c. peak)			
a) At sea level	2 kV		
b) At altitude of 26 km	500 V		
Current rating maximum	1 A d.c.		
Power rating ^a	—		
	Before conditioning	After conditioning	
Contact resistance, maximum	2 mΩ	7 mΩ	
Outer conductor continuity, maximum	2 mΩ	7 mΩ	
Insulation resistance, minimum	5 GΩ	500 MΩ	
Vibration severity			
frequency range	10 Hz to 500 Hz		
displacement	0.75 mm)		
acceleration	98 m/s ²) Cross over at approximately 60 Hz		
duration	6 hours)		
Shock severity	490 m/s ² for 11 ms		
Bump severity	4 000 at 390 m/s ²		
Climatic category	55/155/56		
Resistance to test prod damage test	Applicable		

^a NOTE As power is dependent on frequency and cable type, for information on power rating refer to the manufacturer.

3 Related documents

BS 2011, *Methods for the environmental testing of electronic components and electronic equipment*.

BS 2316, *Radio frequency cables*.

BS 6001, *Sampling procedures and tables for inspection by attributes*.

BS 9000, *General requirements for electronic components of assessed quality*.

BS 9210, *Radio frequency connectors of assessed quality: generic data and methods of test*.

4 Additional information (not for inspection purposes)

For panel piercing details and overlap dimension see Appendix B.

5 Marking of the connectors and packages

The marking of the component and package shall be in accordance with **1.1.6** of BS 9210. Assembly and cable mounting instructions are to be included in every individual package of connector piece parts.

6 Ordering information

In accordance with the requirements of **1.1.15** of BS 9210, orders for connectors and their accessories covered by this specification shall contain the following information:

- a) The number of this specification i.e. BS 9210 N001
- b) Style as in **1.1** e.g. 06-02.
- c) Variant as in **1.1** e.g. AH.
- d) Climatic category i.e. 55/155/56.
- e) Any additional information, e.g. fixing hole details, any special marking or packaging requirements.

Example: BS 9210 N001/06-02/AH/55/155/56

7 Control drawings

Control drawings, BS 9210 N001-2, are available from BSI.

NOTE Normally required by manufacturer and inspectorates only.

8 Inspection requirements

8.1 Unless otherwise stated in the table of tests the provisions of **8.2**, **8.3**, **8.4** and **8.5** shall apply.

8.2 Contact resistance and outer conductor continuity for each mated pair shall be measured using the “light current” method specified in **1.2.4.3.3** 1) of BS 9210. When testing the outer conductor continuity of panel mounted styles, where the connector shell is electrically connected to a mounting plate (see **1.2.1.1** of BS 9210) the continuity test shall include a measurement between cable braid(s) and the mounting plate. The initial resistance for each mated pair of contacts or any other conductor path shall not exceed 2 mΩ. Measurement after conditioning shall not exceed 7 mΩ.

8.3 Insulation resistance measurements between inner conductor and shell shall be made at 500 ± 50 V d.c.

8.4 Voltage proof measurements shall be made at 2 ± 0.1 kV d.c. or peak a.c. (40 Hz to 60 Hz). There shall be no breakdown or flashover.

8.5 The sealing test shall be carried out with the lower pressure at the mating face, using a pressure differential of 1 000–1 100 mbars. The leakage rate shall be less than 1 cm³/h.

8.6 For tests in subgroups C3, C5, D3(iii), D3(v) involving exposure to the upper temperature category it is essential that cable having a compatible temperature capability shall be used.

8.7 Sample submitted to tests which are marked as (D) shall not be accepted for release under BS 9000 (see **2.6.5** of BS 9000-1).

8.8 The tests or measurements prescribed in BS 9210 after environmental conditionings are omitted between the environmental conditionings where these form part of a sequence in accordance with **1.2.6** of BS 9210. The appropriate tests are included at the end of each test sequence.

Inspection	BS 9210:1971 reference and conditions of test	Performance requirements
GROUP A		To be applied on a sampling basis lot-by-lot (except subgroup A0). Subgroups A2, A3 and A4 are not applicable.
Subgroup A0		
Visual examination	1.2.2 1)	100 % inspection Either on assembled components or on contents of packages.
		As in 1.2.2 1) of BS 9210
Subgroup A1		
Visual examination	1.2.2 2)	Inspection level S-3, AQL 1.5 % Either on assembled components or on contents of packages
		As in 1.2.2 2) of BS 9210
Subgroup A5		
CTR information	1.1.11	Attributes information for subgroup A1
GROUP B		To be applied on a sampling basis lot-by-lot. Subgroups B3, B5, B6 and B7 are not applicable. (The specimens used for subgroups B1 and B2 may also be used for subgroup B4)
Subgroup B1		
Compatibility, mechanical (assurance)	1.2.5.9 2)	<u>Inspection level S-3,</u> <u>AQL 1 %</u> As in 1.2.5.9 2) of BS 9210