

ML

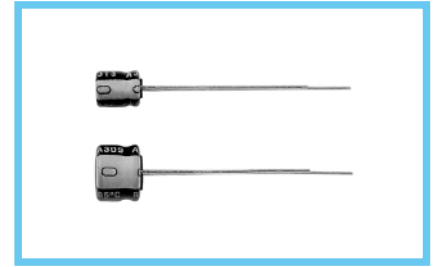
5mmL, Low Leakage Current

series

Low Leakage
CurrentAnti-Solvent
Feature

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

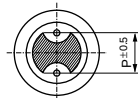
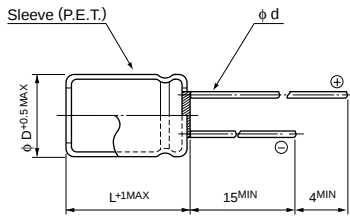
MA ML



Specifications

Item	Performance Characteristics								
Category Temperature Range	-40 ~ +85°C								
Rated Voltage Range	4 ~ 50V								
Rated Capacitance Range	0.1 ~ 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	Z-25°C / Z+20°C	7	4	3	2	2	2	2
	ZT / Z20 (MAX.)	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



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)

1	2	3	4	5	6	7	8	9	10	11
U	M	L	1	A	3	3	0	M	D	D
			Configuration ※							
			Capacitance tolerance (±20%)							
			Rated capacitance (33μF)							
			Rated voltage (10V)							
			Serie name							
			Type							

※ Configuration

φ D	Pb-free leadwire Pb-free PET sleeve
4 ~ 6.3	DD

Dimensions

V	4	6.3	10	16	25	35	50
Cap.(μF)	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 φ D × L (mm)

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 ~
Coefficient	0.70	1.00	1.17	1.36	1.50

Please refer to page 21, 22, 23 about the formed or taped product spec.
Please refer to page 3 for the minimum order quantity.