

ML

5mmL, Low Leakage Current

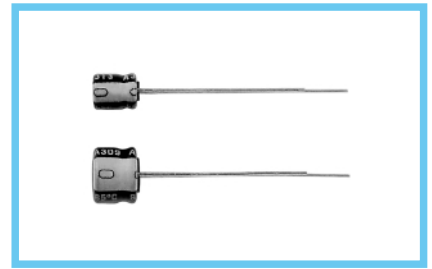
series

Low Leakage
CurrentAnti-Solvent
Feature

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

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

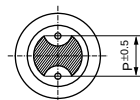
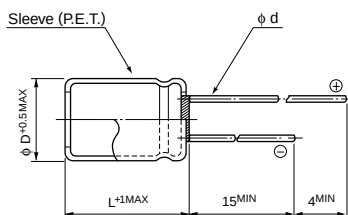
MA

Low Leakage
Current**ML**

■ 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	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



(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)

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 to 6.3	DD

■ Dimensions

V		4	6.3	10	16	25	35	50
Cap.(μF)	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 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 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.

CAT.8100W