ALUMINUM ELECTROLYTIC CAPACITORS

CM Chip Type, Low Impedance series

For SMD | Low Impedance | Anti-Solvent Feature

- Chip type, low impedance temperature range up to +105°C.
- Applicable to automatic mounting machine fed with carrier tape.
- Compliant to the RoHS directive (2002/95/EC).

CL → Smaller → CM

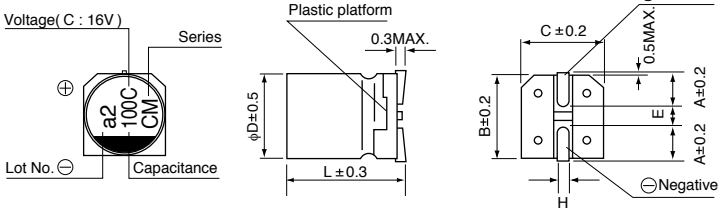
NEW

■ Specifications

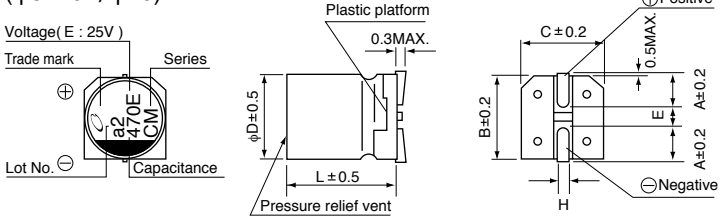
Item	Performance Characteristics
Category Temperature Range	−55 to +105°C
Rated Voltage Range	6.3 to 50V
Rated Capacitance Range	10 to 2200μF
Capacitance Tolerance	±20% at 120Hz, 20°C
Leakage Current	After 2 minute's application of rated voltage, leakage current is not more than 0.01CV
Tangent of loss angle (tan δ)	Rated voltage (V): 6.3 / 10 / 16 / 25 / 35 / 50 — tan δ (MAX.): 0.26 / 0.19 / 0.16 / 0.14 / 0.12 / 0.10 — Measurement frequency : 120Hz, Temperature : 20°C
Stability at Low Temperature	Rated voltage (V): 6.3 / 10 / 16 / 25 / 35 / 50 — Impedance ratio ZT / Z20 (MAX.): Z−25°C / Z+20°C: 2 / 2 / 2 / 2 / 2 / 2; Z−40°C / Z+20°C: 3 / 3 / 3 / 3 / 3 / 3; Z−55°C / Z+20°C: 4 / 4 / 4 / 3 / 3 / 3 — Measurement frequency : 120Hz
Endurance	The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at 105°C. — Capacitance Change: Within ± 30% of the initial capacitance value; tan δ: 200% or less than the initial specified value; Leakage current: Less than or equal to the initial specified value
Shelf Life	After storing the capacitors under no load at 105°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above.
Resistance to soldering heat	The capacitors shall be kept on the hot plate for 30 seconds, which is maintained to 250°C. The capacitors shall meet the characteristic requirements listed at right when they are removed from the plate and restored to 20°C. — Capacitance Change: Within ± 10% of the initial capacitance value; tan δ: Less than or equal to the initial specified value; Leakage current: Less than or equal to the initial specified value
Marking	Black print on the case top.

■ Radial Lead Type

(φ4 to φ6.3)



(φ8×10L, φ10)



Type numbering system (Example : 16V 100μF)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
U	C	M	1	C	1	0	1	M	C	L	1	G	S

- 14: Taping code
- 12–13: Size code
- 10–11: Configuration ※
- 9: Capacitance tolerance (±20%)
- 5–8: Rated capacitance (100μF)
- 4: Rated voltage (16V)
- 3: Series name
- 1–2: Type

※ Configuration

φ D	Code
4 to 6.3	CL
8 · 10	NL

(mm)

φDXL	4×5.8	5×5.8	6.3×5.8	6.3×7.7	8×10	10×10
A	1.8	2.1	2.4	2.4	2.9	3.2
B	4.3	5.3	6.6	6.6	8.3	10.3
C	4.3	5.3	6.6	6.6	8.3	10.3
E	1.0	1.3	2.2	2.2	3.1	4.5
L	5.8	5.8	5.8	7.7	10	10
H	0.5 to 0.8	0.5 to 0.8	0.5 to 0.8	0.5 to 0.8	0.8 to 1.1	0.8 to 1.1

Voltage

V	6.3	10	16	25	35	50
Code	j	A	C	E	V	H

Design, Specifications are subject to change without notice.

ALUMINUM ELECTROLYTIC CAPACITORS

CM series

■Dimensions

(μF) Cap. \ V	Code	6.3			10			16			25			35			50		
		0J			1A			1C			1E			1V			1H		
10	100																●4 X 5.8	2.30	85
																	5 X 5.8	0.88	165
22	220										4 X 5.8	1.00	160	4 X 5.8	1.00	160	5 X 5.8	0.88	165
33	330										4 X 5.8	1.00	160	5 X 5.8	0.36	240			
47	470							4 X 5.8	1.00	160	5 X 5.8	0.36	240	5 X 5.8	0.36	240	6.3 X 5.8	0.68	195
68	680				4 X 5.8	1.00	160	5 X 5.8	0.36	240	5 X 5.8	0.36	240	6.3 X 5.8	0.26	300			
100	101	4 X 5.8	1.00	160				5 X 5.8	0.36	240	6.3 X 5.8	0.26	300	6.3 X 5.8	0.26	300	6.3 X 7.7	0.34	350
150	151				5 X 5.8	0.36	240	6.3 X 5.8	0.26	300	6.3 X 7.7	0.16	600	6.3 X 7.7	0.16	600			
220	221	5 X 5.8	0.36	240	6.3 X 5.8	0.26	300	6.3 X 5.8	0.26	600	6.3 X 7.7	0.16	600				8 X 10	0.18	670
330	331	6.3 X 5.8	0.26	300	6.3 X 7.7	0.16	600	6.3 X 7.7	0.16	600				8 X 10	0.08	850	10 X 10	0.12	900
470	471	6.3 X 7.7	0.16	600	6.3 X 7.7	0.16	600				8 X 10	0.08	850						
560	561													10 X 10	0.06	1190			
680	681	6.3 X 7.7	0.16	600				8 X 10	0.08	850									
820	821										10 X 10	0.06	1190						
1000	102				8 X 10	0.08	850	10 X 10	0.06	1190									
1500	152	8 X 10	0.08	850	10 X 10	0.06	1190										Case size ΦD X L (mm)	Impedance	Rated ripple
2200	222	10 X 10	0.06	1190															

MAX. Impedance (Ω) at 20℃ 100kHz、Rated ripple current(mA rms) at 105℃ 100kHz

●In this case, 6 will be put at 12th digit of type numbering system.

●Frequency coefficient of rated ripple current

Frequency	50Hz	120Hz	300Hz	1kHz	10kHz or more
Coefficient	0.35	0.50	0.64	0.83	1.00

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