

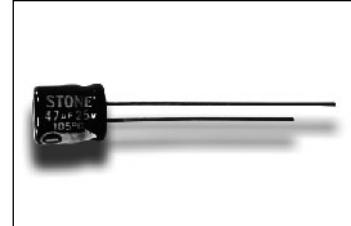


Aluminum Electrolytic Capacitors

MR Series

Features

- 105°C with 7mm height
- RoHS Compliance



Specification

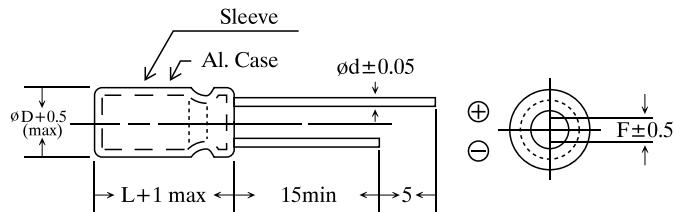
Items	Performance							
Capacitance Tolerance	$\pm 20\%$ (at 120Hz, 20°C)							
Rated Voltage Range	4 to 50 VDC							
Capacitance Range	0.1 to 470 μ F							
Operating Temperature Range	-40 to + 105°C							
Leakage Current (at 20°C)	$I \leq 0.01 CV$ or $3 (\mu A)$, whichever is greater. After 2 minutes application of working voltage. $I = \text{Leakage current } (\mu A), C = \text{Rated capacitance } (\mu F), V = \text{Rated voltage } (V)$							
Dissipation Factor (Tan δ at 120Hz, 20°C)	Rated Voltage	4	6.3	10	16	25	35	50
	Tan δ (max)	0.35	0.24	0.20	0.17	0.15	0.12	0.10
Impedance ratio max.								
Low Temperature Characteristics (at 120Hz)	Rated Voltage	4	6.3	10	16	25	35	50
	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
Load Life	After 1000 hours application of W.V. at 105°C, the capacitor shall meet the following limits. Capacitance change : $\leq \pm 25\%$ of initial value Dissipation factor : $\leq 200\%$ of initial specified value Leakage Current : \leq Initial specified value							
Shelf Life	After storage for 500 hours at 105°C, with no voltage applied and being stabilized at + 20°C, Capacitor shall meet the limit specified in load life.							
Ripple Current & Frequency Multiplier	Freq.(Hz) Cap. (μ F)	60 (50)	120	500	1K	10K up		
	Under 47	0.70	1.00	1.20	1.30	1.45		
	100 to 470	0.80	1.00	1.10	1.15	1.20		
Ripple Current & Temperature Multiplier	Temperature(°C)	85		105				
	Multiplier	1.40		1.00				



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DIAGRAM OF DIMENSIONS



LEAD SPACING AND DIAMETER

Unit: mm

D	4	5	6.3	8
F	1.5	2.0	2.5	3.5
d	0.45		0.5	

DIMENSION & PERMISSIBLE RIPPLE CURRENT

Dimension : $\phi D \times L$ (mm)

Ripple Current : mA/rms at 120Hz, 105°C

VDC μF	4V		6.3V		10V		16V		25V		35V		50V	
	ϕDxL	mA	ϕDxL	mA	ϕDxL	mA	ϕDxL	mA						
0.1													4x7	1
0.22													4x7	1
0.33													4x7	2
0.47													4x7	4
1													4x7	7
2.2													4x7	15
3.3													4x7	20
4.7													4x7	22
10									4x7	25	5x7	28	5x7	32
22							4x7	30	5x7	40	6.3x7	52	6.3x7	55
33					4x7	35	5x7	45	6.3x7	50	6.3x7	50	8x9	65
47					4x7	40	5x7	50	6.3x7	60	6.3x7	63	8x9	75
100					5x7	70	6.3x7	85	6.3x7 8x7 8x9	80 90	8x9	90		
220			6.3x7	88	6.3x7	94	8x7	120	8x9	130				
330			8x7	120	8x7 8x9	120	8x7	115						
470	8x7	120	8x7 8x9	120	8x9	140	8x9	140						