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ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

UCD

Chip Type, Low Impedance

For SMD | Low Impedance | Anti-Solvent Feature



- Chip type, low impedance temperature range up to +105°C.
- Designed for surface mounting on high density PC board.
- 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.

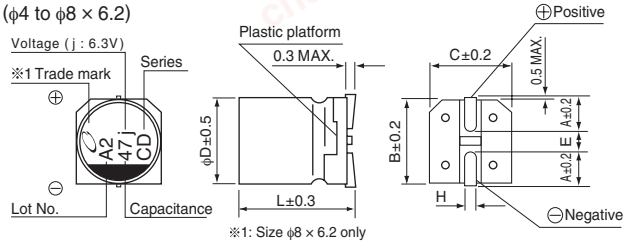
UCL (Low Impedance) — UCD — (Low Impedance) UUD

Specifications

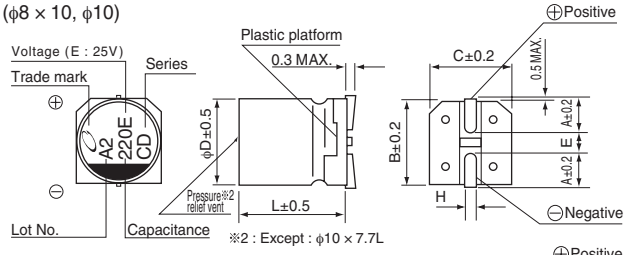
Item	Performance Characteristics
Category Temperature Range	– 55 to +105°C
Rated Voltage Range	6.3 to 100V
Rated Capacitance Range	1 to 3300μF
Capacitance Tolerance	±20% at 120Hz, 20°C
Leakage Current	After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01 CV or 3 (μA), whichever is greater.
Tangent of loss angle (tan δ)	Rated voltage (V): 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 80 / 100 tan δ (MAX.): 0.26 / 0.19 / 0.16 / 0.14 / 0.12 / 0.10 / 0.08 / 0.08 / 0.07 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): 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 80 / 100 Impedance ratio (MAX.) Z—25°C / Z+20°C: 2 / 2 / 2 / 2 / 2 / 2 / 2 / 2 / 2 Z—40°C / Z+20°C: 3 / 3 / 3 / 3 / 3 / 3 / 3 / 3 / 3 Z—55°C / Z+20°C: 4 / 4 / 4 / 3 / 3 / 3 / 3 / 3 / 3 Measurement frequency: 120Hz
Endurance	The specifications listed below shall be met when the capacitors are restored to 20°C after the rated voltage is applied at 105°C for the conditions listed at right. Rated Voltage \ Size (mm): ~7.7L / 10L / φ10×13.5L / 13.5L~ 6.3~50V: 2000hrs. / 5000hrs. / 5000hrs. / 5000hrs. 63~100V: 2000hrs. / 2000hrs. / — / 5000hrs. Capacitance Change: Within ± 30% of the initial capacitance value tan δ: 200% or less than the initial specified value; 300% or less than the initial specified value for 63V or more 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

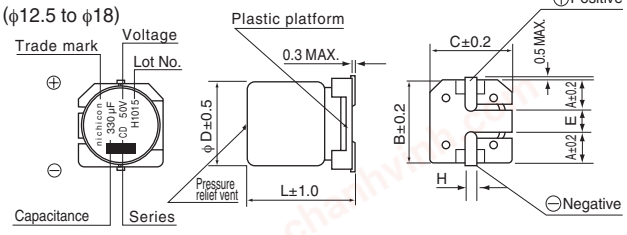
(φ4 to φ8 × 6.2)



(φ8 × 10, φ10)



(φ12.5 to φ18)



※ φ8 × 10L, φ10 × 10L, φ12.5 × 13.5L, φ16 × 16.5L, φ18 × 16.5L :
The vibration structure-resistant product is also available upon request, please ask for details.

●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	D	1	C	1	0	1	M	C	L	1	G	S

Taping code

Size	Code
φ4 to 10	GS
φ12.5 to 18	MS

Size code

Configuration

φ D	Code
4 to 6.3	CL
8 (6.2L)	CL
10(7.7L)	CL
8(10L) • 10(10L,13.5L)	NL
12.5 to 18	NQ

Capacitance tolerance (±20%)

Rated capacitance (100μF)

Rated voltage (16V)

Series name

Type

(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
A	1.8	2.1	2.4	2.4	3.3	2.9	3.2	3.2
B	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3
C	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3
E	1.0	1.3	2.2	2.2	2.3	3.1	4.5	4.5
L	5.8	5.8	5.8	7.7	6.2	10	7.7	10
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

