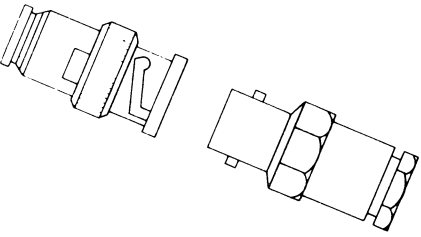


ELECTRICAL COMPONENTS OF ASSESSED QUALITY : DETAIL SPECIFICATION	
Typical outline, styles 06-02 and 01-03  For other styles and dimensions see appendix A	RADIO FREQUENCY CONNECTOR
	FULL ASSESSMENT LEVEL
	TYPE BNC UNSEALED, SOLDERED, CAPTIVE CONTACT, 50 Ω

1. PHYSICAL CHARACTERISTICS

1.1

Connector description style	Mass (Grams) Max.	Connector variant	Cables BS 2316/URM No
01-03	Connector coupler, free, straight	15	Matched
02-03	Connector fixed, straight, four hole fixing, solder bucket	10	AG *
			AH 72, 108
			AJ 43, 76
			AK 301
			AL *
			AM *
06-02	Connector free, straight	20	Unmatched
			BD 200
			BF 201, 202, 207, 208
			BH 104, 106
			BJ 70, 210
			BK 90, 117, 306
			BM 203, 205
			BN 204, 209
			ZZ Equipment wire
96-12	Cover, electrically protective, for connector fixed and connector coupler, free	12	
97-12	Cover, electrically protective, for connector free	12	

* See BS 9210, appendix P.

1.2 Body finish. Silver.

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

1.3 Centre contact finish. Silver.

Gr 7

[Clause 2

2. RATINGS (INCLUDING LIMITING CONDITIONS OF USE) AND CHARACTERISTICS

Nominal characteristic impedance 50 Ω

Reflection coefficient (and V.S.W.R.) maximum

Matched variants		Unmatched variants
Up to 1 GHz	Up to 3 GHz	not measured
0.024 (1.05)	0.091 (1.20)	
not measured		

(a) Straight cable outlet styles

(b) Solder bucket styles

Capacitance (maximum) (solder bucket styles only)

5 pF

R.F. shunt resistance (minimum) (solder bucket styles only)

1 M Ω 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*

-

Contact resistance, maximum

Outer conductor continuity, maximum

Insulation resistance, minimum

Before conditioning	After conditioning
2 m Ω	7 m Ω
2 m Ω	7 m Ω
5 G Ω	500 M Ω

Vibration severity

frequency range

displacement

acceleration

duration

10 Hz to 500 Hz

0.75 mm)

98 m/s²) Cross over at

6 hours) approximately 60 Hz

Shock severity

490 m/s² for 11 ms

Bump severity

4000 at 390 m/s²

Climatic category

55/155/56

Resistance to test prod damage test

Applicable

* 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 6000 Guide to the use of BS 6001. Sampling procedure and tables for inspection by attributes.
- 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 N003.
- (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 N003/06-02/AH/55/155/56

7. CONTROL DRAWINGS

Control drawings, BS 9210 N001: Part 2 refer and are available from BSI.

NOTE. Normally required by manufacturer and inspectorates only.

[Clause 8

8. INSPECTION REQUIREMENTS

8.1 Unless otherwise stated in the table of tests, the provisions of 8.2, 8.3 and 8.4 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 outer conductor path shall not exceed $2\text{ m}\Omega$. Resistances after conditioning shall not exceed $7\text{ m}\Omega$.

8.3 Insulation resistance measurements between inner conductor and shell shall be made at $500 \pm 50\text{ V d.c.}$

8.4 Voltage proof measurements shall be made at $2 \pm 0.1\text{ kV d.c.}$ or peak a.c. (40-60 Hz). There shall be no breakdown or flashover.

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

8.6 Due to the nature of the accessories referred to in note 1 at the end of this table, certain tests are not possible, e.g. contact resistance tests are not applicable to protective covers such as styles 96 and 97 either before or after conditioning.

8.7 Samples submitted to tests which are marked as (D) shall not be accepted for release under BS 9000 (see 2.6.5 of BS 9000 : Part 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.

