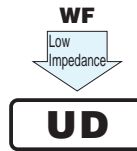


# ALUMINUM ELECTROLYTIC CAPACITORS

**UD** series Chip Type, Low Impedance



- 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.

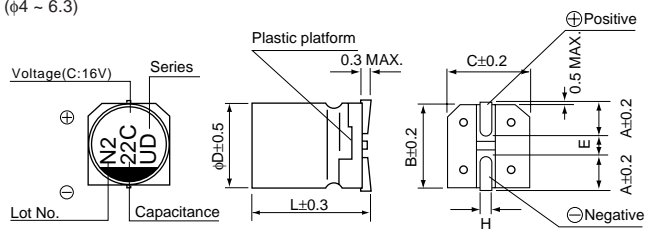


## Specifications

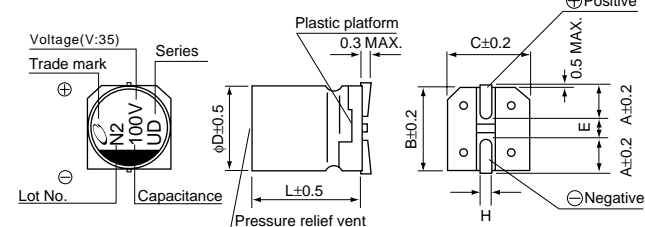
Item	Performance Characteristics																						
Category Temperature Range	—55 ~ +105°C																						
Rated Voltage Range	6.3 ~ 50V																						
Rated Capacitance Range	1 ~ 1500μF																						
Capacitance Tolerance	±20% at 120Hz, 20°C																						
Leakage Current	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																						
	<table border="1"> <tr> <td>Rated voltage(V)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td></td> </tr> <tr> <td>tan δ (MAX.)</td> <td>0.24(0.28)</td> <td>0.20(0.24)</td> <td>0.16(0.20)</td> <td>0.14(0.16)</td> <td>0.12(0.14)</td> <td>0.12(0.14)</td> <td>( ) is φ8 over</td> </tr> </table>	Rated voltage(V)	6.3	10	16	25	35	50		tan δ (MAX.)	0.24(0.28)	0.20(0.24)	0.16(0.20)	0.14(0.16)	0.12(0.14)	0.12(0.14)	( ) is φ8 over						
Rated voltage(V)	6.3	10	16	25	35	50																	
tan δ (MAX.)	0.24(0.28)	0.20(0.24)	0.16(0.20)	0.14(0.16)	0.12(0.14)	0.12(0.14)	( ) is φ8 over																
Stability at Low Temperature	Measurement frequency : 120Hz																						
	<table border="1"> <tr> <td colspan="2">Rated voltage(V)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <td rowspan="2">Impedance ratio Z/Z20(MAX.)</td> <td>Z—25°C/Z+20°C</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z—55°C/Z+20°C</td> <td>5</td> <td>4</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> </tr> </table>	Rated voltage(V)		6.3	10	16	25	35	50	Impedance ratio Z/Z20(MAX.)	Z—25°C/Z+20°C	3	2	2	2	2	2	Z—55°C/Z+20°C	5	4	4	3	3
Rated voltage(V)		6.3	10	16	25	35	50																
Impedance ratio Z/Z20(MAX.)	Z—25°C/Z+20°C	3	2	2	2	2	2																
	Z—55°C/Z+20°C	5	4	4	3	3	3																
Endurance	After 1000 hours' application of rated voltage at 105°C, capacitors meet the characteristics requirements listed at right.																						
	Capacitance change	Within ±25% of initial value																					
	tan δ	200% or less of initial specified value																					
Shelf Life	After leaving capacitors under no load at 105°C for 1000 hours, they meet the specified value for endurance characteristics listed above.																						
	Capacitance change	Within ±10% of initial value																					
	tan δ	Initial specified value or less																					
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	Initial specified value or less																					
	Leakage current	Initial specified value or less																					
Marking	Black print on the case top.																						

