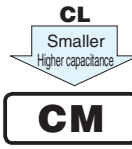


# ALUMINUM ELECTROLYTIC CAPACITORS

**CM** Chip Type, Low Impedance series



- Chip type, low impedance temperature range up to +105°C.
- Applicable to automatic mounting machine fed with carrier tape.
- Compliant to the RoHS directive (2011/65/EU).

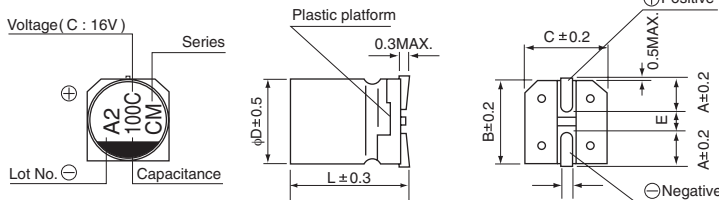


## Specifications

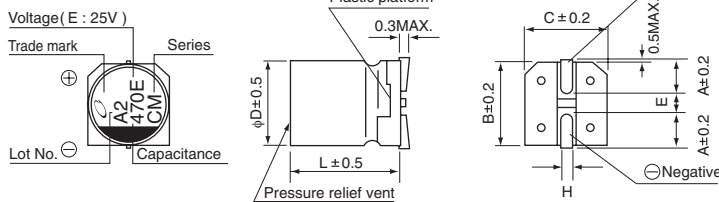
Item	Performance Characteristics								
Category Temperature Range	-55 to +105°C								
Rated Voltage Range	6.3 to 50V								
Rated Capacitance Range	10 to 2200μF								
Capacitance Tolerance	±20% at 120Hz, 20°C								
Leakage Current	After 2 minutes' application of rated voltage, leakage current is not more than 0.01 CV								
Tangent of loss angle (tan δ)	Rated voltage (V)	6.3	10	16	25	35	50	Measurement frequency : 120Hz at 20°C	
	tan δ (MAX.)	0.26	0.19	0.16	0.14	0.12	0.10		
Stability at Low Temperature	Rated voltage (V)		6.3	10	16	25	35	50	Measurement frequency : 120Hz
	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	
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 are kept on a hot plate for 30 seconds, which is maintained at 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.								

## Chip Type

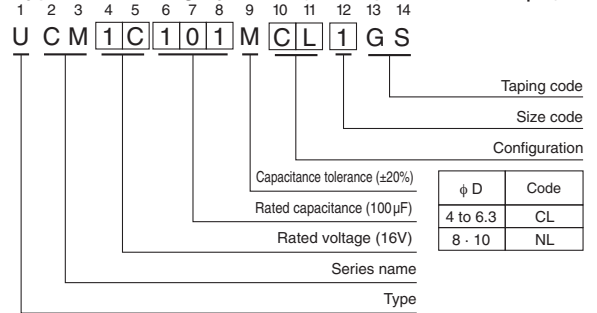
(φ4 to φ6.3)



(φ8 × 10L, φ10)



Type numbering system (Example : 16V 100μF)



	(mm)					
φD×L	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

● Dimension table in next page.



## ■ Dimensions

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

MAX. Impedance ( $\Omega$ ) at 20°C 100kHz, Rated ripple current(mArms) at 105°C 100kHz

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

## ● Frequency coefficient of rated ripple current

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

- Taping specifications are given in page 23.
- Recommended land size, soldering by reflow are given in page 18, 19.
- Please refer to page 3 for the minimum order quantity.