

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 SSMA**

Harmonized System of Quality Assessment for
Electronic Components

DETAIL SPECIFICATION:

**RADIO FREQUENCY
COAXIAL CONNECTORS
Series SSMA**

Harmonisiertes Gütebestätigungssystem für
Bauelemente der Elektronik

BAUARTSPEZIFIKATION:

**HOCHFREQUENZ-
KOAXIAL-STECKVERBINDER
Serie SSMA**

1

Edition
Issue
Ausgabe

CECC 22161-803

1987



Documents

Document Sharing Hub

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PREFACE

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

It relates to Series SSMA connectors covered by sectional specification CECC 22 160 and by blank detail specification CECC 22 161. 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)1758	July 1985	CECC(Secretariat)1851

CECC 22 161-803 Issue 1



[1]	page 1 of .2	[2] CECC 22 161 - 803 ..
ELECTRONIC COMPONENT OF ASSESSED [3] QUALITY IN ACCORDANCE WITH GENERIC SPECIFICATION 22.000..... SECTIONAL SPECIFICATION 22.160.....	[4]	Issue 1

[5] DETAIL SPECIFICATION for

RADIO FREQUENCY COAXIAL CONNECTOR OF ASSESSED QUALITY:

SERIES

SSMA

Style: Straight plug for flexible cable.....

Special Features & Markings:

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

: outer conductor - solder/clamp/crimp*

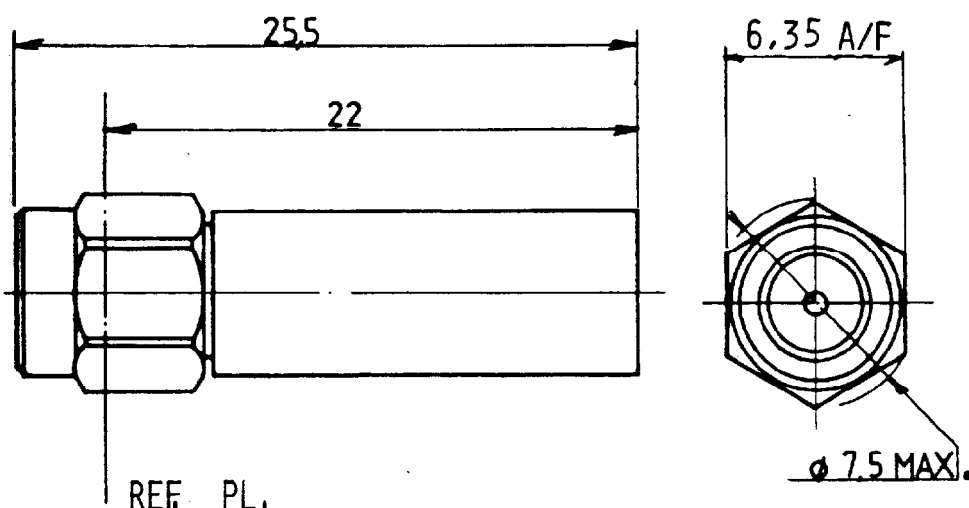
Mass: ⁴g.....(Max.) *Delete as appropriate[6] Assessment level ...H... Characteristic impedance 50 Ω Climatic category ...55/155.../21...

[7] Outline and maximum dimensions

Panel piercing and mounting details



NOTE - Details of
crimp dies
shall be
provided in
the manufac-
turer's assembly
instructions.



For mating interface dimensions and position of reference plane see CECC 22 160

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	Relevant Cables		
		IEC 96	RG	National Cables
.....-01	GOLD PLATED	50-1-1	178/u	KX21(F) URM 110(UK)
.....-02	PASSIVATED STAINLESS			
.....	STEEL			
.....-03	GOLD PLATED	50-2-1	174/u	KX 3(F) URM 109(UK)
.....-04	PASSIVATED STAINLESS			
.....	STEEL	50-2-2	316/u	KX22(F) URM 116(UK)

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 22 160 CLAUSE	VALUE	REMARKS
ELECTRICAL				
Reflection factor *	Variant No./ Designation -01-02-03-04	4.4.1	$\leq 0,09 + 0,01 f$	Measurement freq. range 0,1 - 12,4 GHz VSWR $\leq 1,2 + 0,02 f$
Centre contact resistance		4.4.2	$< \dots 4 \dots \text{m}\Omega$ $< \dots 10 \dots \text{m}\Omega$ $< \dots \dots \text{m}\Omega$	Initial After conditioning
Outer conductor continuity		4.4.3	$< \dots 2,5 \dots \text{m}\Omega$ $< \dots 7,5 \dots \text{m}\Omega$ $< \dots \dots \text{m}\Omega$	Initial After conditioning
Insulation resistance		4.4.4	$> \dots 1 \dots \text{G}\Omega$ $> \dots 200 \dots \text{M}\Omega$ $> \dots \dots \text{M}\Omega$	Initial After conditioning
+ Proof voltage at sea level	-01-02 -03-04	4.4.5	$\dots 0,5 \dots \text{kV}$ $\dots 0,75 \dots \text{kV}$	86 to 106 kPa
+ Proof voltage at 20 km altitude	-01-02 -03-04	4.6.5	$\dots 100 \dots \text{V}$ $\dots 150 \dots \text{V}$	4,4 kPa

