



MQ Series

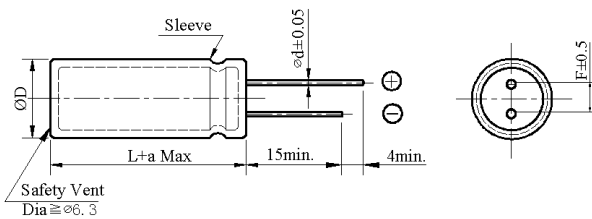
- Low ESR
- 105°C Long Life (10,000 hours), Miniature size
Body diameter of $\Phi 10\text{mm}$ to $\Phi 12.5\text{mm}$ with high ripple current capability



◆ SPECIFICATIONS

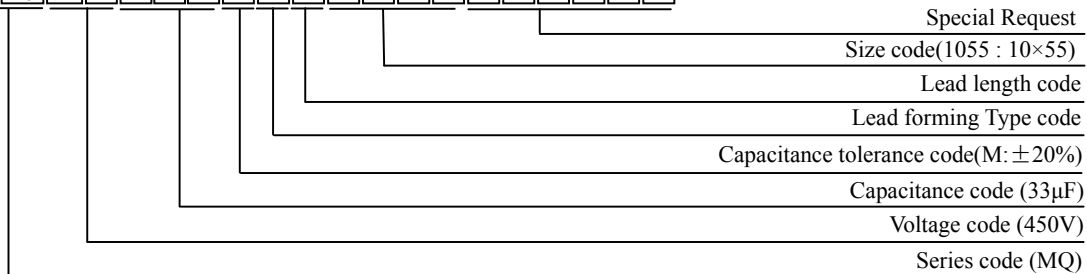
Item	Performance Characteristics			
Category Temperature Range	-25 ~ +105°C			
Working Voltage Range	200 ~ 450Vdc			
Capacitance Range	33 ~ 220 μF			
Capacitance Tolerance	$\pm 20\%$ (at 25°C and 120Hz)			
Dissipation Factor (tan δ) (at 25°C, 120Hz)	Rated Voltage (V)	200 ~ 250	400 ~ 450	
	tan δ (Max)	0.15	0.15	
Leakage Current	$I=0.03CV + 10\mu\text{A}$ I : Leakage current (μA) C : Rated capacitance (μF) V : Rated voltage (V) Impress the rated voltage for 2 minutes			
Low Temperature Characteristics Impedance Ratio(MAX)	Rated voltage (V)	200~250	400	420 ~ 450
	Z(-25°C)/Z(+20°C)	3	5	6
Endurance	The following specifications shall be satisfied when the capacitors are restored to 25°C after subjected to DC voltage with the rated ripple current is applied for 10,000 hours at 105°C.			
	Capacitance change	$\cong \pm 20\%$ of the initial value		
	Dissipation factor(tan δ)	$\cong 200\%$ of the specified value		
Shelf Life	The following requirements shall be satisfied when the capacitor are restored to 25°C after the rated voltage applied for 1,000 hours at 105°C without voltage applied.			
	Capacitance change	$\cong \pm 20\%$ of the initial value		
	VDissipation factor(tan δ)	$\cong 200\%$ of the specified value		
Leakage current	$\cong 200\%$ of the specified value			
Others	Conforms to JIS-C-5101-4 (1998), characteristic W			

◆ DIMENSIONS (mm)



ΦD	10	12.5 L < 35	12.5 L \geq 35
ΦD	$\Phi D + 0.5$ Max		
Φd	0.6	0.6	0.8
F	5.0		
a	L + 1.5 Max	$\leq 35 L + 1.5$ Max	$\geq 40 L + 2.0$ Max

◆ PART NUMBER SYSTEM(Example : 450V 33 μF)





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◆ Case size & Permissible rated ripple current: (mA rms) at 105°C / 120Hz

uF \ Vdc	200		220		250	
	ΦD × L	RC	ΦD × L	RC	ΦD × L	RC
68					10×40	450
82			10×45	538	10×45	553
100	10×45	640	10×50	670	12.5×35	702
120	10×50	700	12.5×35	780	12.5×40	798
150	12.5×35	813	12.5×40	873	12.5×45	930
180	12.5×40	935	12.5×45	1002		
220	12.5×50	1100				

uF \ Vdc	400		420		450	
	ΦD × L	RC	ΦD × L	RC	ΦD × L	RC
33			10×45	325	10×50	330
					12.5×30	373
39	10×45	350	10×50	378	12.5×35	425
			12.5×30	395		
47	10×50	407	12.5×35	455	12.5×40	490
	12.5×35	445				
56	12.5×40	508	12.5×40	524	12.5×45	538
68	12.5×45	585	12.5×50	592		
82	12.5×55	658				

◆ RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

Vdc	Frequency (Hz)				
	60(50)	120	500	1K	≥10K
200 ~ 250	0.80	1.00	1.20	1.30	1.40
400 ~ 450	0.80	1.00	1.25	1.40	1.50