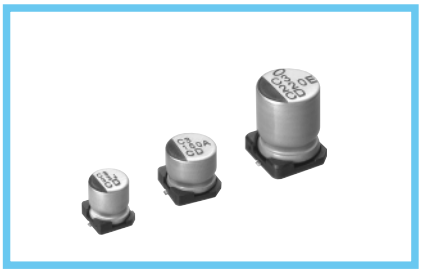
ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

CD Chip Type, Low Impedance series

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 using carrier tape.
- Adapted to the RoHS directive (2002/95/EC).

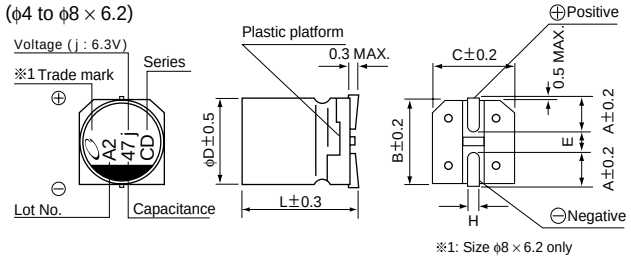
CD ← Low Impedance UD

■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, leakage current is not more than 0.01 CV or 3 (μA), whichever is greater.
tan δ	Measurement frequency : 120Hz, Temperature : 20°C 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 For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF.
Stability at Low Temperature	Measurement frequency : 120Hz Rated voltage (V): 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 80 / 100 Impedance ratio ZT / Z20 (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
Endurance	After 5000 hours' (2000 hours for L < 10 mm: 50V or less, and for L ≦10mm: 63V or more) application of rated voltage at 105°C, capacitors meet the characteristics requirements listed at right. Capacitance Change: Within ± 30% of initial value for capacitors tan δ: 200% or less initial specified value; 300% or less initial specified value for 63V or more Leakage current: Initial specified value or less
Shelf Life	After storing the capacitors under no load at 105°C for 1000 hours, and after performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they will meet the specified value for endurance characteristics listed above.
Resistance to soldering heat	The capacitors shall be kept on the hot plate maintained at 250°C for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the characteristics requirements listed at right. Capacitance Change: Within ± 10% of initial value tan δ: Initial specified value or less Leakage current: Initial specified value or less
Marking	Black print on the case top.

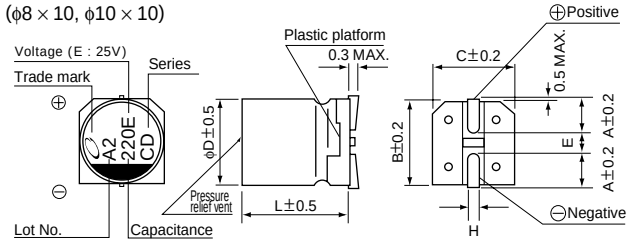
■Chip Type

(φ4 to φ8 × 6.2)

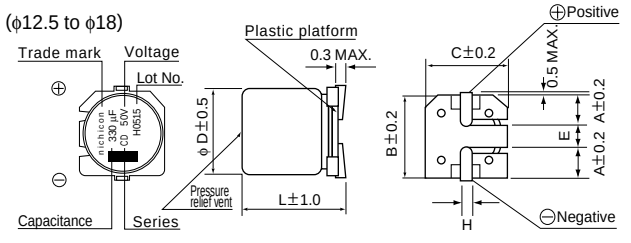


※1: Size φ8 × 6.2 only

(φ8 × 10, φ10 × 10)



(φ12.5 to φ18)



● 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

Package code

Size	Package	Code
φ4 to 10	Taping	GS
φ12.5 to 18	Taping	MS
φ12.5 to 18	Tray	ZD

Size code

Configuration

φ D	Code
4 to 6.3	CL
8 (6.2L)	CL
8(10L)•10	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 × 10
A	1.8	2.1	2.4	2.4	3.3	2.9	3.2
B	4.3	5.3	6.6	6.6	8.3	8.3	10.3
C	4.3	5.3	6.6	6.6	8.3	8.3	10.3
E	1.0	1.3	2.2	2.2	2.3	3.1	4.5
L	5.8	5.8	5.8	7.7	6.2	10	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

φD × L	12.5 × 13.5	16 × 16.5	18 × 16.5
A	4.8	5.4	6.4
B	13.6	17.1	19.1
C	13.6	17.1	19.1
E	4.0	6.3	6.3
L	13.5	16.5	16.5
H	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

