ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

UCL

Chip Type, Low Impedance

For SMD | Low Impedance | Anti-Solvent Feature

- 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,(EU)2015/863).
- AEC-Q200 compliant. Please contact us for details.

UCL ← Low Impedance → UCD

Smaller (Higher capacitance) → UCM



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 voltages at 20°C, leakage current is not more than 0.01 CV or 3 (µA), whichever is greater.
Tangent of loss angle (tan δ)	Measurement frequency : 120Hz at 20°C

Rated voltage (V)	6.3	10	16	25	35	50
tan δ (MAX.)	0.26	0.19	0.16	0.14	0.12	0.10

Stability at Low Temperature — Measurement frequency : 120Hz

Rated voltage (V)		6.3	10	16	25	35	50
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 .

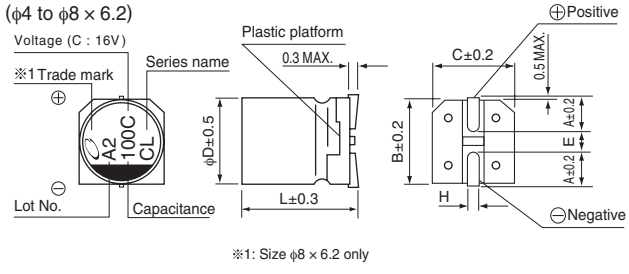
Capacitance Change	Within ± 10% of the initial capacitance value
tan δ	Less than or equal to the initial specified value
Leakage current	Less than or equal to the initial specified value

Marking

Black print on the case top.

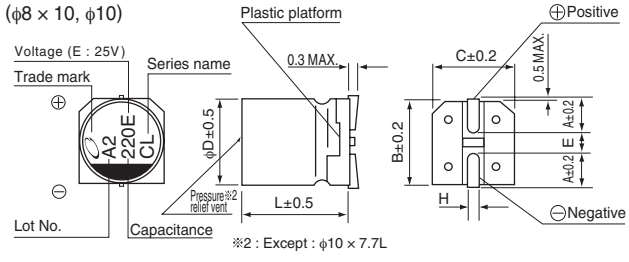
Chip Type

(φ4 to φ8 × 6.2)



※1: Size φ8 × 6.2 only

(φ8 × 10, φ10)



※2 : Except : φ10 × 7.7L

Voltage

V	6.3	10	16	25	35	50
Code	j	A	C	E	V	H

● Dimension table in next page.

Type numbering system (Example : 16V 100µF)

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

- 14: Taping code
- 13: Size code
- 10–11: Configuration
- 9: Capacitance tolerance (±20%)
- 6–8: Rated capacitance (100µF)
- 5: Rated voltage (16V)
- 4: Series name
- 1–3: Type

φ D	Code
4 to 6.3	CL
8 (6.2L)	CL
10(7.7L)	CL
8(10L)• 10(10L,13.5L)	NL

(mm)

φD × L	4 × 5.8	5 × 5.8	6.3 × 5.8	6.3 × 7.7	8 × 6.2	8 × 10	10 × 7.7	10 × 10	10 × 13.5
A	1.8	2.1	2.4	2.4	3.3	2.9	3.2	3.2	3.2
B	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3	10.3
C	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3	10.3
E	1.0	1.3	2.2	2.2	2.3	3.1	4.5	4.5	4.5
L	5.8	5.8	5.8	7.7	6.2	10	7.7	10	13.5
H	0.5 to 0.8	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	0.8 to 1.1	0.8 to 1.1

