

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

CECC

Système Harmonisé d'Assurance de la Qualité
des Composants Electroniques

SPECIFICATION PARTICULIERE:

**CONDENSATEURS FIXES
AU TANTALE A ELECTROLYTE
NON SOLIDE ET A ANODE
POREUSE
(SOUS-FAMILLE 2)**

Harmonized System of Quality Assessment for
Electronic Components

DETAIL SPECIFICATION:

**FIXED TANTALUM CAPACITORS
WITH NON-SOLID
ELECTROLYTE,
POROUS ANODE
(SUB-FAMILY 2)**

Harmonisiertes Gütebestätigungssystem für
Bauelemente der Elektronik

BAUARTSPEZIFIKATION:

**TANTAL-FESTKONDENSATOREN
MIT FLÜSSIGEM ELEKTROLYT
UND SINTERANODE
(UNTERFAMILIE 2)**



1

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CECC 30 202-801

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Documents

Document Sharing Hub

Information about the System may be obtained from:



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or from the National Authorized Institutions
of the participating countries listed
who can supply copies of:

- 1 The Internal Regulations of the FEN e.V.
- 2 The Rules of Procedure of the System
- 3 CECC Specifications of the FEN and National Specifications for the System
- 4 CECC 00 200: Qualified Products List (QPL)
- 5 CECC 00 300: List of CECC European Standards (ENs), CECC Publications and related national documents
- 6 CECC 00 301: List of CECC Specifications and related Detail Specifications
- 7 Other CECC Publications and publicity documents

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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 further testing.

This specification should be read in conjunction with the current regulations for the CECC System.

At the date of printing of this specification, the member countries of the CECC are Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom, and copies of it can be obtained from the addresses shown on the blue fly sheet.

PREFACE

This specification was prepared by CECC WG 3: "Capacitors".

It is based, wherever possible, on the Publications of the International Electrotechnical Commission.

The text of this specification was circulated to the members of CECC WG3 and was approved for publication under the accelerated procedure for the acceptance of detail specifications in accordance with Decisions 10, 11 and 12 of the minutes of the CECC CD meeting in document CECC(Sec)1838.

Document

CECC/WG3(Sec)221

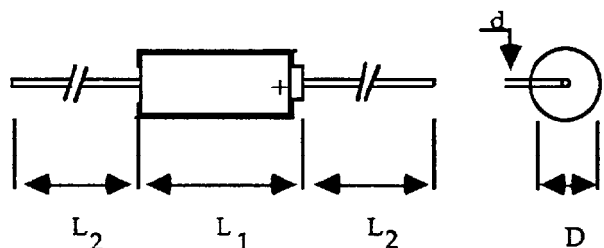
Approval Date

June 1991

Secretarial Note:

The document was originally drafted by members of CECC WG3 and discussed as documents CECC/WG3(Gouvernelle)6 and CECC/WG3(Gouvernelle)6A by WG3 at their meetings in Graz (1990) and London (1991) with the decision to publish it without voting (see CECC/WG3(Sec)221, item 19.1).

To allow early publication, this detail specification is issued initially in English only. Corresponding versions in French and German will follow on request of ONHs.

Specification available from: CECC General Secretariat	CECC 30 202-801 Issue 1
ELECTRONIC COMPONENTS OF ASSESSED QUALITY - DETAIL SPECIFICATION IN ACCORDANCE WITH: CECC 30 000 Issue 3 1983, Amdt. 1-5 CECC 30 200 Issue 2 1985, Amdt. 1-5	
First angle projection  Outline and dimensions 	DETAIL SPECIFICATION FOR FIXED TANTALUM CAPACITORS WITH NON-SOLID ELECTROLYTE, POROUS ANODE (Sub-Family 2) Polar Cylindrical Metallic case Glass to Metal Seal Insulated Axial terminations
All dimensions in mm, see Table 1.	Assessment level E Grade F (vibration 20 g) Grade G (vibration 50 g)

QUICK REFERENCE DATA: Capacitance: 2,2 μ F - 2200 μ F
 Capacitance tolerance: $\pm 10 \%$, $\pm 20 \%$
 Voltage range: 6 V to 125 V
 Climatic category: 55/125/56
 Performance grade: long life grade

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

This specification is intended to replace the following specifications:
CECC 30 202-001, CECC 30 202-005, CECC 30 202-006 and CECC 30 202-011.

1 General data

1.1 Method of mounting for shock and vibration testing

The capacitors shall be mounted by clamping the body, the termination wires fixed at about 6 mm of the body.

