



RPL Series

Features

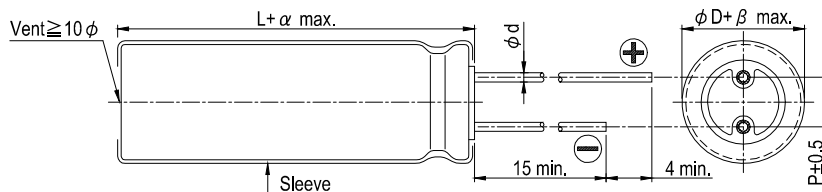
- 105°C, 5,000 hours assured
- 10 ϕ ~ 18 ϕ with large permissible ripple current
- Slim type included
- RoHS compliant



Specifications

Items	Performance																								
Category Temperature Range	400V			420 ~ 450V																					
	-40°C ~ +105°C			-25°C ~ +105°C																					
Capacitance Tolerance	± 20% (at 120 Hz, 20°C)																								
Leakage Current (at 20°C)	<table><tr><td>Time</td><td colspan="4">after 5 minutes</td></tr><tr><td rowspan="2">Leakage Current</td><td colspan="2">CV ≤ 1,000 I = 0.03CV + 15(μA)</td><td colspan="2">CV > 1,000 I = 0.02CV + 25(μA)</td></tr></table>					Time	after 5 minutes				Leakage Current	CV ≤ 1,000 I = 0.03CV + 15(μA)		CV > 1,000 I = 0.02CV + 25(μA)											
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	Leakage Current	CV ≤ 1,000 I = 0.03CV + 15(μA)		CV > 1,000 I = 0.02CV + 25(μA)																					
Where, C = rated capacitance in μF, V = rated DC working voltage in V																									
Tanδ (at 120 Hz, 20°C)	<table><tr><td>Rated Voltage</td><td>400</td><td>420</td><td>450</td></tr><tr><td>Tanδ (max.)</td><td>0.24</td><td>0.24</td><td>0.24</td></tr></table>					Rated Voltage	400	420	450	Tanδ (max.)	0.24	0.24	0.24												
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Low Temperature Characteristics (at 120 Hz)	Impedance ratio shall not exceed the values given in the table below.																								
	Rated Voltage		400	420	450																				
	Impedance Ratio	Z(-25°C) / Z(+20°C)	5	6	6																				
Z(-40°C) / Z(+20°C)		6	-	-																					
Endurance	<table><tr><td>Test Time</td><td colspan="4">5,000 Hrs</td></tr><tr><td>Capacitance Change</td><td colspan="4">Within ± 20% of initial value</td></tr><tr><td>Tanδ</td><td colspan="4">Less than 200% of specified value</td></tr><tr><td>Leakage Current</td><td colspan="4">Within specified value</td></tr></table>					Test Time	5,000 Hrs				Capacitance Change	Within ± 20% of initial value				Tanδ	Less than 200% of specified value				Leakage Current	Within specified value			
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	Tanδ	Less than 200% of specified value																							
	Leakage Current	Within specified value																							
* The above specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied with rated ripple current for 5,000 hours at 105°C.																									
Shelf Life Test	<table><tr><td>Test Time</td><td colspan="4">1,000 Hrs</td></tr><tr><td>Capacitance Change</td><td colspan="4">Within ± 20% of initial value</td></tr><tr><td>Tanδ</td><td colspan="4">Less than 200% of specified value</td></tr><tr><td>Leakage Current</td><td colspan="4">Within specified value</td></tr></table>					Test Time	1,000 Hrs				Capacitance Change	Within ± 20% of initial value				Tanδ	Less than 200% of specified value				Leakage Current	Within specified value			
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	Tanδ	Less than 200% of specified value																							
	Leakage Current	Within specified value																							
* The above specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 105°C without voltage applied. The rated voltage shall be applied to the capacitors before the measurements (Refer to JIS C 5101-4 4.1).																									
Ripple Current and Frequency Multipliers	<table><tr><td>Frequency (Hz)</td><td>60</td><td>120</td><td>500</td><td>1k</td><td>10k up</td></tr><tr><td>Multipliers</td><td>0.80</td><td>1.00</td><td>1.25</td><td>1.40</td><td>1.50</td></tr></table>					Frequency (Hz)	60	120	500	1k	10k up	Multipliers	0.80	1.00	1.25	1.40	1.50								
	Frequency (Hz)	60	120	500	1k	10k up																			
Multipliers	0.80	1.00	1.25	1.40	1.50																				

Diagram of Dimensions



Lead Spacing and Diameter Unit: mm

ϕD	10	12.5	16	18
P	5.0	5.0	7.5	7.5
ϕd	0.6		0.8	
α	2.0			
β	0.5			



Dimension and Permissible Ripple Current
 Dimension: $\phi D \times L(\text{mm})$
 Ripple Current: mA/rms at 105°C

Rated Voltage (V _{DC})	Cap. (μF)	10 ϕ				12.5 ϕ				16 ϕ				18 ϕ			
		$\phi D \times L$	Ripple Current		$\phi D \times L$	Ripple Current		$\phi D \times L$	Ripple Current		$\phi D \times L$	Ripple Current		$\phi D \times L$	Ripple Current		
			120 Hz	100k Hz		120 Hz	100k Hz		120 Hz	100k Hz		120 Hz	100k Hz		120 Hz	100k Hz	
400V (2G)	33	10×35	320	480													
	39	10×40	380	570	12.5×30	380	570										
	47	10×45	425	638													
	56	10×50	490	735	12.5×35	475	713										
	68				12.5×40	550	825	16×31.5	530	795							
	82				12.5×45	615	923	16×35.5	605	908							
	100							16×40	740	1,110							
	120							16×45	795	1,193	18×35.5	730	1,095				
	150							16×50	865	1,300	18×45	910	1,365				
420V (2P)	33	10×40	350	525													
	39	10×45	390	585	12.5×30	380	570										
	47	10×50	445	668	12.5×35	410	615										
	56				12.5×40	490	735	16×31.5	475	713							
	68				12.5×45	560	840	16×35.5	550	825							
	82				12.5×50	625	938	16×40	630	945							
	100							16×45	750	1,125	18×35.5	675	1,013				
	120							16×50	865	1,298	18×40 18×45	810 825	1,238 1,215				
	150										18×45 18×50	950 950	1,425 1,425				
450V (2W)	33	10×45	315	475	12.5×30	350	525										
	39	10×50	360	545	12.5×35	400	600										
	47				12.5×40	425	683	16×31.5	455	683							
	56				12.5×45	500	750	16×35.5	560	750							
	68				12.5×50	540	810	16×40 16×35.5	590 530	885 795							
	82							16×45	675	1,013	18×35.5	645	968				
	100							16×50	785	1,178	18×40 18×35.5	740 685	1,110 1,025				
	120										18×45 18×40	825 790	1,238 1,185				
	150										18×50	950	1,425				

Remark: Other sizes and specification are available, please contact us for detail.

Part Numbering System

RPL Series	33 μF	$\pm 20\%$	450V	Bulk Package	Gas Type	10 ϕ × 45L	General Purpose
RPL	330	M	2W	BK	-	1045	
Series Name	Capacitance	Capacitance Tolerance	Rated Voltage	Lead Configuration and Package	Rubber Type	Case Size	Application

Note: For more details, please refer to "Part Numbering System - Radial Type" on page 139.