● 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

UCL

■Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μF)	Case Size φD×L(mm)	tan δ	Leakage Current (μA) (at 20℃ after 2 minutes)	Impedance(Ω) MAX. (20℃/100kHz)	Rated Ripple (mArms) (105℃/100kHz)	Part Number
6.3 (0J)	22	4×5.8	0.26	3	0.85	160	UCL0J220MCL1GS
	47	4×5.8	0.26	3	0.85	160	UCL0J470MCL6GS
	47	5×5.8	0.26	3	0.36	240	UCL0J470MCL1GS
	100	5×5.8	0.26	6.3	0.36	240	UCL0J101MCL6GS
	100	6.3×5.8	0.26	6.3	0.26	300	UCL0J101MCL1GS
	220	6.3×5.8	0.26	13.86	0.26	300	UCL0J221MCL1GS
	330	6.3×7.7	0.26	20.79	0.16	600	UCL0J331MCL1GS
	330	8×6.2	0.26	20.79	0.18	500	UCL0J331MCL6GS
	470	8×10	0.26	29.61	0.08	850	UCL0J471MNL1GS
	470	10×7.7	0.26	29.61	0.10	850	UCL0J471MCL6GS
	1000	8×10	0.26	63	0.08	850	UCL0J102MNL1GS
	1500	10×10	0.26	94.5	0.06	1190	UCL0J152MNL1GS
	1800	10×10	0.26	113.4	0.08	850	UCL0J182MNL1GS
	2200	10×13.5	0.26	138.6	0.06	1190	UCL0J222MNL1GS
10 (1A)	22	4×5.8	0.19	3	0.85	160	UCL1A220MCL1GS
	33	4×5.8	0.19	3.3	0.85	160	UCL1A330MCL6GS
	33	5×5.8	0.19	3.3	0.36	240	UCL1A330MCL1GS
	47	6.3×5.8	0.19	4.7	0.26	300	UCL1A470MCL1GS
	100	6.3×5.8	0.19	10	0.26	300	UCL1A101MCL1GS
	150	6.3×5.8	0.19	15	0.26	300	UCL1A151MCL1GS
	220	6.3×7.7	0.19	22	0.16	600	UCL1A221MCL1GS
	220	8×6.2	0.19	22	0.18	500	UCL1A221MCL6GS
	330	8×10	0.19	33	0.08	850	UCL1A331MNL1GS
	330	10×7.7	0.19	33	0.10	850	UCL1A331MCL6GS
	470	8×10	0.19	47	0.08	850	UCL1A471MNL1GS
	470	10×7.7	0.19	47	0.10	850	UCL1A471MCL6GS
	680	8×10	0.19	68	0.08	850	UCL1A681MNL1GS
	1000	10×10	0.19	100	0.06	1190	UCL1A102MNL1GS
	1200	10×10	0.19	120	0.08	850	UCL1A122MNL1GS
	1500	10×13.5	0.19	150	0.06	1190	UCL1A152MNL1GS
16 (1C)	10	4×5.8	0.16	3	0.85	160	UCL1C100MCL1GS
	22	4×5.8	0.16	3.52	0.85	160	UCL1C220MCL6GS
	22	5×5.8	0.16	3.52	0.36	240	UCL1C220MCL1GS
	47	5×5.8	0.16	7.52	0.36	240	UCL1C470MCL6GS
	47	6.3×5.8	0.16	7.52	0.26	300	UCL1C470MCL1GS
	68	6.3×5.8	0.16	10.88	0.26	300	UCL1C680MCL1GS
	100	6.3×5.8	0.16	16	0.26	300	UCL1C101MCL1GS
	100	6.3×7.7	0.16	16	0.16	600	UCL1C101MCL6GS
	150	6.3×7.7	0.16	24	0.16	600	UCL1C151MCL1GS
	220	6.3×7.7	0.16	35.2	0.16	600	UCL1C221MCL1GS
	220	8×6.2	0.16	35.2	0.18	500	UCL1C221MCL6GS
	330	8×10	0.16	52.8	0.08	850	UCL1C331MNL1GS
	330	10×7.7	0.16	52.8	0.10	850	UCL1C331MCL6GS
	470	8×10	0.16	75.2	0.08	850	UCL1C471MNL1GS
	470	10×7.7	0.16	75.2	0.10	850	UCL1C471MCL6GS
	680	10×10	0.16	108.8	0.06	1190	UCL1C681MNL1GS
	820	10×10	0.16	131.2	0.08	850	UCL1C821MNL1GS
	1000	10×13.5	0.16	160	0.06	1190	UCL1C102MNL1GS

UCL

■Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μF)	Case Size φD×L(mm)	tan δ	Leakage Current (μA) (at 20℃ after 2 minutes)	Impedance(Ω) MAX. (20℃/100kHz)	Rated Ripple (mArms) (105℃/100kHz)	Part Number
25 (1E)	10	4×5.8	0.14	3	0.85	160	UCL1E100MCL1GS
	22	5×5.8	0.14	5.5	0.36	240	UCL1E220MCL1GS
	33	5×5.8	0.14	8.25	0.36	240	UCL1E330MCL6GS
	33	6.3×5.8	0.14	8.25	0.26	300	UCL1E330MCL1GS
	47	6.3×5.8	0.14	11.75	0.26	300	UCL1E470MCL1GS
	68	6.3×5.8	0.14	17	0.26	300	UCL1E680MCL1GS
	100	6.3×7.7	0.14	25	0.16	600	UCL1E101MCL1GS
	100	8×6.2	0.14	25	0.18	500	UCL1E101MCL6GS
	150	8×10	0.14	37.5	0.08	850	UCL1E151MNL1GS
	150	10×7.7	0.14	37.5	0.10	850	UCL1E151MCL6GS
	220	8×10	0.14	55	0.08	850	UCL1E221MNL1GS
	220	10×7.7	0.14	55	0.10	850	UCL1E221MCL6GS
	330	8×10	0.14	82.5	0.08	850	UCL1E331MNL1GS
	470	10×10	0.14	117.5	0.06	1190	UCL1E471MNL1GS
	560	10×10	0.14	140	0.08	850	UCL1E561MNL1GS
	680	10×13.5	0.14	170	0.06	1190	UCL1E681MNL1GS
35 (1V)	10	4×5.8	0.12	3.5	0.85	160	UCL1V100MCL6GS
	10	5×5.8	0.12	3.5	0.36	240	UCL1V100MCL1GS
	22	5×5.8	0.12	7.7	0.36	240	UCL1V220MCL1GS
	33	6.3×5.8	0.12	11.55	0.26	300	UCL1V330MCL1GS
	47	6.3×5.8	0.12	16.45	0.26	300	UCL1V470MCL1GS
	68	6.3×7.7	0.12	23.8	0.16	600	UCL1V680MCL1GS
	100	6.3×7.7	0.12	35	0.16	600	UCL1V101MCL6GS
	100	8×10	0.12	35	0.08	850	UCL1V101MNL1GS
	150	8×10	0.12	52.5	0.08	850	UCL1V151MNL1GS
	150	10×7.7	0.12	52.5	0.10	850	UCL1V151MCL6GS
	220	8×10	0.12	77	0.08	850	UCL1V221MNL1GS
	220	10×7.7	0.12	77	0.10	850	UCL1V221MCL6GS
	330	10×10	0.12	115.5	0.06	1190	UCL1V331MNL1GS
	390	10×10	0.12	136.5	0.08	850	UCL1V391MNL1GS
	470	10×13.5	0.12	164.5	0.06	1190	UCL1V471MNL1GS
50 (1H)	100	8×10	0.10	50	0.18	670	UCL1H101MNL1GS
	220	10×10	0.10	110	0.12	900	UCL1H221MNL1GS

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