



SLOVENSKI STANDARD
SIST EN 122180:1999

01-julij-1999

Sectional Specification: Radio frequency coaxial connectors - Series SSMC approval

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Ta slovenski standard je istoveten z: EN 122180:1993

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ICS:

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 122180

November 1993

UDC

Supersedes CECC 22 180 Issue 2 : 1993

Descriptors: Quality, electronic components, connectors

English version

Sectional specification:
Radio frequency coaxial connectors.
Series SSMC

Spécification intermédiaire:
Connecteurs coaxiaux pour fréquence
radioélectrique.
Série SSMC

Rahmenspezifikation:
Hochfrequenz-Koaxial-Steckverbinder.
Serie SSMC

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This European Standard was approved by the CENELEC Electronic Components Committee (CECC) on 1 November 1993. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the General Secretariat of the CECC or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CECC General Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom. The membership of the CECC is identical, with the exception of the national electrotechnical committees of Greece, Iceland and Luxembourg.



CECC

CENELEC Electronic Components Committee
Comité des Composants Electroniques du CENELEC
CENELEC-Komitee für Bauelemente der Elektronik

General Secretariat: Gartenstr. 179, D-60596 Frankfurt am Main

Foreword

The CENELEC Electronic Components Committee (CECC) is composed of those member countries of the European Committee for Electrotechnical Standardization (CENELEC) who wish to take part in a harmonized System for electronic components of assessed quality.

The object of the System is to facilitate international trade by the harmonization of the specifications and quality assessment procedures for electronic components, and by the grant of an internationally recognized Mark, or Certificate, of Conformity. The components produced under the System are thereby acceptable in all member countries without testing.

This European Standard was prepared by CECC WG 22, RF Connectors.

The text of the draft based on document CECC 22 180 Issue 2 : 1993 was submitted to the formal vote for conversion to a European Standard; together with the voting report, circulated as document CECC (Secretariat) 3433 it was approved by CECC as EN 122180 on 1 November 1993.

The following dates were fixed:

- latest date of announcement of the EN at national level (doa) 1994-02-07
- latest date of publication of an identical national standard* (dop) 1994-08-07
- latest date of withdrawal of conflicting national standards* (dow) 1995-08-07

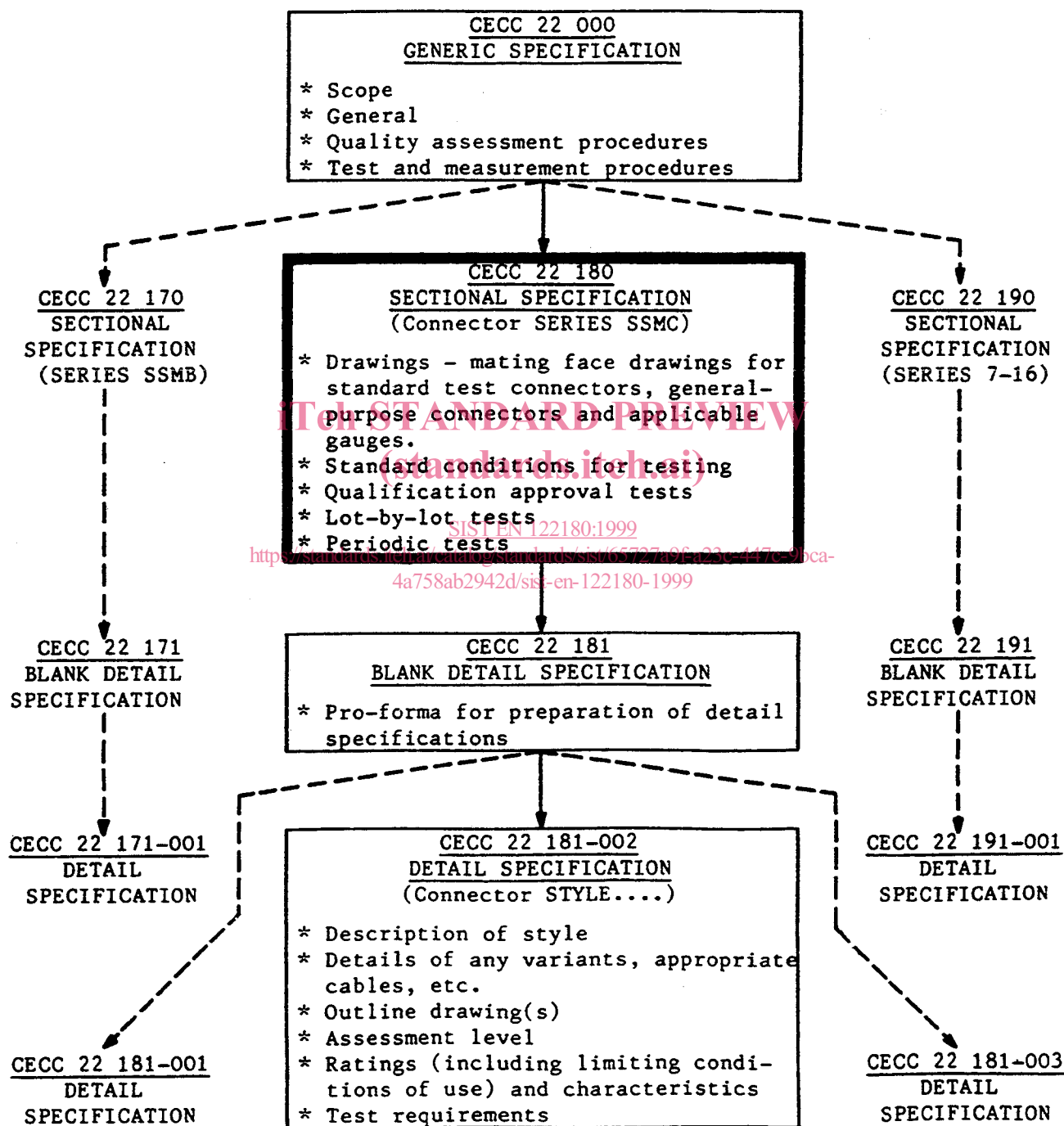
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* National standard (excluding national implementation of IECQ specifications).