## Chip Type

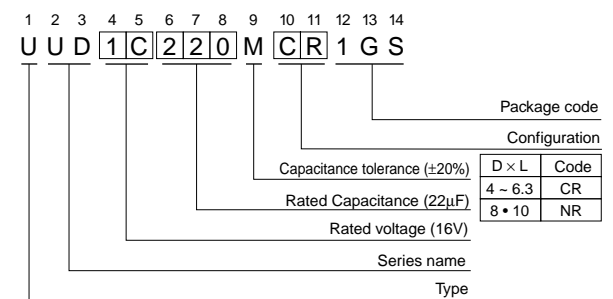
(φ4 ~ 6.3)



(φ8, φ10 × 10L)



## Type numbering system (Example : 16V 22μF)



	(mm)					
	4 × 5.8	5 × 5.8	6.3 × 5.8	6.3 × 7.7	8 × 10	10 × 10
A	1.8	2.1	2.4	2.4	2.9	3.2
B	4.3	5.3	6.6	6.6	8.3	10.3
C	4.3	5.3	6.6	6.6	8.3	10.3
E	1.0	1.3	2.2	2.2	3.1	4.5
L	5.8	5.8	5.8	7.7	10	10
H	0.5 ~ 0.8	0.5 ~ 0.8	0.5 ~ 0.8	0.5 ~ 0.8	0.8 ~ 1.1	0.8 ~ 1.1

## Voltage

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

■ Dimension table in next page.



## ■ Dimensions

Cap. ( $\mu$ F)	V Code	6.3			10			16			25			35			50		
		0J			1A			1C			1E			1V			1H		
1	010																4×5.8	5.00	30
2.2	2R2																4×5.8	5.00	30
3.3	3R3																4×5.8	5.00	30
4.7	4R7													4×5.8	1.80	80	5×5.8	1.52	85
10	100									4×5.8	1.80	80	5×5.8	0.76	150	6.3×5.8	0.88	165	
15	150							4×5.8	1.80	80	5×5.8	0.76	150	5×5.8	0.76	150	6.3×5.8	0.88	165
22	220				4×5.8	1.80	80	5×5.8	0.76	150	5×5.8	0.76	150	5×5.8	0.76	150	6.3×5.8	0.88	165
27	270	4×5.8	1.80	80	5×5.8	0.76	150	5×5.8	0.76	150	6.3×5.8	0.44	230	6.3×5.8	0.44	230	6.3×7.7	0.68	185
33	330	5×5.8	0.76	150	5×5.8	0.76	150	6.3×5.8	0.44	230	6.3×5.8	0.44	230	6.3×5.8	0.44	230	6.3×7.7	0.68	185
47	470	5×5.8	0.76	150	6.3×5.8	0.44	230	6.3×5.8	0.44	230	6.3×5.8	0.44	230	6.3×5.8	0.44	230	6.3×7.7	0.68	185
56	560	5×5.8	0.76	150	6.3×5.8	0.44	230	6.3×5.8	0.44	230	6.3×5.8	0.44	230	6.3×7.7	0.34	280	8×10	0.34	300
68	680	6.3×5.8	0.44	230	6.3×5.8	0.44	230	6.3×5.8	0.44	230	6.3×5.8	0.44	230	6.3×7.7	0.34	280	8×10	0.34	300
100	101	6.3×5.8	0.44	230	6.3×5.8	0.44	230	6.3×5.8	0.44	230	6.3×7.7	0.34	280	8×10	0.17	450	8×10	0.34	300
150	151	6.3×5.8	0.44	230	6.3×5.8	0.44	230	6.3×7.7	0.34	280	8×10	0.17	450	8×10	0.17	450	10×10	0.18	670
220	221	6.3×5.8	0.44	230	6.3×7.7	0.34	280	6.3×7.7	0.34	280	8×10	0.17	450	8×10	0.17	450	10×10	0.18	670
330	331	6.3×7.7	0.34	280	8×10	0.17	450	8×10	0.17	450	8×10	0.17	450	10×10	0.09	670			
470	471	8×10	0.17	450	8×10	0.17	450	8×10	0.17	450	10×10	0.09	670						
680	681	8×10	0.17	450	10×10	0.09	670	10×10	0.09	670									
1000	102	8×10	0.17	450	10×10	0.09	670												
1500	152	10×10	0.09	670															

Max. impedance ( $\Omega$ ) at 20°C 100kHz, Rated Ripple (mA rms) t 105°C 100kHz

## ■ Frequency coefficient of rated ripple current

Frequency	50 Hz	120 Hz	300 Hz	1 kHz	10 kHz ~
Coefficient	0.35	0.50	0.64	0.83	1.00

■ Taping Specifications are given in page 21.

Please refer to page 3 for the minimum order quantity.