

Förderverein für Elektrotechnische Normung (FEN) e. V.
Cenelec Electronic Components Committee

CECC



Système Harmonisé d'Assurance de la Qualité
des Composants Electroniques

SPECIFICATION PARTICULIERE:

**CONNECTEURS COAXIAUX
POUR FREQUENCE
RADIOELECTRIQUE
Série SMA**

Harmonized System of Quality Assessment for
Electronic Components

DETAIL SPECIFICATION:

**RADIO FREQUENCY
COAXIAL CONNECTORS
Series SMA**

Harmonisiertes Gütebestätigungssystem für
Bauelemente der Elektronik

BAUARTSPEZIFIKATION:

**HOCHFREQUENZ-
KOAXIAL-STECKVERBINDER
Serie SMA**

1

Edition
Issue
Ausgabe

CECC 22111-802

1984



Documents

Document Sharing Hub

Cette page bleue doit être insérée après la page de garde de la CECC 22 111-802 Edition 1 (1984)

MODIFICATION 2 DE LA CECC 22 111-802 (Edition 1):
SPECIFICATION PARTICULIERE:
CONNECTEURS COAXIAUX POUR FREQUENCE RADIO-ELECTRIQUE Serie SMA

Les modifications suivantes doivent être effectuées à la main:

- Page 2: 1. Résistance du contact central, 4.4.2
sous
VALEUR (Initiale):
Supprimer "na" et insérer "3,0"
2. Résistance du contact central, 4.4.2
sous
VALEUR (Après essai):
Supprimer "na" et insérer "8,0"
3. Supprimer la NOTE: "L'isolant et le contact central du câble."

CECC 22 111-802 Edition 1 Modification 2 1986

This blue page should be inserted after the title page of CECC 22 111-802 Issue 1 (1984)

AMENDMENT 2 TO CECC 22 111-802 (Issue 1):
DETAIL SPECIFICATION:
RADIO FREQUENCY COAXIAL CONNECTORS Series SMA

The following amendments shall be made in manuscript:

- Page 2: 1. Centre contact resistance, 4.4.2
under
VALUE (Initial):
Amend "na" to read "3,0"
2. Centre contact resistance, 4.4.2
under
VALUE (After conditioning):
Amend "na" to read "8,0"
3. Delete NOTE at bottom: "The connector insulator ... assembly."

CECC 22 111-802 Issue 1 Amendment 2 1986

Dieses blaue Blatt ist nach dem Titelblatt CECC 22 111-802 Ausgabe 1 (1984) einzusetzen

ÄNDERUNG 2 ZU CECC 22 111-802 (Ausgabe 1):
BAUARTSPEZIFIKATION:
HOCHFREQUENZ-KOAXIAL-STECKERVERBINDER Serie SMA

Die folgenden Änderungen sind handschriftlich vorzunehmen:

- Seite 2: 1. Innenleiter-Kontaktwiderstand, 4.4.2
unter
WERT (Anfänglich):
"na" ist durch "3,0" zu ersetzen
2. Innenleiter-Kontaktwiderstand, 4.4.2
unter
WERT (Nach Beanspruchung):
"na" ist durch "8,0" zu ersetzen
3. Die ANMERKUNG "Der Isolator und Kabeleigenschaften ab" ist zu streichen.

CECC 22 111-802 Ausgabe 1 Änderung 2 1986

Cette page bleue doit être insérée après la page de garde de la CECC 22 111-802 Edition 1 (1984)

MODIFICATION 1 DE LA CECC 22 111-802 (Edition 1):

SPECIFICATION PARTICULIERE:

CONNECTEURS COAXIAUX POUR FREQUENCE RADIO-ELECTRIQUE Série SMA

La modification suivante doit être effectuée à la main:

Page 4: [10] Information supplémentaire

sous

information pour la commande i):

Supprimer le numéro CECC 22 111-002-xx et insérer CECC 22 111-802-xx.