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

* f = Frequency in GHz

RATINGS AND CHARACTERISTICS		CECC 22 160 CLAUSE	VALUE	REMARKS
ELECTRICAL				
+ Working voltage at sea level	Variant No./ Designation			
	- 01-02		150 V	86 to 106 kPa
	- 03-04		250 V	
				
				
				
				
				
				
				
				
+ Working voltage at 20 km altitude	- 01-02		45 V	4,4 kPa
	- 03-04		65 V	
				
				
				
				
				
				
				
				
Screening effectiveness	- 01-02-03-04	4.4.8	$Z_t \leq 100 \text{ m } \Omega$	Providing $\geq 60 \text{ dB}$
				
				
				
				
				
				
				
				
				
ADDITIONAL ELECTRICAL CHARACTERISTICS				
MECHANICAL				
Contact captivation: - axial force - torque		4.5.2	22 N	CECC 22 000 method (or as specified)
			na Nm	

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

RATINGS AND CHARACTERISTICS		CECC 22 160 CLAUSE	VALUE	REMARKS
MECHANICAL				
Engagement and separation - torque		4.5.4	0,12 Nm max.	(to overcome friction of coupling nut)
Effectiveness of clamping device against cable pulling	Variant No./ Designation			
	-01-02	4.5.5 (1)	60	
	03-04		110 N	
				
				
				
				
				
				
				
				
Effectiveness of clamping device against cable torsion	-01-02	4.5.5 (2)	0,15 Nm	
	03-04		0,3 Nm	
				
				
				
				
				
				
				
				
Tensile strength of coupling mechanism		4.5.6	100 N	
Coupling torque				
- normal			0,6 to 0,8 Nm	
- proof			1,10 Nm	
Bending moment		4.5.9	na Nm	Relative to reference plane
ADDITIONAL MECHANICAL CHARACTERISTICS				

RATINGS AND CHARACTERISTICS	CECC 22 160 CLAUSE	VALUE	REMARKS
ENVIRONMENTAL			
Bump	4.6.2	390 m/s ² 4000 bumps	(40.g acceleration)
Vibration	4.6.3	98 m/s ² 10 to 500 Hz	(10.g acceleration)
Shock	4.6.4	490 m/s ² 1/2 sine 11 ms	(50.g 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
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	4.7.2	1000 h at..... 155 °C	
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	22 161-803 -01
	-02	22 161-803 -02
	-03	22 161-803 -03
	-04	22 161-803 -04
		
		
		
		
		

(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 50Ω

(3) Assessment level code letter ^H

(4) Any additional marking required

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

(1) Number of the detail specification CECC 22 161-⁸⁰³/Variant code

(2) Assessment level code letter ^H

(3) Body finish (if more than one listed) See variant number in [8]

(4) Any additional information or special requirements

- related documents (if not included in CECC 22 000 or CECC 22 160):

.....

.....

- 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.

NOTE: Relevant information on a basic style should be entered as Variant 01.

[11] TEST SCHEDULES AND INSPECTION REQUIREMENTS - SERIES SSMA

ACCEPTANCE TESTS

GROUP A1

Visual examination

CECC 22 160 Clause	Level H			
	Test Required	IL	AQL	Period
4.2	a	S3	1,5%	lot by lot
4.3.1	a	S3	4 %	lot by lot
4.5.7	a	S3	1,5%	
4.5.4	a	S3	1,5%	
4.5.1	na			
4.6.8	na			
4.6.9	na			
4.4.5	a	S3	4%	

GROUP B1

Outline dimensions

Compatibility mechanical

Engagement and
separationGauge retention force
(resilient contacts)

Sealing (panel and barrier)

Sealing (hermetic)

Voltage proof

PERIODIC TESTS

GROUP C1(d)

Soldering

Insulation resistance

CECC 22 160 Clause	Test Required	IL	AQL	Period
4.6.1	a*	S3	4%	1 yearly
4.4.4	a	S3	4%	

For notes relating to symbols: See page 9.

* For centre contact only

	CECC 22 160 Clause	Test Required	Specimens (may be from Cl)	Permitted Failures per group†	Period
GROUP D1(d)					
Mechanical tests on cable clamping device	4.5.5	a	3 mated pairs or sets min.	1	3 yearly
Bending moment	4.5.9	na			
Tensile strenght of coupling mechanism	4.5.6	a			
GROUP D2(d)					
Contact resistance	4.4.2	a	3 mated pairs or sets min.	1	3 yearly
Outer conductor continuity	4.4.3	a			
Bump	4.6.2	a			
Vibration	4.6.3	a			
Shock	4.6.4	a			
Damp heat, steady state	4.6.6	a			
Salt mist	4.6.10	a			
GROUP D3					
Dimensions and materials (piece parts)*	4.3.2	a	1 set of piece parts each style	1	3 yearly
Mass	4.3.1	a			
GROUP D4(d)					
Mechanical endurance	4.7.1	a	3 mated pairs or sets min.	1	3 yearly
High temperature endurance	4.7.2	a			

For notes relating to symbols: See page 9.