CD series

■Dimensions

Cap. (μF) \ V	Code	6.3			10			16			25			35			50		
		0J			1A			1C			1E			1V			1H		
1	010																4×5.8	2.70	60
2.2	2R2																4×5.8	2.70	60
3.3	3R3																4×5.8	2.70	60
4.7	4R7													4×5.8	1.35	90	4×5.8	2.70	60
10	100							4×5.8	1.35	90	4×5.8	1.35	90	●4×5.8	1.35	90	●5×5.8	1.50	90
														5×5.8	0.70	160	6.3×5.8	0.86	170
15	150							4×5.8	1.35	90	5×5.8	0.70	160						
22	220	4×5.8	1.35	90	4×5.8	1.35	90	●4×5.8	1.35	90	5×5.8	0.70	160	5×5.8	0.70	160	6.3×5.8	0.86	170
								5×5.8	0.70	160									
27	270	4×5.8	1.35	90	5×5.8	0.70	160	5×5.8	0.70	160	6.3×5.8	0.36	240						
33	330	5×5.8	0.70	160	●4×5.8	1.35	90	6.3×5.8	0.36	240	●5×5.8	0.70	160	6.3×5.8	0.36	240	6.3×7.7	0.66	195
					5×5.8	0.70	160				6.3×5.8	0.36	240				●8×6.2	0.63	200
47	470	●4×5.8	1.35	90	6.3×5.8	0.36	240	●5×5.8	0.70	160	6.3×5.8	0.36	240	6.3×5.8	0.36	240	6.3×7.7	0.66	195
		5×5.8	0.70	160				6.3×5.8	0.36	240							●8×6.2	0.63	200
56	560	5×5.8	0.70	160	6.3×5.8	0.36	240	6.3×5.8	0.36	240	6.3×5.8	0.36	240						
68	680	6.3×5.8	0.36	240	6.3×5.8	0.36	240	6.3×5.8	0.36	240	6.3×5.8	0.36	240	6.3×7.7	0.32	290			
100	101	●5×5.8	0.70	160	6.3×5.8	0.36	240	6.3×5.8	0.36	240	6.3×7.7	0.32	290	●6.3×7.7	0.32	290	8×10	0.32	350
		6.3×5.8	0.36	240							●8×6.2	0.26	300	8×10	0.16	600			
150	151	6.3×5.8	0.36	240	6.3×5.8	0.36	240	6.3×7.7	0.32	290	8×10	0.16	600	8×10	0.16	600	10×10	0.16	700
220	221	6.3×5.8	0.36	240	6.3×7.7	0.32	290	6.3×7.7	0.32	290	8×10	0.16	600	8×10	0.16	600	10×10	0.16	700
					●8×6.2	0.26	300	●8×6.2	0.26	300									
330	331	6.3×7.7	0.32	290	8×10	0.16	600	8×10	0.16	600	8×10	0.16	600	10×10	0.08	850	12.5×13.5	0.12	900
		●8×6.2	0.26	300															
390	391																12.5×13.5	0.12	900
470	471	8×10	0.16	600	8×10	0.16	600	8×10	0.16	600	10×10	0.08	850	12.5×13.5	0.08	1100	16×16.5	0.073	1610
680	681	8×10	0.16	600	10×10	0.08	850	10×10	0.08	850				12.5×13.5	0.08	1100	16×16.5	0.073	1610
1000	102	8×10	0.16	600	10×10	0.08	850				12.5×13.5	0.08	1100	16×16.5	0.035	1800			
1500	152	10×10	0.08	850				12.5×13.5	0.08	1100									
2200	222				12.5×13.5	0.08	1100				16×16.5	0.035	1800				Case size φD×L (mm)	Impedance	Rated ripple
3300	332	12.5×13.5	0.08	1100															

Cap. (μF) \ V	Code	63			80			100		
		1J			1K			2A		
3.3	3R3				5×5.8	5.00	25			
4.7	4R7	5×5.8	3.00	50	6.3×5.8	3.00	40			
10	100	6.3×5.8	1.50	80	6.3×7.7	2.40	60			
					●8×6.2	2.40	60			
22	220	6.3×7.7	1.20	120	8×10	1.30	130	8×10	1.30	130
		●8×6.2	1.20	120						
33	330	8×10	0.65	250	8×10	1.30	130	10×10	0.70	200
47	470	8×10	0.65	250	10×10	0.70	200	12.5×13.5	0.32	500
68	680	10×10	0.35	400	12.5×13.5	0.32	500	12.5×13.5	0.32	500
100	101	10×10	0.35	400	12.5×13.5	0.32	500	16×16.5	0.17	793
150	151	12.5×13.5	0.16	800	12.5×13.5	0.32	500	16×16.5	0.17	793
220	221	12.5×13.5	0.16	800				18×16.5	0.15	917
330	331				16×16.5	0.17	793	18×16.5	0.15	917
470	471	16×16.5	0.082	1410	18×16.5	0.15	917	Case size φD×L (mm)	Impedance	Rated ripple
680	681	18×16.5	0.08	1690						

Max. Impedance (Ω) at 20°C 100kHz, Rated Ripple (mArms) at 105°C 100kHz

●: In this case, 6 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 refrow are given in page 18, 19.
- Please refer to page 3 for the minimum order quantity.