

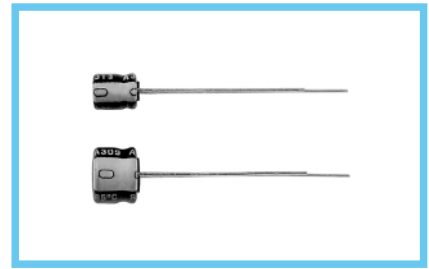
ALUMINUM ELECTROLYTIC CAPACITORS

ML series 5mmL, Low Leakage Current



- Low leakage current series with 5mm height.
- Adapted to the RoHS directive (2002/95/EC).

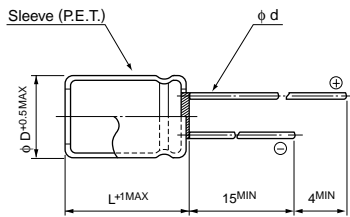
Products which are scheduled to discontinue.
Not recommended for new designs



Specifications

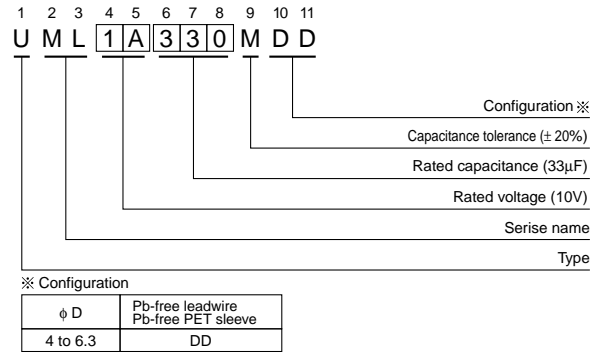
Item	Performance Characteristics								
Category Temperature Range	-40 to +85°C								
Rated Voltage Range	4 to 50V								
Rated Capacitance Range	0.1 to 100μF								
Rated Capacitance Tolerance	±20% at 120Hz, 20°C								
Leakage Current	After 2 minutes' application of rated voltage, leakage current is not more than 0.002CV or 0.4 (μA), whichever is greater.								
tan δ	Measurement frequency : 120Hz, Temperature : 20°C								
	Rated voltage (V)	4	6.3	10	16	25	35	50	
	tan δ (MAX.)	0.35	0.24	0.20	0.16	0.14	0.12	0.10	
Stability at Low Temperature	Measurement frequency : 120Hz								
	Rated voltage (V)	4	6.3	10	16	25	35	50	
	Impedance ratio ZT / Z20 (MAX.)	Z-25°C / Z+20°C	7	4	3	2	2	2	2
		Z-40°C / Z+20°C	15	10	8	6	4	3	3
Endurance	After 1000 hours' application of rated voltage at 85°C, capacitors meet the characteristic requirements listed at right.		Capacitance change		Within ±20% of initial value				
			tan δ		200% or less of initial specified value				
			Leakage current		Initial specified value or less				
Shelf Life	After storing the capacitors under no load at 85°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.								
Marking	Printed with white color letter on black sleeve.								

Radial Lead Type



(mm)	φ D	4	5	6.3
P	1.5	2.0	2.5	
φ d	0.45	0.45	0.45	

Type numbering system (Example : 10V 33μF)



Dimensions

Cap.(μF)	V	4		6.3		10		16		25		35		50	
		Code	0G	0J	1A	1C	1E	1V	1H						
0.1	0R1													4×5	1.0
0.22	R22													4×5	2.0
0.33	R33													4×5	2.8
0.47	R47													4×5	4.0
1	010													4×5	8.4
2.2	2R2													4×5	13
3.3	3R3													5×5	17
4.7	4R7									4×5	16	4×5	18	5×5	20
10	100							4×5	23	5×5	27	5×5	29	6.3×5	33
22	220			4×5	28	5×5	33	5×5	37	6.3×5	42	6.3×5	46		
33	330	5×5	28	5×5	37	5×5	41	6.3×5	49	6.3×5	52				
47	470	5×5	33	5×5	45	6.3×5	52	6.3×5	58						
100	101	6.3×5	56	6.3×5	70									Case size φD×L (mm)	Rated ripple

Rated Ripple (mA rms) at 85°C 120Hz

Frequency coefficient of rated ripple current

Frequency	50 Hz	120 Hz	300 Hz	1 kHz	10 kHz or more
Coefficient	0.70	1.00	1.17	1.36	1.50

Please refer to page 20, 21, 22 about the formed or taped product spec.
Please refer to page 4 for the minimum order quantity.