ALUMINUM ELECTROLYTIC CAPACITORS

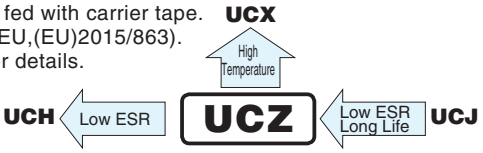
nichicon

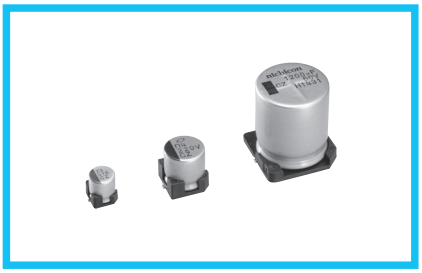
UCZ

Chip Type, High Reliability.
Low temperature ESR specification.

For SMD | Long Life | Anti-Solvent Feature

- 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.



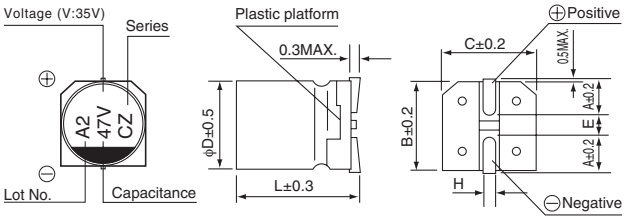


■Specifications

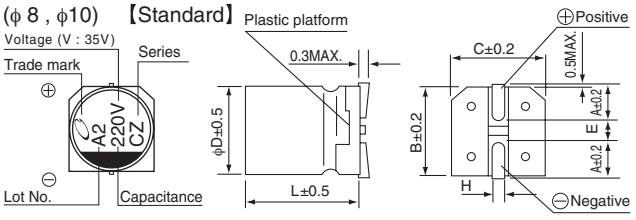
Item	Performance Characteristics
Category Temperature Range	−40 to +125°C
Rated Voltage Range	10 to 100V
Rated Capacitance Range	10 to 3300μF
Capacitance Tolerance	±20% at 120Hz, 20°C
Leakage Current	After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01CV or 3μA, whichever is greater.
Tangent of loss angle (tan δ)	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 Measurement frequency : 120Hz at 20°C For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF. (φ12.5 to φ18)
Stability at Low Temperature	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 / 3 Measurement frequency : 120Hz
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 Leakage current: Less than or equal to the initial specified value
Marking	Black print on the case top.

■Chip Type

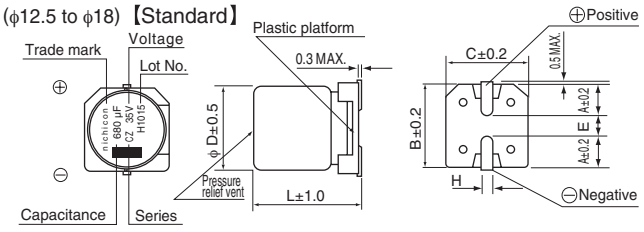
(φ 6.3)【Standard】※ φ6.3 × 5.8L : The vibration structure-resistant product can't support.
φ6.3 × 7.7L : The vibration structure-resistant product is available.



(φ 8 , φ10) 【Standard】



(φ12.5 to φ18)【Standard】



Type numbering system (Example : 35V 47μF)

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

Taping code
Size code
Configuration
Capacitance tolerance (±20%)
Rated capacitance (47μF)
Rated voltage (35V)
Series name
Type

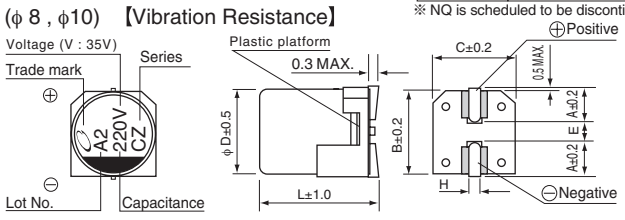
Size	Code
φ4 to10	GS
φ12.5 to18	MS

※Configuration

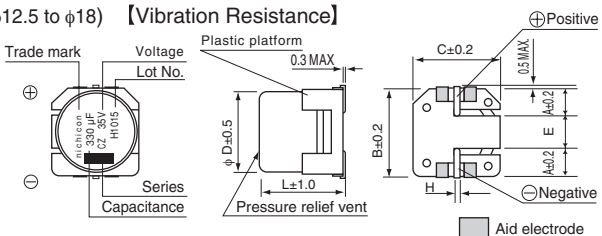
Configuration	Code
Standard	CL (φ10 or less) NJ (φ12.5 or more) NQ (φ12.5 or more)※
Vibration Resistance	CS (φ10 or less) NS (φ12.5 or more)

※ NQ is scheduled to be discontinued.

