

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 22 131-801

1988

**Copyright – all rights reserved**

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

Droits de reproduction réservés

Aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'éditeur.

Alle Rechte vorbehalten

Insbesondere darf kein Teil dieser Veröffentlichung in irgend-einer Form oder nach irgendeinem Verfahren, elektronisch oder mechanisch, einschließlich Fotokopieren und Mikrofilm, ohne schriftliche Einwilligung des Herausgebers vervielfältigt oder verwertet werden.

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.

<u>Document</u>	<u>Voting Date</u>	<u>Report on the Voting</u>
CECC(Secretariat)1697	July 1985	CECC(Secretariat)1799

CECC 22 131-801 Issue 1

[1]	page 1 of 9	[2] CECC 22 131 - 801	
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: Straight plug, female centre contact

Special Features & Markings:

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

Mass: 3,5g (Max.)

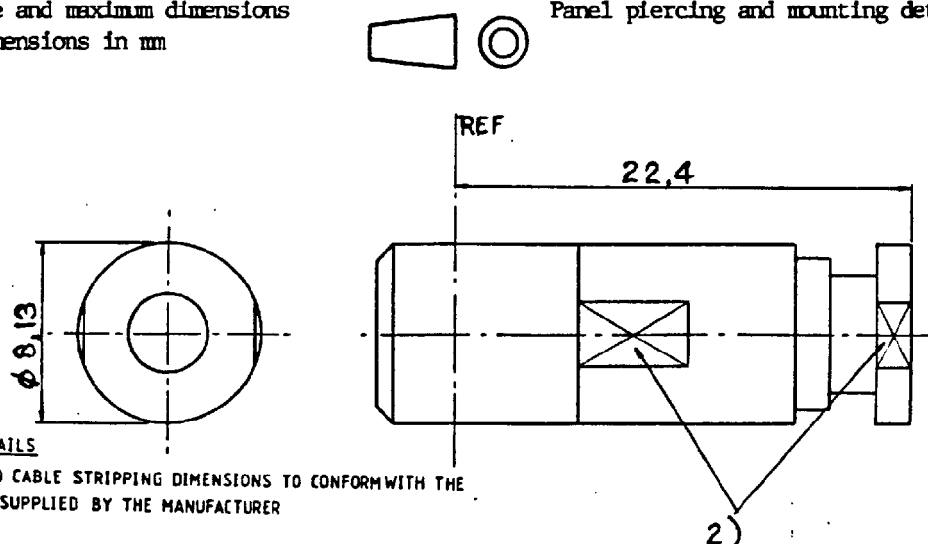
*Delete as appropriate

[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

**CRIMPING DETAILS**

CRIMP DIES AND CABLE STRIPPING DIMENSIONS TO CONFORM WITH THE INSTRUCTIONS SUPPLIED BY THE MANUFACTURER

NOTES : 1 Contours optional within dimension envelope

2 To suit standard wrench

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

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

The outline dimensions meet the requirements of IEC 169-10

[8] Variants

Variant No.		Description of Variant	Relevant Cables			
Body Shell Finish		Max. dia. over dielectric	IEC 96	MIL-C-17 RG	GB URM	FR NF
Au	Non- tarnish Plating					
-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 2-4,2-5,2-6	174A/U,316/U	95,109 116	KX3A 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 ≤ ...15.... mΩ	Initial After conditioning
Outer conductor continuity		4.4.3	< ...2,5... mΩ ≤ ...7,5... mΩ	Initial After conditioning
Insulation resistance		4.4.4	> 1.... GΩ ≥ ...500... MΩ	Initial 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		1,0.... 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	$Z_t \leq \dots NA.. \Omega$	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	...8.. N min. ..63.. N max.	
Effectiveness of clamping device against cable pulling	Variant No./ Designation			
	-01.....-05	4.5.5	...50 N min...	
	-02.....-06	(1)	...50 N min...	
	-03.....-07		...50 N min...	
	-04.....-08		..100 N min...	
				
				
				
Effectiveness of clamping device against cable torsion	-01.....-05	4.5.5	0,039 Nm min..	
	-02.....-06	(2)	0,039 Nm min..	
	-03.....-07		NA.....	
	-04.....-08		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	..22 131-801/-01..
	-02	..22 131-801/-02..
	-03	..22 131-801/-03..
	-04	..22 131-801/-04..
	-05	..22 131-801/-05..
	-06	..22 131-801/-06..
	-07	..22 131-801/-07..
	-08	..22 131-801/-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:

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