This blue page should be inserted after the title page of CECC 22 111-802 Issue 1 (1984)

AMENDMENT 1 TO CECC 22 111-802 (Issue 1):

DETAIL SPECIFICATION:

RADIO FREQUENCY COAXIAL CONNECTORS Series SMA

The following amendment shall be made in manuscript:

Page 4: [10] Supplementary Information

under

i) of ordering information:

Amend CECC 22 111-002-xx to read CECC 22 111-802-xx.

Dieses blaue Blatt ist nach dem Titelblatt CECC 22 111-802 Ausgabe 1 (1984) einzusetzen

ÄNDERUNG 1 ZU CECC 22 111-802 (Ausgabe 1):

BAUARTSPEZIFIKATION:

HOCHFREQUENZ-KOAXIAL-STECKERVERBINDER Serie SMA

Die folgende Änderung ist handschriftlich vorzunehmen:

Seite 4: [10] Zusatzangaben

unter

i) der Bestellangaben:

CECC 22 111-002-xx ist durch CECC 22 111-802-xx zu ersetzen.

CECC 22 111-802 Edition 1 Modification 1 1985

CECC 22 111-802 Issue 1 Amendment 1 1985

CECC 22 111-802 Ausgabe 1 Änderung 1 1985

ERRATUM

Cette page bleue doit être insérée après la page de garde de la CECC 22 111-802 Edition 1 (1984)

This blue sheet shall be inserted after the title page of CECC 22 111-802 Issue 1 (1984)

Dieses blaue Blatt ist nach dem Titelblatt der CECC 22 111-802 Ausgabe 1 (1984) einzufügen

La modification suivante doit être effectuée à la main à l'Edition 1 (1984) de la CECC 22 111-802:

Page 2 [9] ELECTRIQUES, colonne 2

- Tension de tenue à 20 km d'altitude:
Modifier 4.4.5 pour lire 4.6.5

The following amendment to Issue 1 (1984) of CECC 22 111-802 should be made in manuscript:

Page 2 [9] ELECTRICAL, column 2

- Proof voltage at 20 km altitude:
Amend 4.4.5 to read 4.6.5

In Ausgabe 1 (1984) der CECC 22 111-802 ist folgende Änderung handschriftlich vorzunehmen:

Seite 2 [9] ELEKTRISCH, Spalte 2

- Spannungsfestigkeit in 20 km Höhe:
4.4.5 ist durch 4.6.5 zu ersetzen

CECC 22 111-802 Edition 1
 Issue 1 ERRATUM
 Ausgabe 1

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PREFACE

This detail specification (DS) was prepared by CECC Working Group 22: 'RF Connectors'.

It relates to Series SMA connectors covered by sectional specification CECC 22 110 and by blank detail specification CECC 22 111. These in turn are related to the generic specification CECC 22 000.

The text of this DS was circulated to the CECC for voting in the documents detailed below and was ratified by the President of the CECC for printing as a CECC specification.

<u>Document</u>	<u>Voting date</u>	<u>Report on the voting</u>
CECC(Secretariat)1290	May 1983	CECC(Secretariat)1417

[1]	Page 1 of 6 [2] CECC 22 111 - 802 
ELECTRONIC COMPONENT OF ASSESSED QUALITY IN ACCORDANCE WITH GENERIC SPECIFICATION 22 000 SECTIONAL SPECIFICATION 22 110	[4]

[5] DETAIL SPECIFICATION for
RADIO FREQUENCY COAXIAL CONNECTOR OF ASSESSED QUALITY : SERIES

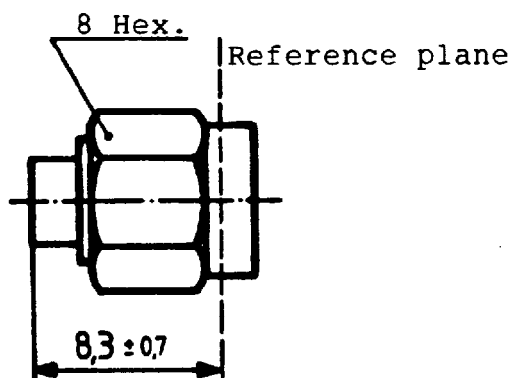
SMA

Style: .Straight plug for semi-rigid cable..... Special Features + Markings:

