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Componenti Elettronici di Qualità Certificata

**SPECIFICA DI DETTAGLIO PER CONDENSATORI
ELETTROLITICI IN ALLUMINIO CON ELETTROLITA
NON SOLIDO.**

Electronic Components of Assessed Quality. Detail Specification
for Aluminium Electrolytic Capacitors with Non-Solid Electrolyte.
Rated capacitance range: $68 \div 220\,000\ \mu\text{F}$. Long life, high gain.

**Comitato
Elettrotecnico
Italiano**

CEI

CEI-CECC 30 301 - 002

Edizione III, 1990

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Viale Monza, 259 - 20126 MILANO - Tel. (02) 25.50.641 - Telex 33207 CEITALIA - Telegr. ELET-
TROCOMIT Milano.

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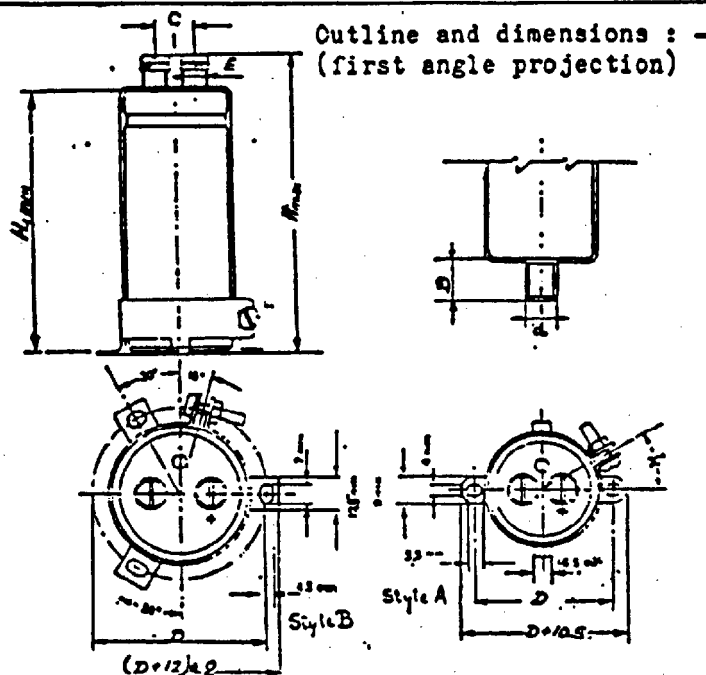


Electronic components of assessed quality in accordance with:
CEI-CECC 30 000 and 30 300

CEI-CECC 30 301 - 002
Edition III, 1990

DETAIL SPECIFICATION FOR ALUMINIUM ELECTROLYTIC CAPACITORS WITH NON-SOLID ELECTROLYTE.

Typical construction: Cylindrical - Polar - Metallic case - Insulated case - Screw terminations



Quick reference

Data:

Rated cap. range: $68 \pm 220.000 \mu F$

Capacitance Tol.: $-10 + 50\%$

Rated voltage range: 6.3/450 V

Climatic category: 40 °C/55/56

Long life, high gain

Assessment level: FULL

1. DIMENSIONS

Table 1

Case Code	Dimensions (mm)						Mounting hardware		Mounting stud	
	d	H max	H ₁ min	C ± 2	E ± 2	Screw	Style	D	d	B
A1	36 ± 1	61	45	12.7	10	M4	A	46	M8	12 ± 1
A2	36 ± 1	75	60	12.7	10	M4	A	46	M8	12 ± 1
A3	36 ± 1	95	80	12.7	10	M4	A	46	M8	12 ± 1
B2	51 ± 2	75	60	22.2	10	M5	B	63.5	M12	16 ± 1.5
B3	51 ± 2	95	80	22.2	10	M5	B	63.5	M12	16 ± 1.5
B4	51 ± 2	127	100	22.2	10	M5	B	63.5	M12	16 ± 1.5
C4	66 ± 2	127	100	28.5	10	M5	B	76	M12	16 ± 1.5
D4	76 ± 3	127	100	31.7	10	M5	D	89	M12	16 ± 1.5

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

2. SPECIFIED METHOD OF MOUNTING FOR VIBRATION AND SCHOCK TESTING

See outline drawing and Table 1. Clamping by the body

3. RATINGS, CHARACTERISTICS

- Grade Long life use
- Capacitance Range see Table 2A
- Capacitance Tolerance in % - 10 + 50%
- Rated Voltage Range see Table 2A
- Rated Temperature 85°C
- Rated Ripple Current see Table 2B
- Tangent of Loss Angle see table 2B
- Leakage Current not exceeding the limits given in 4.4.2 of CEI-CECC 30 300