(φ 8 , φ10) 【Vibration Resistance】



(φ12.5 to φ18) 【Vibration Resistance】



Standard (mm)

φDXL	6.3X5.8	6.3X7.7	8X10	10X10	12.5X13.5	16X16.5, 21.5	18X16.5, 21.5
A	2.4	2.4	2.9	3.2	4.8	5.4	6.4
B	6.6	6.6	8.3	10.3	13.6	17.1	19.1
C	6.6	6.6	8.3	10.3	13.6	17.1	19.1
E	2.2	2.2	3.1	4.5	4.0	6.3	6.3
L	5.8	7.7	10	10	13.5	16.5, 21.5	16.5, 21.5
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

Vibration Resistance (mm)

φDXL	8X10	10X10	φ12.5	φ16	φ18
A	2.9	3.2	4.8	5.4	6.4
B	8.3	10.3	13.6	17.1	19.1
C	8.3	10.3	13.6	17.1	19.1
E	3.1	4.5	4.0	6.3	6.3
L	10	10	13.5	16.5, 21.5	16.5, 21.5
H	1.1 to 1.5	1.1 to 1.5	1.0 to 1.4	1.0 to 1.4	1.0 to 1.4

Voltage

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

● 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

● Dimension table in next page.

UCZ

■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μF)	Case Size φD×L(mm)	tan δ	Leakage Current (μA) (at 20℃ after 2 minutes)	ESR(Ω)MAX. (20℃/−40℃/100kHz) Initial 20℃	ESR(Ω)MAX. (20℃/−40℃/100kHz) Initial −40℃	ESR(Ω)MAX. (20℃/−40℃/100kHz) after endurance test −40℃ ※	Rated Ripple (mArms) (125℃/100kHz)	Part Number
10 (1A)	220	8×10	0.30	22	0.20	3.00	4.5	270	UCZ1A221M□□1GS
	330	8×10	0.30	33	0.20	3.00	4.5	270	UCZ1A331M□□6GS
	330	10×10	0.30	33	0.15	2.00	3.5	500	UCZ1A331M□□1GS
	470	10×10	0.30	47	0.15	2.00	3.5	500	UCZ1A471M□□1GS
16 (1C)	47	6.3×5.8	0.23	7.52	1.60	24.00	—	69	UCZ1C470MCL1GS
	100	6.3×7.7	0.23	16	0.45	5.00	40	197	UCZ1C101M□□6GS
	100	8×10	0.23	16	0.20	3.00	4.5	270	UCZ1C101M□□1GS
	220	8×10	0.23	35.2	0.20	3.00	4.5	270	UCZ1C221M□□1GS
	330	10×10	0.23	52.8	0.15	2.00	3.5	500	UCZ1C331M□□1GS
	470	10×10	0.23	75.2	0.15	2.00	3.5	500	UCZ1C471M□□1GS
25 (1E)	33	6.3×5.8	0.18	8.25	1.60	24.00	—	69	UCZ1E330MCL1GS
	100	6.3×7.7	0.18	25	0.45	5.00	40	197	UCZ1E101M□□6GS
	100	8×10	0.18	25	0.20	3.00	4.5	270	UCZ1E101M□□1GS
	220	8×10	0.18	55	0.20	3.00	4.5	270	UCZ1E221M□□6GS
	220	10×10	0.18	55	0.15	2.00	3.5	500	UCZ1E221M□□1GS
	330	10×10	0.18	82.5	0.15	2.00	3.5	500	UCZ1E331M□□1GS
	820	12.5×13.5	0.18	205	0.060	0.40	3	1700	UCZ1E821M□□1MS
	1000	12.5×13.5	0.18	250	0.060	0.40	3	1700	UCZ1E102M□□1MS
