

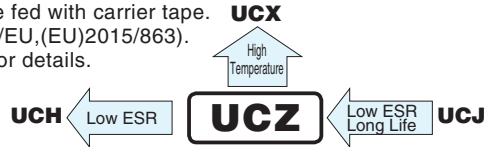
# ALUMINUM ELECTROLYTIC CAPACITORS

# UCZ

Chip Type, High Reliability.  
Low temperature ESR specification.



- Chip type, high temperature range, for +125°C use.
- Added ESR specification after the test at -40°C.
- Applicable to automatic mounting machine fed with carrier tape.
- Compliant to the RoHS directive (2011/65/EU, (EU)2015/863).
- AEC-Q200 compliant. Please contact us for details.

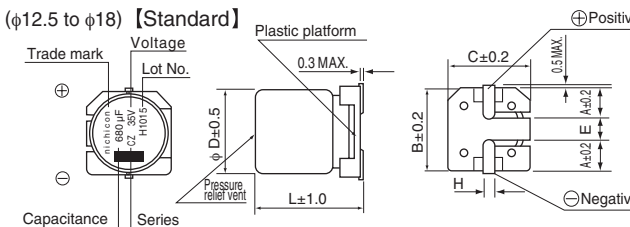
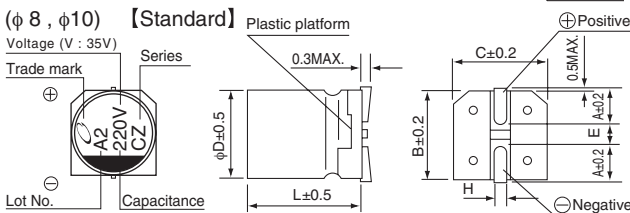
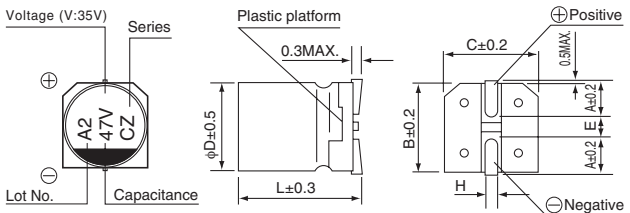


## Specifications

Item	Performance Characteristics									
Category Temperature Range	-40 to +125°C									
Rated Voltage Range	10 to 100V									
Rated Capacitance Range	10 to 3300μF									
Capacitance Tolerance	±20% at 120Hz, 20°C									
Leakage Current	After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01CV or 3μA, whichever is greater.									
Tangent of loss angle (tan δ)	Measurement frequency : 120Hz at 20°C									
	Rated voltage (V)	10	16	25	35	50	63	80	100	
	tan δ (MAX.)	0.30	0.23	0.18	0.16	0.16	0.12	0.12	0.10	
	For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF. (φ12.5 to φ18)									
Stability at Low Temperature	Measurement frequency : 120Hz									
	Rated voltage (V)	10	16	25	35	50	63	80	100	
	Impedance ratio (MAX.)	Z-40°C / Z+20°C	12	8	6	4	4	3	3	
Endurance	After continuous application of rated voltage at 125°C and then restoring down to 20°C, the readings of measurements shall meet below.									
	Case size	φ6.3 × 5.8L	φ6.3 × 7.7L	φ8 to φ12.5	φ16,18 × 16.5L	φ16,18 × 21.5L				
	Endurance time	1000hrs.	2000hrs.	3000hrs.	3500hrs.	4000hrs.				
	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								
Marking	Black print on the case top.									
	Leakage current	Less than or equal to the initial specified value								

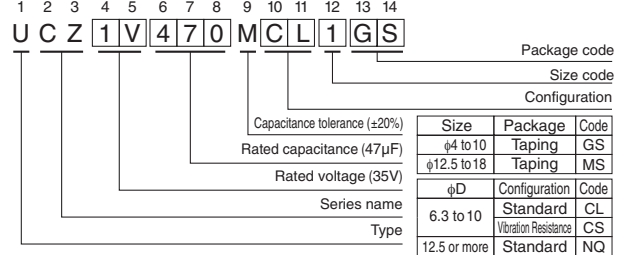
## Chip Type

(φ 6.3) 【Standard】 ※φ6.3 × 5.8L : The vibration structure-resistant product can't support.  
φ6.3 × 7.7L : The vibration structure-resistant product is available.

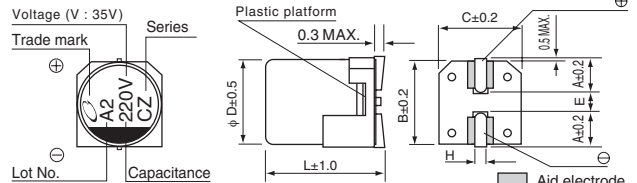


※φ12.5 to φ18 :  
The vibration structure-resistant product is also available upon request, please ask for details.

## Type numbering system (Example : 35V 47μF)



## (φ 8, φ10) 【Vibration Resistance】



Standard	(mm)										Vibration Resistance (mm)	
φDxL	6.3x5.8	6.3x7.7	8x10	10x10	12.5x13.5	16x16.5	16x21.5	18x16.5	18x21.5	φDxL	8x10	10x10
A	2.4	2.4	2.9	3.2	4.8	5.4	5.4	6.4	6.4	A	2.9	3.2
B	6.6	6.6	8.3	10.3	13.6	17.1	17.1	19.1	19.1	B	8.3	10.3
C	6.6	6.6	8.3	10.3	13.6	17.1	17.1	19.1	19.1	C	8.3	10.3
E	2.2	2.2	3.1	4.5	4	6.3	6.3	6.3	6.3	E	3.1	4.5
L	5.8	7.7	10	10	13.5	16.5	21.5	16.5	21.5	L	10	10
H	0.5 to 0.8	0.5 to 0.8	0.8 to 1.1	0.8 to 1.1	1.0 to 1.4	1.0 to 1.4	1.0 to 1.4	1.0 to 1.4	1.0 to 1.4	H	1.1 to 1.5	1.1 to 1.5

Voltage		10	16	25	35	50	63	80	100
V									
Code		A	C	E	V	H	J	K	2A

● Dimension table in next page.

