

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 SMB**

Harmonized System of Quality Assessment for
Electronic Components

DETAIL SPECIFICATION:
**RADIO FREQUENCY
COAXIAL CONNECTORS
Series SMB**

Harmonisiertes Gütebestätigungssystem für
Bauelemente der Elektronik

BAUARTSPEZIFIKATION:
**HOCHFREQUENZ-
KOAXIAL-STECKVERBINDER
Serie SMB**



1

Edition
Issue
Ausgabe

CECC 22 131-810

1988

Cette page bleue doit être insérée après la page de garde de la CECC 22 131-810 Edition 1 (1988)

AMENDEMENT 1 A LA CECC 22 131-810, (Edition 1)

SPECIFICATION PARTICULIERE:

CONNECTEURS COAXIAUX POUR FREQUENCE RADIOELECTRIQUE
SERIE SMB

La modification suivante doit être effectuée:

Il est autorisé d'utiliser une rondelle frein à denture intérieure à la place d'une rondelle ondulée, dans la mesure où leur diamètre extérieur indiqué est conservé.

On distinguera dans les commandes et le stockage les variantes de la manière suivante: codes -01, -02, -03 etc. pour les rondelles ondulées, codes -11, -12, -13 etc. pour les rondelles frein à denture intérieure.

Enregistrer les modifications sur la feuille jaune 'Enregistrement de modifications'.

Cette proposition a été communiquée aux membres du GT22 sous la référence GT22(Secrétariat)655.

CECC 22 131-810 Edition 1 Amendement 1 1991

This blue page shall be inserted after the title page of CECC 22 131-810 Issue 1 (1988)

AMENDMENT 1 TO CECC 22 131-810, (Issue 1)

DETAIL SPECIFICATION:

RADIO FREQUENCY COAXIAL CONNECTORS SERIES SMB

The following amendment shall be made:

The use of an internal toothed lockwasher is permitted as an alternative to the crinkle washer indicated provided it does not exceed the outside diameter shown.

To allow discrimination in ordering and stocking, the Variant Codes -01, -02, -03 etc. will continue to be used for connectors fitted with crinkle washers. The corresponding connectors with toothed lockwashers will use Variant Codes -11, -12, -13 etc.

Enter this amendment on the yellow 'Record of Amendments' sheet.

This proposal was circulated to WG22 members under WG22(Secretariat)655.

CECC 22 131-810 Issue 1 Amendment 1 1991

Dieses blaue Blatt ist nach dem Titelblatt der CECC 22 131-810 Ausgabe 1 (1988) einzusetzen

ÄNDERUNG 1 ZU CECC 22 131-810, (Ausgabe 1)

BAUARTSPEZIFIKATION:

HOCHFREQUENZ-KOAXIAL-STECKVERBINDER SERIE SMB

Die folgende Änderung ist vorzunehmen:

Der Gebrauch einer innen gezahnten Sicherungsscheibe ist als Alternative zur Federscheibe zulässig, wenn diese den angegebenen Außendurchmesser nicht überschreitet.

Zur Unterscheidung bei der Bestellung und der Lagerung wird für Steckverbinder, die mit Federscheiben eingesetzt werden, der Variantencode -01, -02, -03 etc. weiterverwendet. Für die entsprechenden Steckverbinder mit gezahnten Sicherungsscheiben lauten die Variantencodes -11, -12, -13 etc.

Die Änderung ist in das gelbe Blatt der Änderungsliste einzutragen.

Dieser Vorschlag wurde mit dem Schreiben WG22(Sekretariat)655 den WG22-Mitgliedern zur Kenntnis gebracht.

CECC 22 131-810 Ausgabe 1 Änderung 1 1991

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PREFACE

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

It relates to Series SMB connectors covered by sectional specification CECC 22 130 and by blank detail specification CECC 22 131. These in turn are related to the generic specification CECC 22 000.

It is based, wherever possible, on the Publications of the International Electrotechnical Commission, and in particular on IEC 169-10 (1983) Part 10: RF coaxial connectors with inner diameter of outer conductor 3 mm (0,12 in) with snap-on coupling - Characteristic impedance 50 ohms (Type SMB).

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.