	1200	16×16.5	0.18	300	0.047	0.28	1.4	1700	UCZ1E122M□□1MS
	1600	16×16.5	0.18	400	0.047	0.28	1.4	2400	UCZ1E162M□□1MS
	2200	18×16.5	0.20	550	0.045	0.23	1.3	2600	UCZ1E222M□□1MS
	2700	16×21.5	0.20	675	0.034	0.20	0.6	3000	UCZ1E272M□□1MS
	3300	18×21.5	0.22	825	0.032	0.16	0.5	3250	UCZ1E332M□□1MS
35 (1V)	10	6.3×5.8	0.16	3.5	1.60	24.00	—	69	UCZ1V100MCL1GS
	22	6.3×5.8	0.16	7.7	1.60	24.00	—	69	UCZ1V220MCL1GS
	33	6.3×7.7	0.16	11.55	0.45	5.00	40	197	UCZ1V330M□□1GS
	47	6.3×7.7	0.16	16.45	0.45	5.00	40	197	UCZ1V470M□□6GS
	47	8×10	0.16	16.45	0.20	3.00	4.5	270	UCZ1V470M□□1GS
	68	8×10	0.16	23.8	0.20	3.00	4.5	270	UCZ1V680M□□1GS
	100	8×10	0.16	35	0.20	3.00	4.5	270	UCZ1V101M□□1GS
	220	10×10	0.16	77	0.15	2.00	3.5	500	UCZ1V221M□□1GS
	470	12.5×13.5	0.16	164.5	0.060	0.40	3.0	1700	UCZ1V471M□□1MS
	560	12.5×13.5	0.16	196	0.060	0.40	3.0	1700	UCZ1V561M□□1MS
	680	12.5×13.5	0.16	238	0.060	0.40	3.0	1700	UCZ1V681M□□1MS
	820	16×16.5	0.16	287	0.047	0.28	1.4	2400	UCZ1V821M□□1MS
	1000	16×16.5	0.16	350	0.047	0.28	1.4	2400	UCZ1V102M□□1MS
	1200	18×16.5	0.16	420	0.045	0.28	1.4	2600	UCZ1V122M□□1MS
	1400	18×16.5	0.16	490	0.045	0.28	1.4	2600	UCZ1V142M□□1MS
	1600	16×21.5	0.16	560	0.034	0.20	0.6	3000	UCZ1V162M□□1MS
	2200	18×21.5	0.18	770	0.032	0.16	0.5	3250	UCZ1V222M□□1MS
50 (1H)	10	6.3×5.8	0.16	5	2.80	42.00	—	51	UCZ1H100MCL1GS
	22	6.3×7.7	0.16	11	0.50	5.00	40	197	UCZ1H220M□□1GS
	33	6.3×7.7	0.16	16.5	0.50	5.00	40	197	UCZ1H330M□□6GS
	33	8×10	0.16	16.5	0.25	3.50	6	270	UCZ1H330M□□1GS
	47	6.3×7.7	0.16	23.5	0.50	5.00	40	197	UCZ1H470M□□6GS
	47	8×10	0.16	23.5	0.25	3.50	6	270	UCZ1H470M□□1GS
	100	10×10	0.16	50	0.20	2.50	4.5	500	UCZ1H101M□□1GS
	390	12.5×13.5	0.16	195	0.10	0.44	4.0	1300	UCZ1H391M□□1MS
	470	16×16.5	0.16	235	0.080	0.34	2.6	2000	UCZ1H471M□□1MS
	560	16×16.5	0.16	280	0.080	0.34	2.6	2000	UCZ1H561M□□1MS
	680	18×16.5	0.16	340	0.078	0.32	2.6	2100	UCZ1H681M□□1MS
	820	18×16.5	0.16	410	0.078	0.32	2.6	2100	UCZ1H821M□□1MS
	1000	16×21.5	0.16	500	0.040	0.22	1.5	2800	UCZ1H102M□□1MS
	1200	18×21.5	0.16	600	0.038	0.20	1.5	2900	UCZ1H122M□□1MS

□□ : Enter the appropriate configuration code.

