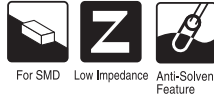


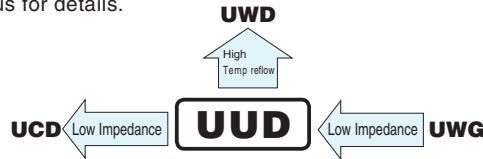
# ALUMINUM ELECTROLYTIC CAPACITORS

# UUD

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 fed with carrier tape.
- Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).
- AEC-Q200 compliant. Please contact us for details.

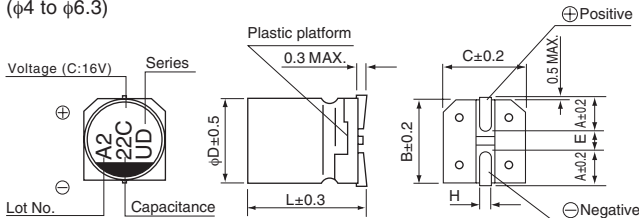


## Specifications

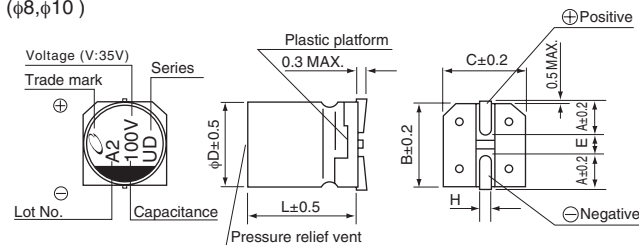
Item	Performance Characteristics													
Category Temperature Range	-55 to +105°C													
Rated Voltage Range	6.3 to 50V													
Rated Capacitance Range	1 to 1500μF													
Capacitance Tolerance	±20% at 120Hz, 20°C													
Leakage Current	After 2 minutes' application of rated 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)	Measurement frequency : 120Hz at 20°C							( ) is φ8 over						
	Rated voltage (V)	6.3	10	16	25	35	50							
Stability at Low Temperature	Measurement frequency : 120Hz													
	Impedance ratio	Z-25°C / Z+20°C	3	2	2	2	2		2					
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 φD = 4, 5 and 6.3) at 105°C.							<table border="1"> <tr> <td>Capacitance change</td> <td>Within ±30% of the initial capacitance value</td> </tr> <tr> <td>tan δ</td> <td>200% or less than the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table>	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
	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.							<table border="1"> <tr> <td>Capacitance change</td> <td>Within ±10% of the initial capacitance value</td> </tr> <tr> <td>tan δ</td> <td>Less than or equal to the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table>	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
	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													
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.							<table border="1"> <tr> <td>Capacitance change</td> <td>Within ±10% of the initial capacitance value</td> </tr> <tr> <td>tan δ</td> <td>Less than or equal to the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table>	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
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

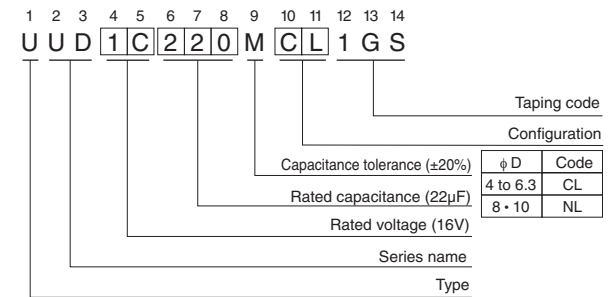
(φ4 to φ6.3)



(φ8, φ10)



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



φD × L	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 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

Voltage

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

● Dimension table in next page.

## ● Frequency coefficient of rated ripple current

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

UUD

## ■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μF)	Case Size φD×L (mm)	tan δ	Leakage Current (μA) (at 20°C after 2 minutes)	Impedance (Ω) MAX. (20°C/100kHz)	Rated Ripple (mArms) (105°C/100kHz)	Part Number
6.3 (0J)	27	4×5.8	0.26	3	1.80	80	UUD0J270MCL1GS
	33	5×5.8	0.26	3	0.76	150	UUD0J330MCL1GS
	47	5×5.8	0.26	3	0.76	150	UUD0J470MCL1GS
	56	5×5.8	0.26	3.528	0.76	150	UUD0J560MCL1GS
	68	6.3×5.8	0.26	4.284	0.44	230	UUD0J680MCL1GS
	100	6.3×5.8	0.26	6.3	0.44	230	UUD0J101MCL1GS
	150	6.3×5.8	0.26	9.45	0.44	230	UUD0J151MCL1GS
	220	6.3×5.8	0.26	13.86	0.44	230	UUD0J221MCL1GS
	330	6.3×7.7	0.26	20.79	0.34	280	UUD0J331MCL1GS
	470	8×10	0.28	29.61	0.17	450	UUD0J471MNL1GS
	680	8×10	0.28	42.84	0.17	450	UUD0J681MNL1GS
	1000	8×10	0.28	63	0.17	450	UUD0J102MNL1GS
	1500	10×10	0.28	94.5	0.09	670	UUD0J152MNL1GS
10 (1A)	22	4×5.8	0.20	3	1.80	80	UUD1A220MCL1GS
	27	5×5.8	0.20	3	0.76	150	UUD1A270MCL1GS
	33	5×5.8	0.20	3.3	0.76	150	UUD1A330MCL1GS
	47	6.3×5.8	0.20	4.7	0.44	230	UUD1A470MCL1GS
	56	6.3×5.8	0.20	5.6	0.44	230	UUD1A560MCL1GS
	68	6.3×5.8	0.20	6.8	0.44	230	UUD1A680MCL1GS
	100	6.3×5.8	0.20	10	0.44	230	UUD1A101MCL1GS
	150	6.3×5.8	0.20	15	0.44	230	UUD1A151MCL1GS
	220	6.3×7.7	0.20	22	0.34	280	UUD1A221MCL1GS
	330	8×10	0.24	33	0.17	450	UUD1A331MNL1GS
	470	8×10	0.24	47	0.17	450	UUD1A471MNL1GS
	680	10×10	0.24	68	0.09	670	UUD1A681MNL1GS
	1000	10×10	0.24	100	0.09	670	UUD1A102MNL1GS
16 (1C)	15	4×5.8	0.16	3	1.80	80	UUD1C150MCL1GS
	22	5×5.8	0.16	3.52	0.76	150	UUD1C220MCL1GS
	27	5×5.8	0.16	4.32	0.76	150	UUD1C270MCL1GS
	33	6.3×5.8	0.16	5.28	0.44	230	UUD1C330MCL1GS
	47	6.3×5.8	0.16	7.52	0.44	230	UUD1C470MCL1GS
	56	6.3×5.8	0.16	8.96	0.44	230	UUD1C560MCL1GS
	68	6.3×5.8	0.16	10.88	0.44	230	UUD1C680MCL1GS
	100	6.3×5.8	0.16	16	0.44	230	UUD1C101MCL1GS
	150	6.3×7.7	0.16	24	0.34	280	UUD1C151MCL1GS
	220	6.3×7.7	0.16	35.2	0.34	280	UUD1C221MCL1GS
	330	8×10	0.20	52.8	0.17	450	UUD1C331MNL1GS
	470	8×10	0.20	75.2	0.17	450	UUD1C471MNL1GS
	680	10×10	0.20	108.8	0.09	670	UUD1C681MNL1GS