Document**Voting Date****Report on the Voting**

CECC(Secretariat)1730

July 1985

CECC(Secretariat)1808

CECC 22 131-810 Issue 1



[1]

page 1
of 9

[2]

CECC 22 131 - 810

ELECTRONIC COMPONENT OF ASSESSED [3]
QUALITY IN ACCORDANCE WITH
GENERIC SPECIFICATION 22 000
SECTIONAL SPECIFICATION 22 130

[4]

Issue 1

[5] DETAIL SPECIFICATION for

RADIO FREQUENCY COAXIAL CONNECTOR OF ASSESSED QUALITY:

SERIES

SMB

Style: Socket, single hole rear mounting (or free, less
nut and washer) cable outlet, male centre contact

Special Features & Markings:

Method of cable/wire* attachment: centre conductor - solder/crimp*

: outer conductor - solder/clamp/crimp*

Mass: 3,1g (Max.)

*Delete as appropriate

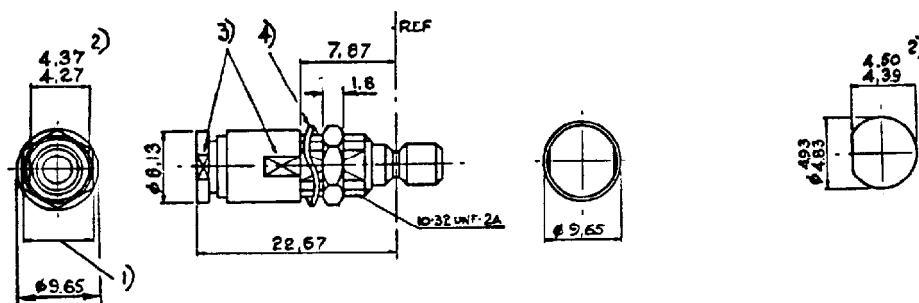
[6] Assessment level : H

Characteristic Impedance 50 Ω Climatic category 55/155 $^{\circ}$ /21

[7] Outline and maximum dimensions

All dimensions in mm

Panel piercing and mounting details



- NOTES : 1 Width across flats 6,35 (6 permissible)
2 to 'D' hole
3 Width across flats to suit standard wrench
4 Crinkle washer
5 Contours optional with dimensional envelope

For mating interface dimensions and position of reference plane see CECC 22 130

Maximum panel thickness: for front mounting mm, for rear mounting 2,40.... mm

The outline dimensions meet the requirements of

[8] Variants

<u>Variant No.</u>		<u>Description of Variant</u>	<u>Relevant Cables</u>			
<u>Body Shell Finish</u>		<u>Max. dia. over dielectric</u>	<u>IEC 96</u>	<u>MIL-C-17</u>	<u>GB</u>	<u>FR</u>
<u>Au</u>	<u>Non- tarnish</u>			<u>RG</u>	<u>URM</u>	<u>NF</u>
<u>Plating</u>						
-01	-05	0,94	50-1-1,1-2,1-3	178B/U,404/U	110	KX21
-02	-06	1,60	50-2-1,2-2,2-3	174A/U,316/U	95,109	KX3A
			2-4,2-5,2-6		116	KX22A
-03	-07	1,70		405/U		KS1
-04	-08	3,00		402/U		KS2

† Note : With variants using semi-rigid cable the upper temperature limit should be reduced to 115 $^{\circ}$ C.

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

[9] PERFORMANCE (including limiting conditions of use)

RATINGS AND CHARACTERISTICS		CECC 22 130 CLAUSE	VALUE	REMARKS
ELECTRICAL				
	Variant No./ Designation			Measurement freq. range
Reflection factor	-01.....-05	4.4.1	... < 0,1.....	Up to 1 GHz.....
			... < 0,19.....	Up to 4 GHz.....
	-02.....-06		... < 0,1.....	Up to 1 GHz.....
			... < 0,17.....	Up to 4 GHz.....
	-03.....-07		... < 0,1.....	Up to 1 GHz.....
			... < 0,17.....	Up to 4 GHz.....
	-04.....-08		... < 0,1.....	Up to 1 GHz.....
			... < 0,17.....	Up to 4 GHz.....
Centre contact resistance		4.4.2	≤ ...5.... mΩ	Initial
			≤ ...15.... mΩ	After conditioning
Outer conductor continuity		4.4.3	≤ ...2,5... mΩ	Initial
			≤ ...7,5... mΩ	After conditioning
Insulation resistance		4.4.4	> ...1.... GΩ	Initial
			> ...500... MΩ	After conditioning
+ Proof voltage at sea level	-01.....-05	4.4.5	0,5.... kV	86 to 106 kPa
	-02.....-06		0,75... kV	
	-03.....-07		0,75... kV	
	-04.....-08		1..... kV	
				