Document numbering for r.f. connector specifications follows 2.2 of CECC 00 700: Section IV, in order to permit the issue of more than nine sectional specifications. The approved numbering system applicable to r.f. connector specifications is illustrated in the diagram below.

CECC SPECIFICATION SYSTEM for R.F. Connectors



NOTE: A detail specification is a 'completed' blank detail specification

SECTION 1 - SCOPE

This sectional specification (SS) provides information and rules for the preparation of detail specifications (DS) for miniature screw-coupled coaxial connectors Series SSMC.

It prescribes mating-face dimensions for general purpose connectors, dimensional details for standard test connectors, Grade 0, together with gauging information and the mandatory tests, selected from CECC 22 000, applicable to all DSs relating to Series SSMC connectors.

This specification indicates the recommended performance characteristics to be considered when writing a DS, and covers test schedules and inspection requirements for Assessment Levels H, M and U.

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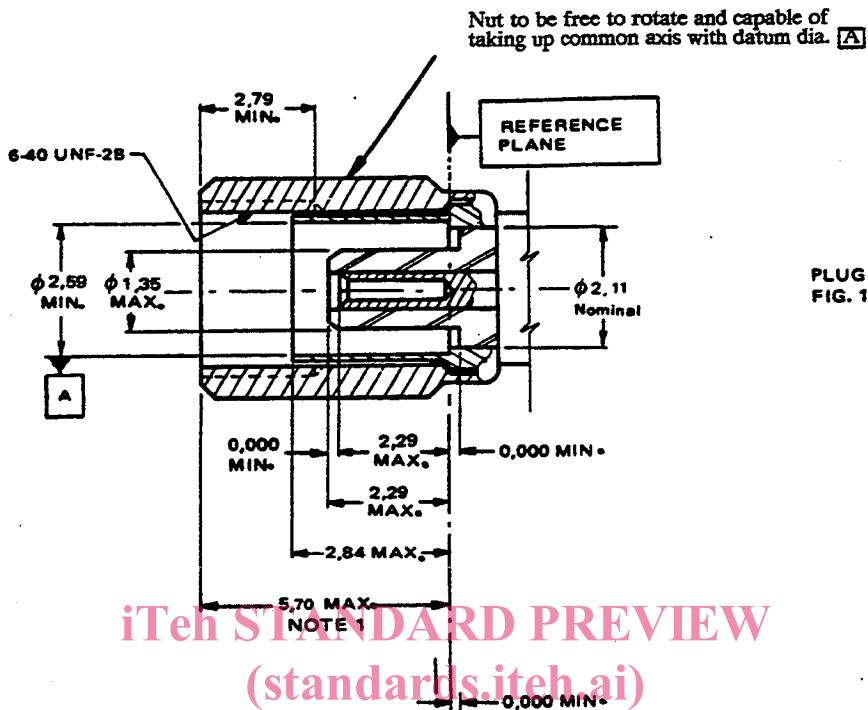
SECTION 2 - MATING FACE AND GAUGE INFORMATION

2.1 Dimensions - general purpose connectors

All undimensioned pictorial configurations are for reference purposes only.