Method of cable/wire attachment:
 centre conductor - solder/crimp
 outer conductor - solder/clamp/crimp
 Mass: 3.9 (Max.)

[6] Assessment level .. H .. Characteristic impedance 50 Ω Climatic category: 55 / 115 / 21

[7] Outline and maximum dimensions Panel piercing and mounting details



For mating interface and position of reference plane see CECC 22 110

Maximum panel thickness: for front mounting mm
 for rear mounting mm

The outline dimensions meet the requirements of

[8] Variants

Variant No.	Description of Variant	IEC 96-2	Relevant Cables RG	National Cables
.....-01...	Connector, Gold.....	.....	..RG.402/U.....	..(E)...KS.2....
(3).....-02...	Connector, Passivated.....	.....	..RG.402/U.....	KS.2....
.....-03...	Stainless Steel.....	.....	..RG.405/U.....	KS.1....
(3).....-04...	Connector, Gold.....	.....	..RG.405/U.....	KS.1....
.....-04...	Connector, Passivated.....	.....	..RG.405/U.....	KS.1....
.....	Stainless Steel.....	.....	.....	.....
.....				
.....				

Note: (3) The surface to be soldered shall be prepared in a suitable manner so as to accept the solder correctly.

Information about manufacturers who have components qualified to this detail specification is available in the current CECC 00 200: Qualified Products List.

RATINGS + CHARACTERISTICS		CECC 22 110 Clause	VALUE	REMARKS
MECHANICAL				
Contact captivation		4.5.2	 <i>na</i> N	CECC 22 000 method (or as specified)
- axial force			 <i>na</i> Nm	
- torque				
Engagement + separation		4.5.4	...0,25....Nm max.	(to overcome friction of coupling nut)
- torque				
Effectiveness of clamping device against cable pulling	Variant No./ Designation	4.5.5 (1)	500.....N	
	-01		500.....	
	-02		200.....	
	-03		200.....	
	-04		.....	
				
				
				
				
Effectiveness of clamping device against cable torsion	-01	4.5.5 (2)	 <i>na</i> Nm	
	-02		 <i>na</i>	
	-03		 <i>na</i>	
	-04		 <i>na</i>	
				
				
				
				
Tensile strength of coupling mechanism		4.5.6	180.....N	
Coupling torque				
- normal			...0,8 to 1,1...Nm	
- proof			1,7.....Nm	
Bending moment		4.5.9	 <i>na</i> Nm	Relative to reference plane
ADDITIONAL MECHANICAL CHARACTERISTICS				
ENVIRONMENTAL				
Bump		4.6.2	390...m/s ²	(.40.g acceleration)
Vibration		4.6.3	4000...bumps	(.10.g acceleration)
Shock		4.6.4	98...m/s ²	(.50.g acceleration)
Climatic category		4.6.5	10 to 2000 Hz	
Sealing (panel + barrier sealed connectors)		4.6.8	 <i>na</i>	100 to 110 kPa pressure differential (1000 to 1100 mbar)
Sealing (hermetically sealed connectors)		4.6.9	 <i>na</i>	100 to 110 kPa pressure differential (1000 to 1100 mbar)
ADDITIONAL ENVIRONMENTAL CHARACTERISTICS				
ENDURANCE				
Mechanical		4.7.1	..500...operat.	
High temperature		4.7.2	..1000...h	
			at ...115....°C	
ADDITIONAL ENDURANCE CHARACTERISTICS				

[10] Supplementary Information

- marking of the component : in accordance with 2.4 of CECC 22 000, in the following order or precedence :

i) Component identification	Variant No./ Designation	Identification
	-01	.22-111-802-01..
	-02	-02..
	-03	-03..
	-04	-04..
		