				
				
				
+ Proof voltage at 20 km altitude	-01.....-05	4.6.5	100.... V	4,4 kPa
	-02.....-06		150.... V	
	-03.....-07		150.... V	
	-04.....-08		200.... V	
				
				
				
				

+ Voltage values are r.m.s. values of a.c. at 50 to 60 Hz unless otherwise stated.

RATINGS AND CHARACTERISTICS		CECC 22 130 CLAUSE	VALUE	REMARKS
ELECTRICAL				
	Variant No./ Designation			
+ Working voltage at sea level	-01.....-05		170.... V	86 to 106 kPa
	-02.....-06		335.... V	
	-03.....-07		250.... V	
	-04.....-08		335.... V	
				
				
				
				
+ Working voltage at 20 km altitude	-01.....-05		45.... V	4,4 kPa
	-02.....-06		85.... V	
	-03.....-07		65.... V	
	-04.....-08		85.... V	
				
				
				
				
Screening effectiveness	-01...to...-08	4.4.8	$Z_t \leq \text{..NA... } \Omega$	Providing $\geq$ dB
				
				
				
				
				
				
				
ADDITIONAL ELECTRICAL CHARACTERISTICS				
MECHANICAL				
Contact captivation: - axial force - torque		4.5.2	4..... N NA..... Nm	

+ Voltage values are r.m.s. values of a.c. at 50 to 60 Hz unless otherwise stated.

RATINGS AND CHARACTERISTICS	CECC 22 130 CLAUSE	VALUE	REMARKS
MECHANICAL			
Engagement and separation - axial force	4.5.4	..NA.. N min. N max.	
Effectiveness of clamping device against cable pulling	Variant No./ Designation -01.....-05 -02.....-06 -03.....-07 -04.....-08	4.5.5 (1) ...50... N min. ...50... N min. ...50... N min. ..100... N min.	
Effectiveness of clamping device against cable torsion	-01.....-05 -02.....-06 -03.....-07 -04.....-08	4.5.5 (2) ..0,039 Nm min. ..0,039 Nm min. NA..... NA.....	
Bending moment	4.5.9	0,5.... Nm	Relative to reference plane
ADDITIONAL MECHANICAL CHARACTERISTICS			
ENVIRONMENTAL			
Vibration	4.6.3	...100... m/s ² 10 to 500 Hz	(10g _n acceleration)
Climatic Category	4.6.5	55/155/21	
Sealing (panel and barrier sealed connectors)	4.6.8	NA.....	100 to 110 kPa pressure differential

RATINGS AND CHARACTERISTICS	CECC 22 130 CLAUSE	VALUE	REMARKS
ENVIRONMENTAL			
Sealing (hermetically sealed connectors)	4.6.9	NA.....	100 to 110 kPa pressure differential
ADDITIONAL ENVIRONMENTAL CHARACTERISTICS			
ENDURANCE			
Mechanical	4.7.1	500 operations	
High temperature -01 -02 -05 -06 -03 -04 -07 -08	4.7.2	1000.... h at...155... °C at...115... °C	with appropriate cable
ADDITIONAL ENDURANCE CHARACTERISTICS			

[10] SUPPLEMENTARY INFORMATION

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

(1) Component identification	Variant No./ Designation	Identification
	-01	..22 131-810/-01..
	-02	..22 131-810/-02..
	-03	..22 131-810/-03..
	-04	..22 131-810/-04..
	-05	..22 131-810/-05..
	-06	..22 131-810/-06..
	-07	..22 131-810/-07..
	-08	..22 131-810/-08..
		
(2) Identification of manufacturer:		
(3) 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:

- Information prescribed in 2.4 of CECC 22 000 detailed above
- Nominal characteristics impedance 50 Ω.....
- Assessment level code letter H.....
- Any additional marking required