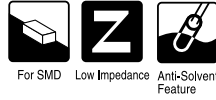


ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

CD Chip Type, Low Impedance series



- 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 (2002/95/EC).

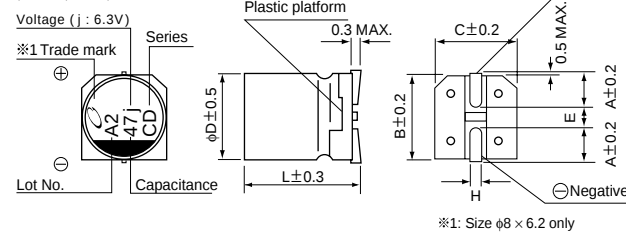


Specifications

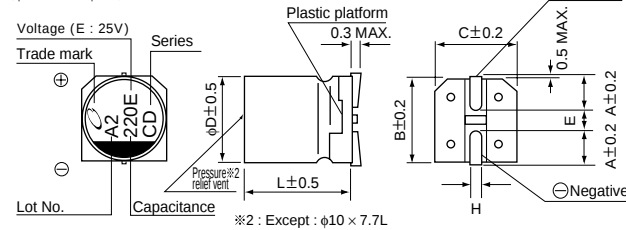
Item	Performance Characteristics										
Category Temperature Range	- 55 to +105°C										
Rated Voltage Range	6.3 to 100V										
Rated Capacitance Range	1 to 3300μF										
Capacitance Tolerance	± 20% at 120Hz, 20°C										
Leakage Current	After 2 minutes' application of rated voltage, leakage current is not more than 0.01 CV or 3 (μA), whichever is greater.										
Tangent of loss angle (tan δ)	Measurement frequency : 120Hz at 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	The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 5000 hours (2000 hours for L < 10 mm: 50V or less, and for L ≤ 10mm: 63V or more) at 105°C.			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											

Chip Type

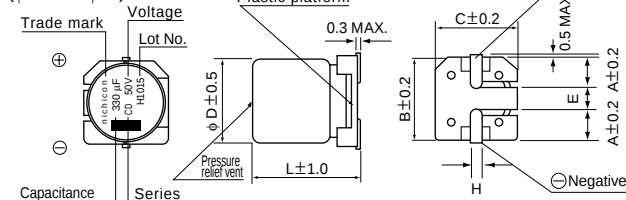
(φ4 to φ8 × φ6.2)



(φ8 × 10, φ10)

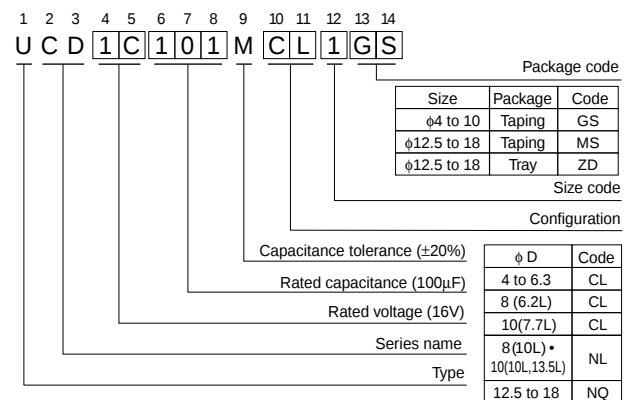


(φ12.5 to φ18)



• Dimension table in next page.

Type numbering system (Example : 16V 100μF)



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	(mm)
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

CAT.8100B

CD series

■ Dimensions

V		6.3			10			16			25			35			50					
Cap. (μF)	Code	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	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 × 5.8	0.36	240	6.3 × 7.7	0.66	195
					5 × 5.8	0.70	160												● 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 × 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	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 × 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	● 10 × 7.7	0.36	330			
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			
											● 10 × 7.7	0.18	600	● 10 × 7.7	0.18	600						
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	● 10 × 7.7	0.18	600	● 10 × 7.7	0.18	600						
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	● 10 × 13.5	0.14	800			
		● 8 × 6.2	0.26	300	● 10 × 7.7	0.18	600	● 10 × 7.7	0.18	600						12.5 × 13.5	0.12	900				
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	● 10 × 13.5	0.08	950	16 × 16.5	0.073	1610			
		● 10 × 7.7	0.18	600	● 10 × 7.7	0.18	600	● 10 × 7.7	0.18	600				12.5 × 13.5	0.08	1100						
680	681	8 × 10	0.16	600	10 × 10	0.08	850	10 × 10	0.08	850	10 × 13.5	0.08	950	12.5 × 13.5	0.08	1100	16 × 16.5	0.073	1610			
		● 10 × 7.7	0.18	600																		
1000	102	8 × 10	0.16	600	10 × 10	0.08	850	10 × 13.5	0.08	950	12.5 × 13.5	0.08	1100	16 × 16.5	0.035	1800						
1500	152	10 × 10	0.08	850	10 × 13.5	0.08	950	12.5 × 13.5	0.08	1100												
2200	222	10 × 13.5	0.08	950	12.5 × 13.5	0.08	1100				16 × 16.5	0.035	1800				Case size φD × L (mm)	Impedance ¹	Rated ripple			
3300	332	12.5 × 13.5	0.08	1100																		

V Cap. (μF) 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 ----- ● 8 × 6.2	2.40 ----- 2.40	60 ----- 60			
22	220	6.3 × 7.7 ----- ● 8 × 6.2	1.20 ----- 1.20	120 ----- 120	8 × 10	1.30	130	8 × 10	1.30	130
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 current (mA Arms) at 105°C 100kHz

●: In this case, [] 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.