## UCZ

### ■ Dimensions

Cap. (μF)	V Code	10				16				25				35				50									
		1A				1C				1E				1V				1H									
10	100													6.3×5.8	1.60	24	-	69	6.3×5.8	2.80	42	-	51				
22	220													6.3×5.8	1.60	24	-	69	6.3×7.7	0.50	5	40	197				
33	330									6.3×5.8	1.60	24	-	69	6.3×7.7	0.45	5	40	197	●6.3×7.7	0.50	5	40	197			
47	470					6.3×5.8	1.60	24	-	69	Recommend 35V →				●6.3×7.7	0.45	5	40	197	●6.3×7.7	0.50	5	40	197			
68	680													8×10	0.20	3	4.5	270	8×10	0.25	3.5	6	270				
100	101	Recommend 16V →				●6.3×7.7	0.45	5	40	197	●6.3×7.7	0.45	5	40	197	8×10	0.20	3	4.5	270	8×10	0.20	3	4.5	270		
220	221	8×10	0.20	3	4.5	270	8×10	0.20	3	4.5	270	●8×10	0.20	3	4.5	270	10×10	0.15	2	3.5	500						
330	331	●8×10	0.20	3	4.5	270	10×10	0.15	2	3.5	500	10×10	0.15	2	3.5	500											
390	391																						12.5×13.5	0.100	0.44	4.0	1300
470	471	10×10	0.15	2	3.5	500	10×10	0.15	2	3.5	500					12.5×13.5	0.060	0.40	3.0	1700	16×16.5	0.080	0.34	2.6	2000		
560	561													12.5×13.5	0.060	0.40	3.0	1700	16×16.5	0.080	0.34	2.6	2000				
680	681													12.5×13.5	0.060	0.40	3.0	1700	18×16.5	0.078	0.32	2.6	2100				
820	821									12.5×13.5	0.060	0.40	3.0	1700	16×16.5	0.047	0.28	1.4	2400	18×16.5	0.078	0.32	2.6	2100			
1000	102									12.5×13.5	0.060	0.40	3.0	1700	16×16.5	0.047	0.28	1.4	2400	16×21.5	0.040	0.22	1.5	2800			
1200	122									16×16.5	0.047	0.28	1.4	1700	18×16.5	0.045	0.28	1.4	2600	18×21.5	0.038	0.20	1.5	2900			
1400	142													18×16.5	0.045	0.28	1.4	2600									
1600	162									16×16.5	0.047	0.28	1.4	2400	16×21.5	0.034	0.20	0.6	3000								
2200	222									18×16.5	0.045	0.23	1.3	2600	18×21.5	0.032	0.16	0.5	3250								
2700	272									16×21.5	0.034	0.20	0.6	3000						Case size φD × L (mm)	Initial 20°C	Initial 40°C	after endurance test 40°C	Rated ripple			
3300	332									18×21.5	0.032	0.16	0.5	3250							ESR(100kHz)						

Cap. (μF)	V Code	63				80				100						
		1J				1K				2A						
10	100	6.3×7.7	2.00	100	-	60	8×10	0.75	50	-	70	8×10	0.75	50	-	70
22	220	8×10	0.70	35	-	100	●8×10	0.75	50	-	70	●8×10	0.75	50	-	70
33	330	●8×10	0.70	35	-	100	10×10	0.55	35	-	115	10×10	0.55	35	-	115
47	470	●8×10	0.70	35	-	100	10×10	0.55	35	-	115					
82	820	10×10	0.50	25	-	170	10×10	0.55	35	-	115					
150	151	12.5×13.5	0.20	1.3	14	1000	12.5×13.5	0.28	1.9	14	700	16×16.5	0.19	1.4	4.8	1000
180	181	12.5×13.5	0.20	1.3	14	1000					18×16.5	0.17	1.1	3.9	1100	
220	221	12.5×13.5	0.20	1.3	14	1000					16×21.5	0.12	0.8	2.6	1600	
270	271					16×16.5	0.19	1.4	4.8	1000						
300	301									18×21.5	0.11	0.7	2.4	1700		
330	331					18×16.5	0.17	1.1	3.9	1100						
390	391	16×16.5	0.13	0.9	4.8	1900	16×21.5	0.12	0.8	2.6	1600					
470	471	18×16.5	0.11	0.82	3.9	2000										
520	521					18×21.5	0.11	0.7	2.4	1700						
560	561	16×21.5	0.07	0.46	2.0	2500					Case size φD × L (mm)	Initial 20°C	Initial 40°C	after endurance test 40°C	Rated ripple	
750	751	18×21.5	0.068	0.44	1.8	2600						ESR(100kHz)				

※ Guaranteed time of ESR after endurance test

Size	Guaranteed time
φ6.3 × 5.8L	-
φ6.3 × 7.7L, φ8 × 10L	10 to 50V   2000hrs.
φ10 × 10L	63 to 100V   -
φ12.5	2000hrs.
φ16, 18 × 16.5L	2000hrs.
φ16, 18 × 21.5L	3000hrs.

Max. ESR (Ω) at 20°C / -40°C 100kHz, Rated ripple Current (mA rms) at 125°C 100kHz

● : In this case, [ ] 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

- 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.