Table 2A

Values of capacitance and voltage related to case sizes

Rated Capac. (μ F)	Rated Volt												
	6.3	10	16	25	40	63	100	200	250	315	350	400	450
68													A1
100												A1	A2
150										A1	A1	A2	A3
220									A1	A2	A2	A3	B2
330								A1	A2	A3	A3	B2	B3
470								A2	A3	B2	B2	B3	B4
680								A3	B2	B3	B3	B4	C4
1000							A1	B2	B3	B4	B4	C4	D4
1500							A2	B3	B4	C4	C4	D4	
2200						A1	A3	B4	C4	D4	D4		
3300					A1	A2	B2	C4	D4				
4700				A1	A2	A3	B3	D4					
6800			A1	A2	A3	B2	B4						
10000		A1	A2	A3	B2	B3	C4						
15000	A1	A2	A3	B2	B3	B4	D4						
22000	A2	A3	B2	B3	B4	C4							
33000	A3	B2	B3	B4	C4	D4							
47000	B2	B3	B4	C4	D4								
68000	B3	B4	C4	D4									
100000	B4	C4	D4										
150000	C4	D4											
220000	D4												

Table 28

Rated values of $\tan \delta$ and ripple current

U_r (V)	C_r (μF)	$\tan \delta$ 20°C 100 Hz	Ripple current (A) at 100 Hz
			+ 85°C
6.3	15.000	0.50	2.5
	22.000	0.95	3.5
	33.000	0.95	4.5
	47.000	0.95	5.5
	68.000	1.25	7.0
	100.000	1.25	9.0
	150.000	1.25	11.0
	220.000	2.50	12.0
10	10.000	0.50	2.5
	15.000	0.50	3.5
	22.000	0.95	4.5
	33.000	0.95	5.5
	47.000	0.95	7.0
	68.000	1.25	9.0
	100.000	1.25	11.0
	150.000	1.25	12.0
16	6.800	0.50	2.5
	10.000	0.50	3.5
	15.000	0.50	4.5
	22.000	0.95	5.5
	33.000	0.95	7.0
	47.000	0.95	9.0
	68.000	1.25	11.0
	100.000	1.25	12.0
25	4.700	0.50	2.3
	6.800	0.50	3.2
	10.000	0.50	4.0
	15.000	0.50	5.0
	22.000	0.95	6.7
	33.000	0.95	8.6
	47.000	0.95	10.5
	68.000	1.25	11.0
40	3.300	0.22	2.1
	4.700	0.22	3.0
	6.800	0.50	3.8
	10.000	0.50	4.7
	15.000	0.50	6.3
	22.000	0.95	8.3
	33.000	0.95	10.1
	47.000	0.95	10.5

Table 2B (cont'd)

U_r (V)	C_r (μF)	$\tan \delta$ 20°C 100 Hz	Ripple current (A) at 100 Hz
			+ 85°C
63	2.200	0.22	2.0
	3.300	0.22	3.0
	4.700	0.22	3.8
	6.800	0.50	4.7
	10.000	0.50	6.2
	15.000	0.50	8.2
	22.000	0.95	10.0
	33.000	0.95	10.5
100	1.000	0.20	1.9
	1.500	0.20	2.8
	2.200	0.20	3.6
	3.300	0.20	4.5
	4.700	0.20	6.0
	6.800	0.50	8.0
	10.000	0.50	9.5
	15.000	0.50	10.0
200	300	0.13	0.70
	470	0.13	0.90
	680	0.20	1.00
	1000	0.20	1.40
	1500	0.50	1.70
	2200	0.20	2.00
	3300	0.20	3.00
	4700	0.20	5.20
250	220	0.13	0.50
	330	0.13	0.70
	470	0.13	0.70
	680	0.20	1.10
	1.000	0.20	1.50
	1.500	0.20	2.10
	2.200	0.20	2.50
	3.300	0.20	3.20
315	150	0.13	0.40
	220	0.13	0.50
	330	0.13	0.70
	470	0.13	0.90
	680	0.20	1.30
	1000	0.20	1.80
	1500	0.20	2.40
	2200	0.20	2.70