1.2 Dimensions

TABLE 1

Case size Reference	Dimensions (in mm)			
	L1 max.	D max.	L2 min.	d +10 % -0,05
A	18	5,6	25	0,6
B	23	7,4	25	0,6
C	26	10,1	25	0,6
D	34	10,1	25	0,6

1.3 Ratings and characteristics

Capacitance range	see Table 2A
Tolerance on rated capacitance	± 10 %, ± 20 %
Rated voltage	see Table 2A
Category voltage	see Table 2A
Climatic category	55/125/56
Rated temperature	85 °C
Capacitance change with temperature	see Table 2B
Tangent of loss angle	see Table 2B
Leakage current	see Table 2B
Impedance	see Table 2C
Other characteristics	see Table 3

TABLE 2A (1)

Values of capacitance related to voltages and case sizes

Rated Capacitance CR μ F	Rated voltage UR (V) 85 °C								
	6,3	10	16	25	40	63	80	100	125
	Category voltage UC (V) 125 °C								
	4	6,3	10	16	25	40	50	63	80
2,2									A
2,7									A
3,3									A
3,9									A
4,7								A	
5,6								A	
6,8							A		
8,2						A	A		
10						A			
12					A	A			
15					A	A			B
18					A				B
22				A	A			B	
27				A					C
33			A	A			B	B/C	
39				A		B		B/C	C
47		A	A			B	B	C	C
56			A		B	B	C	C	D
68	A	A			B	C	B/C	C/D	D
82		A				B	C	D	D
100		A		B	B/C	C	C/D	D	
120	A		B		B	C	D		
150	A	B		B	C	D	C/D		
180		B		B/C			C		
220	B		B/C	C	D	C	D		
270			B		C	D			
330		B	C	D	C	D			
390		B/C	B	C/D	D				
470	B	C	D	C	D				
560	B/C		D	C/D					
680		D	C	D					
820		D	C	D					
1000	D	C	D						
1200	D	C	D						
1500	C	D							
1800		D							
2200	D								

TABLE 2A (2)
Mil standard range

Rated Capacitance CR μ F	Rated voltage UR (V) 85 °C										
	6	8	10	15	25	30	50	60	75	100	125
CR μ F	Category voltage UC (V) 125 °C										
	4	5	7	10	15	20	30	40	50	65	85
3,5									A		
3,6											A
4,0								A			
5,0							A				
8,0						A					
8,2								A			
9									A		
10					A		A				
14											B
15				A		A			B		
18							A				
20			A					B			
22							A				
25		A				A	B				C
30	A									B/C	
33				A		A					
39								B			
40						B			C		
43					A				B	C	
47				A			B				
50					B			C			
56		A		A					B/C		D
60							C				
68	A					B		C			
70				B							
82							C	B			
86										D	
100			B			C	B				
110									D		
120		A/B		B	C	B					
140	B							D			
150						B/C					
160	A				B		D				
170				C		B					
180			B		C						
220		B		B				C			
250			C						D		
270	B			B/C			C	D			
290		C		B							
300			B			C/D					
330	C					C		D			
350			B		D	C	D				
390			C			C	D				
430		B/C				C	D				
540				D							
560	B/C					D					
750			D	C							
850		D	C	D	D						
1200	D										
1500	C										
2200	D										

TABLE 2B (1)
Characteristics at high and low temperature

Case Size Reference	UR (V)	CR (μF)	Capacitance Change ΔC/C %			Maximum values					Max.RMS Ripple current 85 °C 40 kHz (mA)
						Tan δ (%)	Imp. 100 Hz (Ω)	Leakage current (μA)			
			TA -55 °C	TR 85 °C	TB 125 °C	20 °C±5 TR TB	TA	20 °C ±5 °C	TR	TB 1)	
A	6,3	68	-40	14	16	15	72	1	2	2	960
A		120	-41	15	16	21	81	1,5	3	3	820
A		150	-42	16	16	34	80	2	9	9	820
B		220	-44	16	18	40	30	1	6,5	6,5	1370
B		470	-60	20	20	90	46	2	10	10	1281
C		560	-64	17,5	20	50	25	2	16	16	1900
B		560	-68	20	20	106	48	2	10	10	1255
D		1000	-80	25	25	68	22	3	14	14	2388
D		1200	-80	25	25	86	20	3	14	14	2388
C		1500	-90	25	25	172	36	5	20	20	1615
D	2200	-90	25	25	170	22	6	24	24	2265	
A	10	47	-36	14	16	13	100	1	2	2	855
A		68	-40	15	16	21	85	1,5	3	3	820
A		82	-40	16	16	25	84	2	6	6	820
A		100	-40	16	16	30	82	2	6	6	820
B		150	-32	14	16	28	45	1	7	7	1271
B		180	-35	14	16	29	40	1	7	7	1300
B		330	-54	17	18	65	52	2	10	10	1195
C		390	-64	17,5	20	55	30	2	16	16	1800
B		390	-60	19	20	74	54	2	10	10	1195
C		470	-65	18	20	44	25	2	15	15	1800
D		560	-80	25	25	41	23	6	24	24	2100
D		680	-80	25	25	42	20	3	16	16	2487
D		820	-80	25	25	57	22	3	16	16	2360
C		1000	-80	25	25	92	36	4	16	16	1720
C		1200	-80	25	25	137	36	5	20	20	1720
D		1500	-88	30	30	114	23	7	25	25	2360
D		1800	-88	30	30	138	24	7	25	25	2360

TA : Lower category temperature
TB : Upper category temperature
TR : Rated temperature
1): Measured with category voltage