[Clause 9, group A

Inspection	BS 9210 : 1971 reference and conditions of test		Performance requirements
<u>GROUP A</u>			
		To be applied on a sampling basis lot-by-lot (except subgroup A0).	
		Subgroups A2, A3 and A4 are not applicable	
<u>Subgroup A0</u>			
Visual examination	1.2.2(1)	100 % Inspection (See note 1 of this specification) Either on assembled components or on contents of packages	As in 1.2.2(1) of BS 9210
<u>Subgroup A1</u>			
		Inspection level S-3 AQL 1.5 %	
Visual examination	1.2.2(2)	(See note 1 of this specification) Either on assembled components or on contents of packages	As in 1.2.2(2) of BS 9210
<u>Subgroup A5</u>			
CTR information	1.1.11	Attributes information for subgroup A1	
<u>GROUP B</u>			
		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)	
<u>Subgroup B1</u>			
Compatibility, mechanical (assurance)	1.2.5.9(2)	(See note 1 of this specification)	As in 1.2.5.9(2) of BS 9210
<u>Subgroup B2</u> (D)			
		Inspection level S-3 AQL 4 %	
Soldering	1.2.6.1	Bit size 3 mm Iron size (b) Inner contact	There shall be no damage or loosening of parts
Insulation resistance	1.2.4.6	As in 8.3 of this specification	≥ 5 GΩ
Voltage proof	1.2.4.7	As in 8.4 of this specification	As in 8.4 of this specification
<u>Subgroup B4</u> (D)			
		Inspection level S-3 AQL 4 %	
Engagement and separation	1.2.5.5		Coupling torque - Max. - 250 mN m Min. - 70 mN m
Gauge retention force	1.2.5.2	See control drawings BS 9210 N001: Part 2 for details of gauges	As in 1.2.5.2 of BS 9210
<u>Subgroup B8</u>			
CTR information	1.1.11	Attributes information for subgroups, B1, B2 and B4	

Inspection	BS 9210 : 1971 reference and conditions of test	Performance requirements	
<u>GROUP C</u>			
	Applied at three monthly intervals except when group D tests are due. In addition the issue number of the manufacturers' drawing list shall be checked against that in the approval application or certificate. Specimens used for subgroup C1 may also be used for C3 and C5. Subgroups C2 and C4 are not applicable.		
<u>Subgroup C1</u>			
	<u>Inspection level S-3 AQL 1 %</u>		
Outline dimensions and mass	1.2.3.1	(See note 1 of this specification)	As specified in 1.1 and appendix A, of this specification
<u>Subgroup C3</u> (D)			
	<u>Inspection level S-3 AQL 4 %</u>		
	8.5, 8.8 and note 2 of this specification apply to tests in this subgroup		
Test prod damage	1.2.5.7	Moment 55 mN m Details of the test prod and gauges for this test are given in Control Drawings BS 9210 N001: Part 2	As 1.2.5.7 of BS 9210
<u>followed by</u>			
Rapid change of temperature	1.2.6.9	-55 °C to +155 °C (See note 1 of this specification)	As 1.2.6.9 of BS 9210
<u>followed by</u>			
Damp heat, steady state	1.2.6.8	Severity 40 ± 2 °C for 21 days (See note 1 of this specification) Polarizing voltage 60 + 5 V d.c. Inner conductor to be positive Working voltage 500 + 50 V d.c. or a.c. peak	As in 1.2.6.8 of BS 9210
<u>Final measurements</u>			
Contact resistance	1.2.4.3	As in 8.2 of this specification	As in 8.2 of this specification
Outer conductor continuity	1.2.4.4	As in 8.2 of this specification	As in 8.2 of this specification
Insulation resistance	1.2.4.6	As in 8.3 of this specification	≥ 500 MΩ
Voltage proof		As in 8.4 of this specification	As in 8.4 of this specification
Visual inspection	1.2.2		As in 1.2.2 of BS 9210
Engagement and separation	1.2.5.5		Coupling torques - Max. - 250 mN m Min. - 70 mN m

Inspection	BS 9210 : 1971 reference and conditions of test	Performance requirements
<u>Subgroup C5</u>	(D)	<u>Inspection level S-3 AQL 4 %</u>
		8.5, 8.8 and note 2 apply to tests in this subgroup
Mechanical endurance	1.2.7.1	(See note 1 of this specification) 50 operations only at not more than 15 per minute.
		As in 1.2.7.1 of BS 9210
<u>followed by</u>		
High temperature endurance	1.2.7.2	(See note 1 of this specification) 155 ± 5 °C for 250 hours with no electrical load.
		As in 1.2.7.2 of BS 9210
<u>Final measurements</u>		
Insulation resistance	1.2.4.6	As in 8.3 of this specification
		≥ 500 MΩ
Contact resistance	1.2.4.3	As in 8.2 of this specification
		As in 8.2 of this specification
Outer conductor continuity	1.2.4.4	As in 8.2 of this specification
		As in 8.2 of this specification
Voltage proof	1.2.4.7	As in 8.4 of this specification
		As in 8.4 of this specification
<u>Subgroup C6</u>		
CTR information	1.1.11	Attributes information for subgroups C3 and C5
<u>GROUP D</u>	(D)	
		D3 tests are to be performed at 3 year intervals. In addition, the issue number of the manufacturer's drawing list shall be checked against that in the approval application or certificate.
		Subgroups D1 and D2 are not applicable
		Specimens
		D3 (i) : 3 sets of piece parts for a connector in each style and variant
		Accept on one failure
		The minimum number of specimens (mating pairs) required for each of the remaining subgroups is:
		D3 (ii) 15 subsequently used for D3 (iv)
		Accept on one failure
		D3 (iii) 15 subsequently subdivided and used as follows:
		D3 (vii) : 1
		No failure permitted
		D3 (viii) : 2
		No failure permitted
		D3 (ix) : 5
		Accept on one failure
		D3 (x) : 7
		Accept on one failure
		D3 (v) : 15
		Accept on one failure
		D3 (vi) : 15
		Accept on one failure