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■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μF)	Case Size φD×L(mm)	tan δ	Leakage Current (μA) (at 20℃ after 2 minutes)	ESR(Ω)MAX. (20℃/−40℃/100kHz) Initial 20℃	Initial −40℃	after endurance test −40℃ ※	Rated Ripple (mArms) (125℃/100kHz)	Part Number
63 (1J)	10	6.3×7.7	0.12	6.3	2.00	100.00	—	60	UCZ1J100M□□1GS
	22	8×10	0.12	13.86	0.70	35.00	—	100	UCZ1J220M□□1GS
	33	8×10	0.12	20.79	0.70	35.00	—	100	UCZ1J330M□□6GS
	33	10×10	0.12	20.79	0.50	25.00	—	170	UCZ1J330M□□1GS
	47	8×10	0.12	29.61	0.70	35.00	—	100	UCZ1J470M□□6GS
	47	10×10	0.12	29.61	0.50	25.00	—	170	UCZ1J470M□□1GS
	150	12.5×13.5	0.12	94.5	0.20	1.30	14	1000	UCZ1J151M□□1MS
	180	12.5×13.5	0.12	113.4	0.20	1.30	14	1000	UCZ1J181M□□1MS
	220	12.5×13.5	0.12	138.6	0.20	1.30	14	1000	UCZ1J221M□□1MS
	390	16×16.5	0.12	245.7	0.13	0.90	4.8	1900	UCZ1J391M□□1MS
	470	18×16.5	0.12	296.1	0.11	0.82	3.9	2000	UCZ1J471M□□1MS
	560	16×21.5	0.12	352.8	0.070	0.46	2.0	2500	UCZ1J561M□□1MS
	750	18×21.5	0.12	472.5	0.068	0.44	1.8	2600	UCZ1J751M□□1MS
80 (1K)	10	8×10	0.12	8	0.75	50.00	—	70	UCZ1K100M□□1GS
	22	8×10	0.12	17.6	0.75	50.00	—	70	UCZ1K220M□□6GS
	22	10×10	0.12	17.6	0.55	35.00	—	115	UCZ1K220M□□1GS
	33	8×10	0.12	26.4	0.75	50.00	—	70	UCZ1K330M□□6GS
	33	10×10	0.12	26.4	0.55	35.00	—	115	UCZ1K330M□□1GS
	47	10×10	0.12	37.6	0.55	35.00	—	115	UCZ1K470M□□1GS
	150	12.5×13.5	0.12	120	0.28	1.90	14	700	UCZ1K151M□□1MS
	270	16×16.5	0.12	216	0.19	1.40	4.8	1000	UCZ1K271M□□1MS
	330	18×16.5	0.12	264	0.17	1.10	3.9	1100	UCZ1K331M□□1MS
	390	16×21.5	0.12	312	0.12	0.80	2.6	1600	UCZ1K391M□□1MS
	520	18×21.5	0.12	416	0.11	0.70	2.4	1700	UCZ1K521M□□1MS
100 (2A)	10	8×10	0.10	10	0.75	50.00	—	70	UCZ2A100M□□1GS
	22	8×10	0.10	22	0.75	50.00	—	70	UCZ2A220M□□6GS
	22	10×10	0.10	22	0.55	35.00	—	115	UCZ2A220M□□1GS
	33	10×10	0.10	33	0.55	35.00	—	115	UCZ2A330M□□1GS
	82	12.5×13.5	0.10	82	0.28	1.90	22	700	UCZ2A820M□□1MS
	150	16×16.5	0.10	150	0.19	1.40	4.8	1000	UCZ2A151M□□1MS
	180	18×16.5	0.10	180	0.17	1.10	3.9	1100	UCZ2A181M□□1MS
	220	16×21.5	0.10	220	0.12	0.80	2.6	1600	UCZ2A221M□□1MS
	300	18×21.5	0.10	300	0.11	0.70	2.4	1700	UCZ2A301M□□1MS

□□ : Enter the appropriate configuration code.

※ Guaranteed time of ESR after endurance test

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

- For taping specifications, recommended land size/soldering by reflow and minimum order quantity, please refer to the Guidelines for Aluminum Electrolytic Capacitors.