φD × L	10 × 13.5	12.5 × 13.5	16 × 16.5	18 × 16.5
A	3.2	4.8	5.4	6.4
B	10.3	13.6	17.1	19.1
C	10.3	13.6	17.1	19.1
E	4.5	4.0	6.3	6.3
L	13.5	13.5	16.5	16.5
H	0.8 to 1.1	1.0 to 1.4	1.0 to 1.4	1.0 to 1.4

Voltage

V	6.3	10	16	25	35	50	63	80	100
Code	j	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

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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	1.35	90	UCD0J220MCL1GS
	27	4×5.8	0.26	3	1.35	90	UCD0J270MCL1GS
	33	5×5.8	0.26	3	0.70	160	UCD0J330MCL1GS
	47	4×5.8	0.26	3	1.35	90	UCD0J470MCL6GS
	47	5×5.8	0.26	3	0.70	160	UCD0J470MCL1GS
	56	5×5.8	0.26	3.528	0.70	160	UCD0J560MCL1GS
	68	6.3×5.8	0.26	4.284	0.36	240	UCD0J680MCL1GS
	100	5×5.8	0.26	6.3	0.70	160	UCD0J101MCL6GS
	100	6.3×5.8	0.26	6.3	0.36	240	UCD0J101MCL1GS
	150	6.3×5.8	0.26	9.45	0.36	240	UCD0J151MCL1GS
	220	6.3×5.8	0.26	13.86	0.36	240	UCD0J221MCL1GS
	330	6.3×7.7	0.26	20.79	0.32	290	UCD0J331MCL1GS
	330	8×6.2	0.26	20.79	0.26	300	UCD0J331MCL6GS
	470	8×10	0.26	29.61	0.16	600	UCD0J471MNL1GS
	470	10×7.7	0.26	29.61	0.18	600	UCD0J471MCL6GS
	680	8×10	0.26	42.84	0.16	600	UCD0J681MNL1GS
	680	10×7.7	0.26	42.84	0.18	600	UCD0J681MCL6GS
	1000	8×10	0.26	63	0.16	600	UCD0J102MNL1GS
	1500	10×10	0.26	94.5	0.080	850	UCD0J152MNL1GS
	2200	10×13.5	0.26	138.6	0.080	950	UCD0J222MNL1GS
	3300	12.5×13.5	0.30	207.9	0.080	1100	UCD0J332MNQ1MS
10 (1A)	22	4×5.8	0.19	3	1.35	90	UCD1A220MCL1GS
	27	5×5.8	0.19	3	0.70	160	UCD1A270MCL1GS
	33	4×5.8	0.19	3.3	1.35	90	UCD1A330MCL6GS
	33	5×5.8	0.19	3.3	0.70	160	UCD1A330MCL1GS
	47	6.3×5.8	0.19	4.7	0.36	240	UCD1A470MCL1GS
	56	6.3×5.8	0.19	5.6	0.36	240	UCD1A560MCL1GS
	68	6.3×5.8	0.19	6.8	0.36	240	UCD1A680MCL1GS
	100	6.3×5.8	0.19	10	0.36	240	UCD1A101MCL1GS
	150	6.3×5.8	0.19	15	0.36	240	UCD1A151MCL1GS
	220	6.3×7.7	0.19	22	0.32	290	UCD1A221MCL1GS
	220	8×6.2	0.19	22	0.26	300	UCD1A221MCL6GS
	330	8×10	0.19	33	0.16	600	UCD1A331MNL1GS
	330	10×7.7	0.19	33	0.18	600	UCD1A331MCL6GS
	470	8×10	0.19	47	0.16	600	UCD1A471MNL1GS
	470	10×7.7	0.19	47	0.18	600	UCD1A471MCL6GS
	680	10×10	0.19	68	0.080	850	UCD1A681MNL1GS
	1000	10×10	0.19	100	0.080	850	UCD1A102MNL1GS
	1500	10×13.5	0.19	150	0.080	950	UCD1A152MNL1GS
	2200	12.5×13.5	0.21	220	0.080	1100	UCD1A222MNQ1MS
16 (1C)	10	4×5.8	0.16	3	1.35	90	UCD1C100MCL1GS
	15	4×5.8	0.16	3	1.35	90	UCD1C150MCL1GS
	22	4×5.8	0.16	3.52	1.35	90	UCD1C220MCL6GS
	22	5×5.8	0.16	3.52	0.70	160	UCD1C220MCL1GS
	27	5×5.8	0.16	4.32	0.70	160	UCD1C270MCL1GS
	33	6.3×5.8	0.16	5.28	0.36	240	UCD1C330MCL1GS
	47	5×5.8	0.16	7.52	0.70	160	UCD1C470MCL6GS
	47	6.3×5.8	0.16	7.52	0.36	240	UCD1C470MCL1GS
	56	6.3×5.8	0.16	8.96	0.36	240	UCD1C560MCL1GS
	68	6.3×5.8	0.16	10.88	0.36	240	UCD1C680MCL1GS
	100	6.3×5.8	0.16	16	0.36	240	UCD1C101MCL1GS