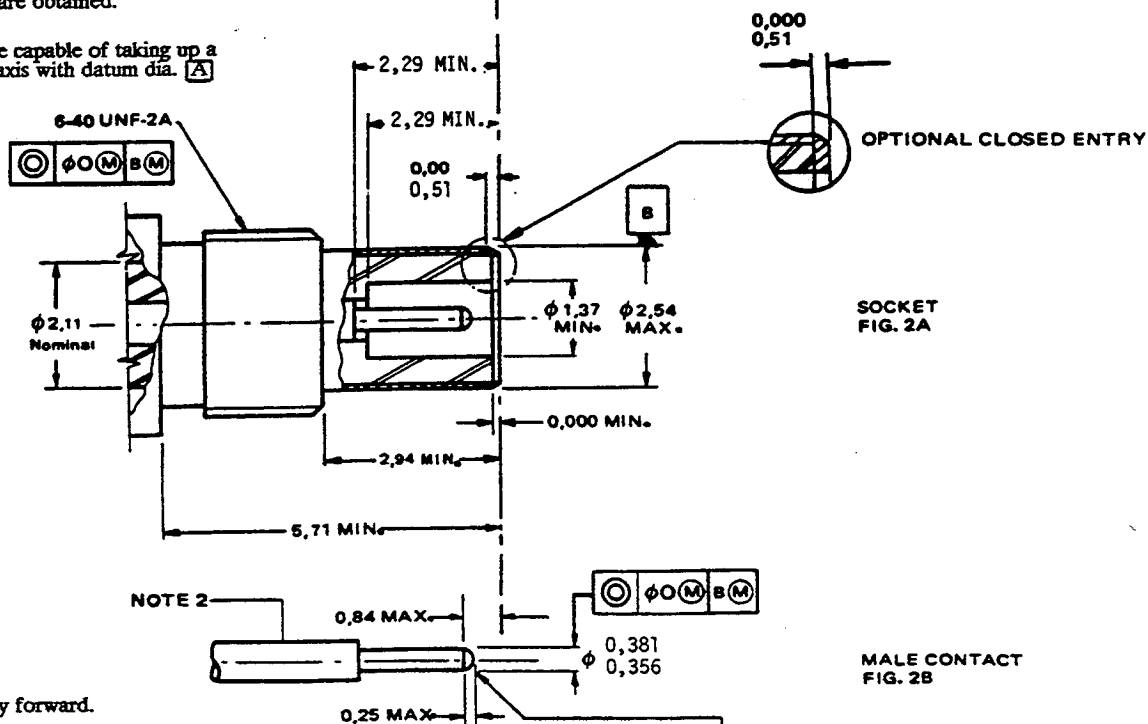
Inch dimensions are original dimensions

mm	inches
0,2	.008
0,25	.010
0,35	.014
0,356	.0140
0,38	.015
0,381	.0150
0,51	.020
0,84	.033
1,35	.053
1,37	.054
2,11	.083
2,29	.090
2,54	.100
2,59	.102
2,79	.110
2,84	.112
2,94	.116
5,70	.224
5,71	.225



Resilient contact may be closed or open entry, method of resilience optional, provided that when a pin of 0,356/0,381 diameter is inserted, VSWR, mating and endurance performances are obtained.

Bore to be capable of taking up a common axis with datum dia. **A**



Note 1: Nut fully forward.

Note 2: The indicated diameters chosen on the assumption that PTFE has a dielectric constant of 2,02 to give required impedance of 50 Ω .

Form optional 0,25 MAX. flat

Inch dimensions are original dimensions. All undimensioned pictorial configurations are for reference purposes only.

2.2.1 Gauge for female centre contact

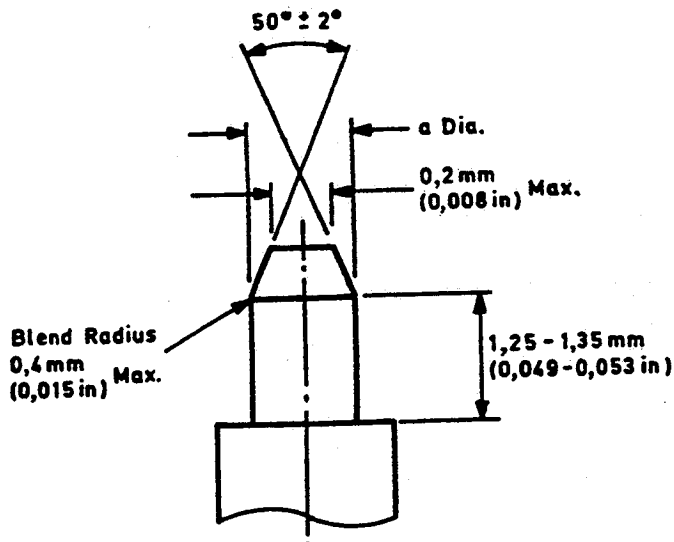


Fig. 3. Gauge pin for centre contact of socket connector (for dimension 'a' see below)

