

ALUMINUM ELECTROLYTIC CAPACITORS



PQ Series

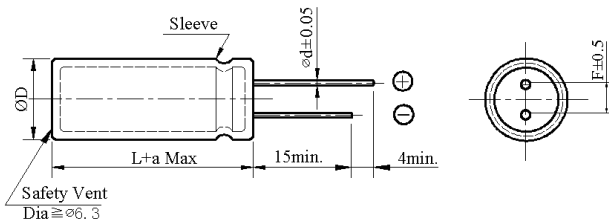
- 105°C Long Life (10,000 hours), Miniature size
Body diameter of $\Phi 10\text{mm}$ to $\Phi 12.5\text{mm}$ with high ripple current capability.



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)	<table border="1"> <thead> <tr> <th>Rated Voltage (V)</th> <th>200</th> <th>220</th> <th>250</th> <th>400</th> <th>420</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>tanδ(Max)</td> <td>0.20</td> <td>0.20</td> <td>0.20</td> <td>0.20</td> <td>0.25</td> <td>0.25</td> </tr> </tbody> </table>	Rated Voltage (V)	200	220	250	400	420	450	tan δ (Max)	0.20	0.20	0.20	0.20	0.25	0.25
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tan δ (Max)	0.20	0.20	0.20	0.20	0.25	0.25									
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.														
Endurance	The following requirements shall be satisfied when the capacitor are restored to 25°C after the rated voltage applied for 10,000 hours at 105°C. <table border="1"> <tbody> <tr> <td>Capacitance change</td> <td>$\cong \pm 20\%$ of the initial value</td> </tr> <tr> <td>Dissipation factor(tanδ)</td> <td>$\cong 200\%$ of the specified value</td> </tr> <tr> <td>Leakage current</td> <td>\cong specified value</td> </tr> </tbody> </table>	Capacitance change	$\cong \pm 20\%$ of the initial value	Dissipation factor(tan δ)	$\cong 200\%$ of the specified value	Leakage current	\cong specified value								
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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. <table border="1"> <tbody> <tr> <td>Capacitance change</td> <td>$\cong \pm 20\%$ of the initial value</td> </tr> <tr> <td>Dissipation factor(tanδ)</td> <td>$\cong 200\%$ of the specified value</td> </tr> <tr> <td>Leakage current</td> <td>$\cong 200\%$ of the specified value</td> </tr> </tbody> </table>	Capacitance change	$\cong \pm 20\%$ of the initial value	Dissipation factor(tan δ)	$\cong 200\%$ of the specified value	Leakage current	$\cong 200\%$ of the specified value								
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Others	Conforms to JIS-C-5101-4 (1998), characteristic W.														

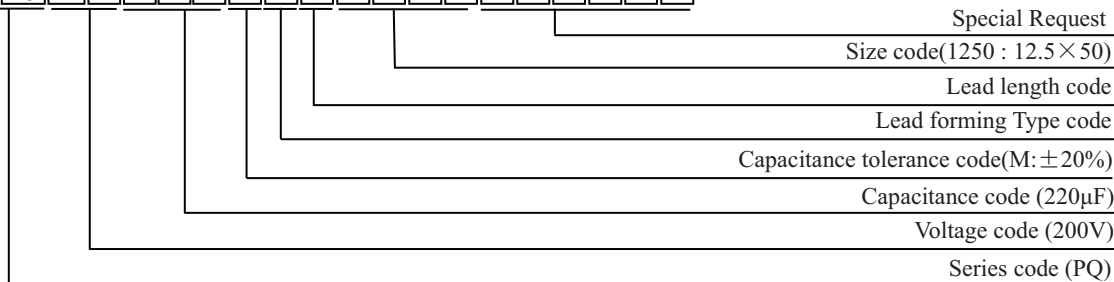
DIMENSIONS (mm)



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	5.0	
a	L + 1.5 Max	$\leq 35 L + 1.5 \text{Max}$	$\geq 40 L + 2.0 \text{Max}$

PART NUMBERING SYSTEM (Example : 200V 220 μF)

P	Q	2	D	2	2	I	M	N	N	1	2	5	0						
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PQ Series

◆ 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					10×45	505
82			10×45	530	10×50	610
100	10×45	630	10×50	660	12.5×35	690
120	10×55	750	12.5×35	740	12.5×40	790
150	12.5×35	800	12.5×40	860	12.5×45	920
180	12.5×40	920	12.5×45	990		
220	12.5×50	1090				

uF \ Vdc	400		420		450	
	ΦD × L	RC	ΦD × L	RC	ΦD × L	RC
33			10×50	370	10×55	360
					12.5×30	370
39	10×50	400	10×55	410	12.5×35	420
			12.5×30	390		
47	10×55	450	12.5×35	450	12.5×40	480
	12.5×35	440				
56	12.5×40	500	12.5×40	520	12.5×45	530
68	12.5×45	580	12.5×50	580		
82	12.5×55	650				

◆ 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