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16 (1C)	150	6.3×7.7	0.16	24	0.32	290	UCD1C151MCL1GS
	220	6.3×7.7	0.16	35.2	0.32	290	UCD1C221MCL1GS
	220	8×6.2	0.16	35.2	0.26	300	UCD1C221MCL6GS
	330	8×10	0.16	52.8	0.16	600	UCD1C331MNL1GS
	330	10×7.7	0.16	52.8	0.18	600	UCD1C331MCL6GS
	470	8×10	0.16	75.2	0.16	600	UCD1C471MNL1GS
	470	10×7.7	0.16	75.2	0.18	600	UCD1C471MCL6GS
	680	10×10	0.16	108.8	0.080	850	UCD1C681MNL1GS
	1000	10×13.5	0.16	160	0.080	950	UCD1C102MNL1GS
	1500	12.5×13.5	0.16	240	0.080	1100	UCD1C152MNQ1MS
25 (1E)	10	4×5.8	0.14	3	1.35	90	UCD1E100MCL1GS
	15	5×5.8	0.14	3.75	0.70	160	UCD1E150MCL1GS
	22	5×5.8	0.14	5.5	0.70	160	UCD1E220MCL1GS
	27	6.3×5.8	0.14	6.75	0.36	240	UCD1E270MCL1GS
	33	5×5.8	0.14	8.25	0.70	160	UCD1E330MCL6GS
	33	6.3×5.8	0.14	8.25	0.36	240	UCD1E330MCL1GS
	47	6.3×5.8	0.14	11.75	0.36	240	UCD1E470MCL1GS
	56	6.3×5.8	0.14	14	0.36	240	UCD1E560MCL1GS
	68	6.3×5.8	0.14	17	0.36	240	UCD1E680MCL1GS
	100	6.3×7.7	0.14	25	0.32	290	UCD1E101MCL1GS
	100	8×6.2	0.14	25	0.26	300	UCD1E101MCL6GS
	150	8×10	0.14	37.5	0.16	600	UCD1E151MNL1GS
	150	10×7.7	0.14	37.5	0.18	600	UCD1E151MCL6GS
	220	8×10	0.14	55	0.16	600	UCD1E221MNL1GS
	220	10×7.7	0.14	55	0.18	600	UCD1E221MCL6GS
	330	8×10	0.14	82.5	0.16	600	UCD1E331MNL1GS
	470	10×10	0.14	117.5	0.080	850	UCD1E471MNL1GS
	680	10×13.5	0.14	170	0.080	950	UCD1E681MNL1GS
	1000	12.5×13.5	0.14	250	0.080	1100	UCD1E102MNQ1MS
	2200	16×16.5	0.16	550	0.035	1800	UCD1E222MNQ1MS
35 (1V)	4.7	4×5.8	0.12	3	1.35	90	UCD1V4R7MCL1GS
	10	4×5.8	0.12	3.5	1.35	90	UCD1V100MCL6GS
	10	5×5.8	0.12	3.5	0.70	160	UCD1V100MCL1GS
	22	5×5.8	0.12	7.7	0.70	160	UCD1V220MCL1GS
	33	6.3×5.8	0.12	11.55	0.36	240	UCD1V330MCL1GS
	47	6.3×5.8	0.12	16.45	0.36	240	UCD1V470MCL1GS
	68	6.3×7.7	0.12	23.8	0.32	290	UCD1V680MCL1GS
	100	6.3×7.7	0.12	35	0.32	290	UCD1V101MCL6GS
	100	8×10	0.12	35	0.16	600	UCD1V101MNL1GS
	150	8×10	0.12	52.5	0.16	600	UCD1V151MNL1GS
	150	10×7.7	0.12	52.5	0.18	600	UCD1V151MCL6GS
	220	8×10	0.12	77	0.16	600	UCD1V221MNL1GS
	220	10×7.7	0.12	77	0.18	600	UCD1V221MCL6GS
	330	10×10	0.12	115.5	0.080	850	UCD1V331MNL1GS
	470	10×13.5	0.12	164.5	0.080	950	UCD1V471MNL6GS
	470	12.5×13.5	0.12	164.5	0.080	1100	UCD1V471MNQ1MS
	680	12.5×13.5	0.12	238	0.080	1100	UCD1V681MNQ1MS
	1000	16×16.5	0.12	350	0.035	1800	UCD1V102MNQ1MS
50 (1H)	1	4×5.8	0.10	3	2.70	60	UCD1H010MCL1GS
	2.2	4×5.8	0.10	3	2.70	60	UCD1H2R2MCL1GS
	3.3	4×5.8	0.10	3	2.70	60	UCD1H3R3MCL1GS