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<p>SIST EN 122180:1999 https://standards.iteh.ai/catalog/standards/sist/6572749f-a23c-447c-9hca-4a758ab2942d/sist-en-122180-1999</p>					<p>Gauge B - minimum material - for measurement of gauge retention force</p>			
<p>Gauge A - maximum material - for sizing purposes</p>					<p>Mass (weight) of gauge: 16 ± 1 g</p>			
	mm		in		mm		in	
Ref.	min.	max.	min.	max.	min.	max.	min.	max.
a ∅	0,381	0,384	0,015	0,0151	0,353	0,356	0,0139	0,014
<p>Material: Steel, polished surface roughness Ra = 0,4 µm (16 µin) max.</p>								

Test procedure (see 4.5.1 of CECC 22 000).

Gauge A shall be inserted once only into the female centre contact. This is a sizing operation.

After this, gauge B shall be inserted into the female centre contact. The contact shall support the mass of the gauge in a vertical downward attitude.

Note (for information only):

Gauge A is used for qualification approval tests only.

The minimum diameter of gauge A corresponds to the maximum diameter of a male contact pin.

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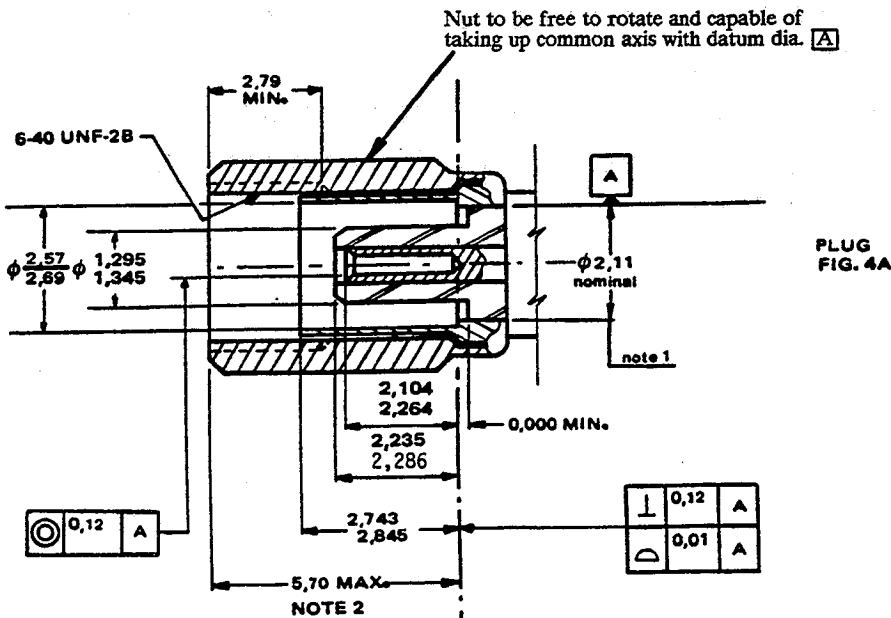
2.3

Dimensions - Standard test connectors (Grade 0)
(see 4.4.1 of CECC 22 000).

All undimensioned pictorial configurations are for reference purposes only.

Inch dimensions are original dimensions

mm	Inches
0,01	.0004
0,07	.0027
0,12	.0047
0,127	.0050
0,2	.008
0,25	.010
0,356	.0140
0,381	.0150
0,500	.0197
0,625	.0246
0,675	.0266
1,295	.0510
1,345	.0530
1,372	.0540
1,422	.0560
1,956	.077
2,104	.0828
2,11	.083
2,159	.0850
2,235	.0880
2,261	.0890
2,264	.0891
2,286	.0900
2,311	.0910
2,362	.0930
2,490	.0980
2,540	.1000
2,57	.101
2,69	.106
2,743	.1080
2,79	.110
2,846	.1120
2,92	.115
3,08	.121
5,70	.224
5,71	.225

