

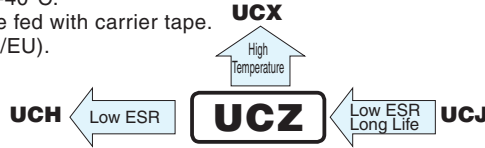
# ALUMINUM ELECTROLYTIC CAPACITORS

# 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).

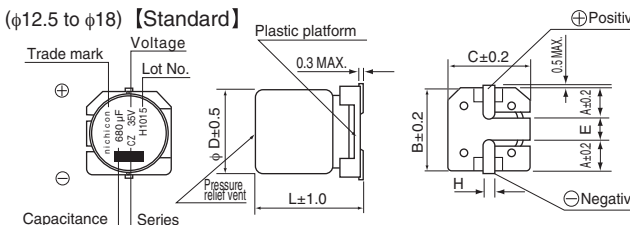
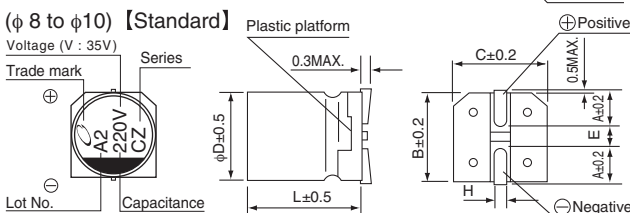
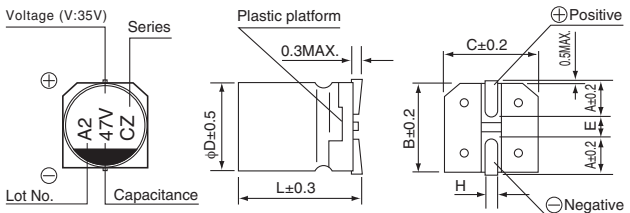


## Specifications

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, 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.								
Stability at Low Temperature	Rated voltage (V)								Measurement frequency : 120Hz
	Impedance ratio ZT / Z20 (MAX.)	Z-40°C / Z+20°C	12	8	6	4	4	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							

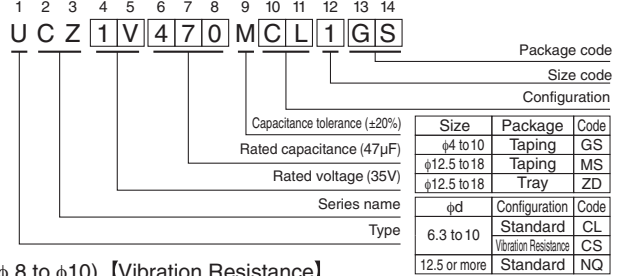
## Chip Type

(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.

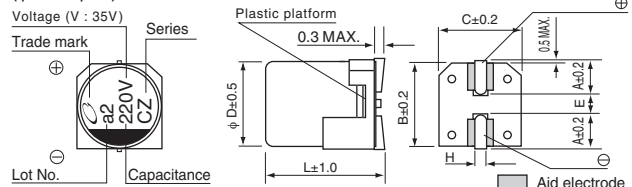


※φ12.5 to φ18 :  
The vibration structure-resistant product is also available upon request, please ask for details.

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



## (φ 8 to φ10) [Vibration Resistance]



Standard	(mm)										Vibration Resistance (mm)		
φ(DxL)	6.3x5.8	6.3x7.7	8x10	10x10	12.5x13.5	16x16.5	16x21.5	18x16.5	18x21.5	φ(DxL)	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	

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

## 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									
22	220							6.3 × 5.8	1.60	24	—	69									
33	330					6.3 × 5.8	1.60	24	—	69	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						
68	680										8 × 10	0.20	3	4.5	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		
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						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
1000	102											12.5 × 13.5	0.060	0.40	3.0	1700	16 × 16.5	0.047	0.28	1.4	2400
1200	122											16 × 16.5	0.047	0.28	1.4	1700	18 × 16.5	0.045	0.28	1.4	2600
1400	142																18 × 16.5	0.045	0.28	1.4	2600
1600	162																16 × 16.5	0.047	0.28	1.4	2400
2200	222																18 × 16.5	0.045	0.23	1.3	2600
2700	272																16 × 21.5	0.034	0.20	0.6	3000
3300	332																18 × 21.5	0.032	0.16	0.5	3250
												Case size φD × L (mm)	Initial 20°C	Initial -40°C	after endurance test -40°C	Rated ripple					
													ESR								

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											12.5 × 13.5	0.28	1.9	22	700
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			

※ Guaranteed time of ESR after endurance test

Size	Guaranteed time	
φ6.3 × 5.8L	—	
φ6.3 × 7.7L, φ8 × 10L φ10 × 10L	10 to 50V	2000hrs.
	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 (mArms) at 125°C 100kHz

● : In this case, (E) 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.