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50 (1H)	4.7	4×5.8	0.10	3	2.70	60	UCD1H4R7MCL1GS
	10	5×5.8	0.10	5	1.50	90	UCD1H100MCL6GS
	10	6.3×5.8	0.10	5	0.86	170	UCD1H100MCL1GS
	22	6.3×5.8	0.10	11	0.86	170	UCD1H220MCL1GS
	33	6.3×7.7	0.10	16.5	0.66	195	UCD1H330MCL1GS
	33	8×6.2	0.10	16.5	0.63	200	UCD1H330MCL6GS
	47	6.3×7.7	0.10	23.5	0.66	195	UCD1H470MCL1GS
	47	8×6.2	0.10	23.5	0.63	200	UCD1H470MCL6GS
	100	8×10	0.10	50	0.32	350	UCD1H101MNL1GS
	100	10×7.7	0.10	50	0.36	330	UCD1H101MCL6GS
	150	10×10	0.10	75	0.16	700	UCD1H151MNL1GS
	220	10×10	0.10	110	0.16	700	UCD1H221MNL1GS
	330	10×13.5	0.10	165	0.14	800	UCD1H331MNL6GS
	330	12.5×13.5	0.10	165	0.12	900	UCD1H331MNQ1MS
	390	12.5×13.5	0.10	195	0.12	900	UCD1H391MNQ1MS
	470	16×16.5	0.10	235	0.073	1610	UCD1H471MNQ1MS
	680	16×16.5	0.10	340	0.073	1610	UCD1H681MNQ1MS
63 (1J)	4.7	5×5.8	0.08	3	3.00	50	UCD1J4R7MCL1GS
	10	6.3×5.8	0.08	6.3	1.50	80	UCD1J100MCL1GS
	22	6.3×7.7	0.08	13.86	1.20	120	UCD1J220MCL1GS
	22	8×6.2	0.08	13.86	1.20	120	UCD1J220MCL6GS
	33	8×10	0.08	20.79	0.65	250	UCD1J330MNL1GS
	47	8×10	0.08	29.61	0.65	250	UCD1J470MNL1GS
	68	10×10	0.08	42.84	0.35	400	UCD1J680MNL1GS
	100	10×10	0.08	63	0.35	400	UCD1J101MNL1GS
	150	12.5×13.5	0.08	94.5	0.16	800	UCD1J151MNQ1MS
	220	12.5×13.5	0.08	138.6	0.16	800	UCD1J221MNQ1MS
	470	16×16.5	0.08	296.1	0.082	1410	UCD1J471MNQ1MS
	680	18×16.5	0.08	428.4	0.080	1690	UCD1J681MNQ1MS
80 (1K)	3.3	5×5.8	0.08	3	5.00	25	UCD1K3R3MCL1GS
	4.7	6.3×5.8	0.08	3.76	3.00	40	UCD1K4R7MCL1GS
	10	6.3×7.7	0.08	8	2.40	60	UCD1K100MCL1GS
	10	8×6.2	0.08	8	2.40	60	UCD1K100MCL6GS
	22	8×10	0.08	17.6	1.30	130	UCD1K220MNL1GS
	33	8×10	0.08	26.4	1.30	130	UCD1K330MNL1GS
	47	10×10	0.08	37.6	0.70	200	UCD1K470MNL1GS
	68	12.5×13.5	0.08	54.4	0.32	500	UCD1K680MNQ1MS
	100	12.5×13.5	0.08	80	0.32	500	UCD1K101MNQ1MS
	150	12.5×13.5	0.08	120	0.32	500	UCD1K151MNQ1MS
	330	16×16.5	0.08	264	0.17	793	UCD1K331MNQ1MS
	470	18×16.5	0.08	376	0.15	917	UCD1K471MNQ1MS
100 (2A)	22	8×10	0.07	22	1.30	130	UCD2A220MNL1GS
	33	10×10	0.07	33	0.70	200	UCD2A330MNL1GS
	47	12.5×13.5	0.07	47	0.32	500	UCD2A470MNQ1MS
	68	12.5×13.5	0.07	68	0.32	500	UCD2A680MNQ1MS
	100	16×16.5	0.07	100	0.17	793	UCD2A101MNQ1MS
	150	16×16.5	0.07	150	0.17	793	UCD2A151MNQ1MS
	220	18×16.5	0.07	220	0.15	917	UCD2A221MNQ1MS
	330	18×16.5	0.07	330	0.15	917	UCD2A331MNQ1MS

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