UUD

## ■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μF)	Case Size φD×L (mm)	tan δ	Leakage Current (μA) (at 20°C after 2 minutes)	Impedance (Ω) MAX. (20°C/100kHz)	Rated Ripple (mArms) (105°C/100kHz)	Part Number
25 (1E)	10	4×5.8	0.14	3	1.80	80	UUD1E100MCL1GS
	15	5×5.8	0.14	3.75	0.76	150	UUD1E150MCL1GS
	22	5×5.8	0.14	5.5	0.76	150	UUD1E220MCL1GS
	27	6.3×5.8	0.14	6.75	0.44	230	UUD1E270MCL1GS
	33	6.3×5.8	0.14	8.25	0.44	230	UUD1E330MCL1GS
	47	6.3×5.8	0.14	11.75	0.44	230	UUD1E470MCL1GS
	56	6.3×5.8	0.14	14	0.44	230	UUD1E560MCL1GS
	68	6.3×5.8	0.14	17	0.44	230	UUD1E680MCL1GS
	100	6.3×7.7	0.14	25	0.34	280	UUD1E101MCL1GS
	150	8×10	0.16	37.5	0.17	450	UUD1E151MNL1GS
	220	8×10	0.16	55	0.17	450	UUD1E221MNL1GS
	330	8×10	0.16	82.5	0.17	450	UUD1E331MNL1GS
	470	10×10	0.16	117.5	0.09	670	UUD1E471MNL1GS
35 (1V)	4.7	4×5.8	0.12	3	1.80	80	UUD1V47MCL1GS
	10	5×5.8	0.12	3.5	0.76	150	UUD1V100MCL1GS
	15	5×5.8	0.12	5.25	0.76	150	UUD1V150MCL1GS
	22	5×5.8	0.12	7.7	0.76	150	UUD1V220MCL1GS
	27	6.3×5.8	0.12	9.45	0.44	230	UUD1V270MCL1GS
	33	6.3×5.8	0.12	11.55	0.44	230	UUD1V330MCL1GS
	47	6.3×5.8	0.12	16.45	0.44	230	UUD1V470MCL1GS
	56	6.3×7.7	0.12	19.6	0.34	280	UUD1V560MCL1GS
	68	6.3×7.7	0.12	23.8	0.34	280	UUD1V680MCL1GS
	100	8×10	0.14	35	0.17	450	UUD1V101MNL1GS
	150	8×10	0.14	52.5	0.17	450	UUD1V151MNL1GS
	220	8×10	0.14	77	0.17	450	UUD1V221MNL1GS
	330	10×10	0.14	115.5	0.09	670	UUD1V331MNL1GS
50 (1H)	1	4×5.8	0.12	3	5.00	30	UUD1H010MCL1GS
	2.2	4×5.8	0.12	3	5.00	30	UUD1H2R2MCL1GS
	3.3	4×5.8	0.12	3	5.00	30	UUD1H3R3MCL1GS
	4.7	5×5.8	0.12	3	1.52	85	UUD1H47MCL1GS
	10	6.3×5.8	0.12	5	0.88	165	UUD1H100MCL1GS
	15	6.3×5.8	0.12	7.5	0.88	165	UUD1H150MCL1GS
	22	6.3×5.8	0.12	11	0.88	165	UUD1H220MCL1GS
	27	6.3×7.7	0.12	13.5	0.68	185	UUD1H270MCL1GS
	33	6.3×7.7	0.12	16.5	0.68	185	UUD1H330MCL1GS
	47	6.3×7.7	0.12	23.5	0.68	185	UUD1H470MCL1GS
	56	8×10	0.14	28	0.34	300	UUD1H560MNL1GS
	68	8×10	0.14	34	0.34	300	UUD1H680MNL1GS
	100	8×10	0.14	50	0.34	300	UUD1H101MNL1GS
	150	10×10	0.14	75	0.18	670	UUD1H151MNL1GS
220	10×10	0.14	110	0.18	670	UUD1H221MNL1GS	

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