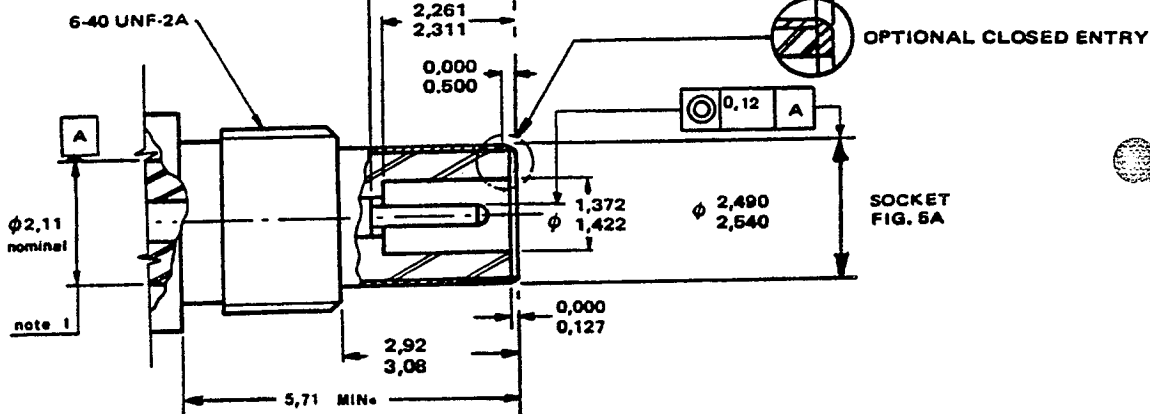


PLUG
FIG. 4A

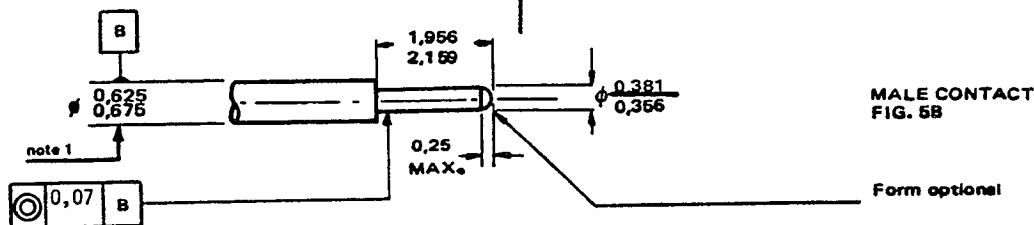


FEMALE RESILIENT
CONTACT
FIG. 4B

Resilient contact may be closed or open entry, method of resilience optional, provided that when a pin of 0,356/0,381 diameter is inserted, VSWR, mating and endurance performances are obtained.



SOCKET
FIG. 5A



MALE CONTACT
FIG. 5B

Form optional

Note 1: The indicated diameters are based on the assumption that PTFE has a dielectric constant of 2,02 to give an impedance of $50 \pm 0,5 \Omega$.
Note 2: Nut fully forward.

SECTION 3 - PROPERTIES

3.1 Ratings and Characteristics (see 2.3 of CECC 22 000)
(including limiting conditions of use)

The blank detail specification(s) relating to Series SSMC connectors shall list the following properties and the specific values shall be entered by the specification writer.

Properties not applicable to a particular connector style shall be marked 'na'. The values indicated below give the recommended requirements and properties.

RATINGS AND CHARACTERISTICS	CECC 22 180 CLAUSE	VALUE	REMARKS
ELECTRICAL	4.4		
Frequency range		Up to 6 GHz	Grade 2 connectors
Reflection factor*	4.4.1		
- straight styles		$\leq 0,1$	Up to 1 GHz
- right angle styles		$\leq 0,2$	Up to 1 GHz
- straight styles		$\leq 0,15$	Up to 3 GHz
- right angle styles		$\leq 0,24$	Up to 3 GHz
- straight styles		$\leq 0,25$	Up to 6 GHz
- right angle styles		$\leq 0,33$	Up to 6 GHz
- component mounting styles		See DS	
- solder bucket PCB mounting styles		na	
Centre contact resistance	4.4.2	$\leq 5 \text{ m}\Omega$ $\leq 15 \text{ m}\Omega$	Initial After conditioning
Outer conductor continuity	4.4.3	$\leq 2,5 \text{ m}\Omega$ $\leq 7,5 \text{ m}\Omega$	Initial After conditioning
Insulation resistance	4.4.4	$\geq 1 \text{ G}\Omega$ $\geq 200 \text{ M}\Omega$	Initial After conditioning
Proof voltage at sea level †1 Cable type: IEC 96-50-1-1, 1-2	4.4.5	500 V	86 kPa to 106 kPa

For notes see page 11.