

ALUMINUM ELECTROLYTIC CAPACITORS



Chip Type, High Reliability.
Low temperature ESR specification.
series



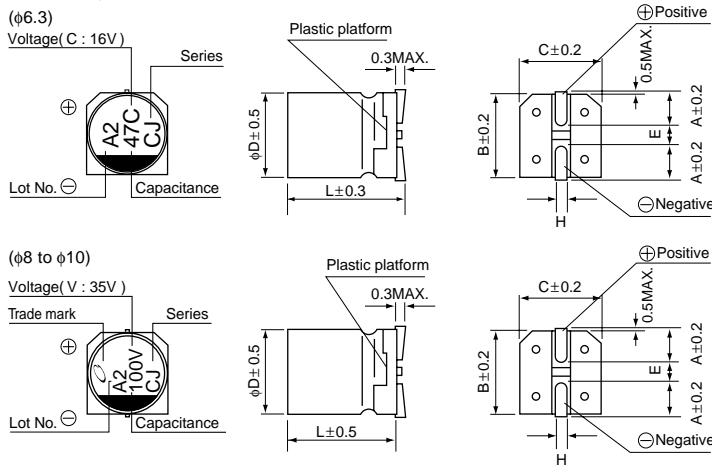
- Chip type, high temperature range, for +125°C use.
- Added ESR specification after the test at -40°C (φ6.3 sizes provide only for the first stage.)
- Applicable to automatic mounting machine fed with carrier tape.
- Compliant to the RoHS directive (2002/95/EC).



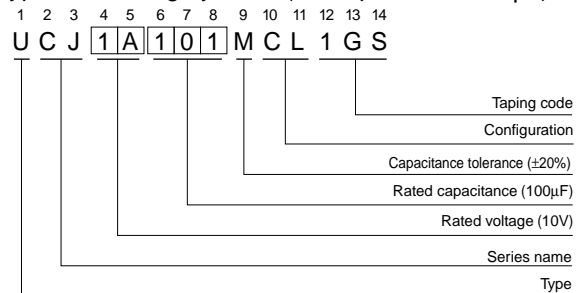
Specifications

Item	Performance Characteristics					
Category Temperature Range	-40 to +125°C					
Rated Voltage Range	10 to 50V					
Rated Capacitance Range	10 to 470μF					
Capacitance Tolerance	±20% at 120Hz, 20°C					
Leakage Current	After 1 minute's application of rated voltage, leakage current is not more than 0.03CV or 4(μA), whichever is greater.					
Tangent of loss angle (tan δ)	Measurement frequency : 120Hz at 20°C					
	Rated voltage (V)	10	16	25	35	50
Stability at Low Temperature	Measurement frequency : 120Hz					
	Impedance ratio ZT / Z20 (MAX.)	Z-40°C / Z+20°C	12	8	6	4
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 125°C.		Capacitance change		Within ±30% of the initial capacitance value	
			tan δ		300% 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 125°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



Type numbering system (Example : 10V 100μF)



	(mm)		
φD×L	6.3×8.7	8×10	10×10
A	2.4	2.9	3.2
B	6.6	8.3	10.3
C	6.6	8.3	10.3
E	2.2	3.1	4.5
L	8.7	10	10
H	0.5 to 0.8	0.8 to 1.1	0.8 to 1.1

Rated Voltage					
V	10	16	25	35	50
Code	A	C	E	V	H

Dimensions

Cap.(μF)	V	10			16			25			35			50			
		Code	1A	1C	1E	1V	1H										
10	100																
22	220				6.3×8.7	14	-	95	6.3×8.7	14	-	95	6.3×8.7	14	-	95	
33	330				6.3×8.7	14	-	95	6.3×8.7	14	-	95	8×10	2.0	6.0	200	
47	470				6.3×8.7	14	-	95	6.3×8.7	14	-	95	10×10	1.5	4.5	330	
100	101	6.3×8.7	14	-	95	8×10	2.0	6.0	250	8×10	2.0	6.0	250	10×10	1.5	4.5	400
220	221	8×10	2.0	6.0	250	10×10	1.5	4.5	400	10×10	1.5	4.5	400	10×10	1.5	4.5	400
330	331	10×10	1.5	4.5	400	10×10	1.5	4.5	400	10×10	1.5	4.5	400				
470	471	10×10	1.5	4.5	400												

Max. ESR (Ω) at -40°C 100kHz, Rated ripple current (mArms) at 125°C 100kHz

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.