		
		
ii) Identity of manufacturer	.....	.....
iii) Manufacturing date code, year/week	.....	.....

- marking and contents of package : in accordance with 2.5 and 2.5.1 of CECC 22 000 as follows :

- i) Information prescribed in 2.4 of CECC 22 000 detailed above
- ii) Nominal characteristic impedance 50 Ω
- iii) Assessment level code letter B.....
- iv) Any additional marking required

- ordering information : in accordance with 2.6 of CECC 22 000 as follows :

- i) Number of the detail specification CECC 22 111- 802-xx (No. of variant)
- ii) Assessment level code letter B.....
- iii) Body finish (if more than one listed) see variant numbers in [8]
- iv) Any additional information or special requirements

- related documents :

CECC 22 000	Generic specification for radio frequency connectors of assessed quality (and related documents, see 2.1 of CECC 22 000)
CECC 22 110	Sectional specification for r.f. connectors Series SMA

- certified test records (RCE) : In accordance with 3.7 of CECC 22 000.
(when applicable) (requirements to be included later)

- structural similarity : In accordance with 3.2 and 3.4 of CECC 22 000.

[11] TEST SCHEDULE AND INSPECTION REQUIREMENTS - SERIES SMA

Details of tests and quality assessment inspection requirements for levels H and U are given in 5.1 of CECC 22 110.

ACCEPTANCE TESTS

GROUP A1

Visual examination

CECC
22 110
Clause

4.2

GROUP B1

Outline dimensions

Compatibility mechanical

Engagement + separation

Gauge retention force

(resilient contacts)

Sealing (panel + barrier seal)

Sealing (hermetic)

Voltage proof

4.3.1
4.5.7
4.5.4
4.5.1
4.6.8
4.6.9
4.4.5

LEVEL H			
Test Requir.	I.L.	AQL	Period
a	S 3	1,5 %	Lot by Lot
a	S 3	4 %	
a	S 3	1,5 %	
a	S 3	1,5 %	
na			
na			
na			
a	S 3	4 %	

PERIODIC TESTS

GROUP C1 (d)

Soldering

Insulation resistance

CECC
22 110
Clause4.6.1
4.4.4

Test	I.L.	AQL	Period
a			
a	S 3	4 %	1 yearly

GROUP D1 (d)

Mechanical tests on cable clamping device

Bending moment

Tensile strength of coupling mechanism

CECC
22 110
Clause4.5.5
4.5.9
4.5.6

Test Requir.	Specimens (May be from C1)	Permitted Failures † per Group	Period
a	3 mated pairs or sets min.	1	3 yearly
na			
a			

GROUP D2 (d)

Contact resistance

Outer conductor continuity

Bump

Vibration

Shock

Damp heat, steady state

Salt mist

4.4.2
4.4.3
4.6.2
4.6.3
4.6.4
4.6.6
4.6.10

a	3 mated pairs or sets min.	1	3 yearly
a			
a			
a			
a			
a			

GROUP D3

Dimensions and materials (piece parts)

Mass

4.3.2
4.3.1

a	1 set of piece parts each style	1	3 yearly
a			

GROUP D4 (d)

Mechanical endurance

High temperature endurance

4.7.1
4.7.2

a	3 mated pairs or sets min.	1	3 yearly
a			

GROUP D5 (d)

Reflection factor

Screening effectiveness

4.4.1
4.4.8

a	3 mated pairs or sets min.	1	3 yearly
a			

GROUP D6 (d)

Contact captivation

Rapid change of temperature

Climatic sequence

4.5.2
4.6.7
4.6.5

na	3 mated pairs or sets min.	1	3 yearly
a			
a			