

RXJ Series

Features

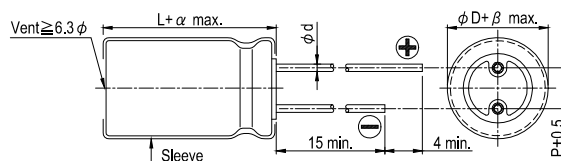
- 105°C, 2,000 ~ 5,000 hours assured
- Low ESR, suitable for switching power supplies
- Smaller size with large permissible ripple current
- RoHS compliant



Specifications

Items	Performance																																										
Category	6.3 ~ 63V				100V																																						
Temperature Range	-55°C ~ +105°C				-40°C ~ +105°C																																						
Capacitance Tolerance	± 20% (at 120 Hz, 20°C)																																										
Leakage Current (at 20°C)	I = 0.01CV or 3 (μA) whichever is greater (after 2 minutes) 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>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td></tr><tr><td>Tanδ (max.)</td><td>0.22</td><td>0.19</td><td>0.16</td><td>0.14</td><td>0.12</td><td>0.10</td><td>0.09</td><td>0.08</td></tr></table> When the capacitance exceeds 1,000μF, 0.02 shall be added every 1,000μF increase.								Rated Voltage	6.3	10	16	25	35	50	63	100	Tanδ (max.)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08																	
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Low Temperature Characteristics (at 120 Hz)	Impedance ratio shall not exceed the values given in the table below. <table><tr><td colspan="2">Rated Voltage</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td></tr><tr><td>Impedance Ratio</td><td>Z(-55°C) / Z(+20°C)</td><td>4</td><td>4</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td></tr></table>								Rated Voltage		6.3	10	16	25	35	50	63	100	Impedance Ratio	Z(-55°C) / Z(+20°C)	4	4	3	3	3	3	3	3															
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Endurance	<table><tr><td>Test Time</td><td>2,000 Hrs for ϕ D ≤ 8 mm; 5,000 Hrs for ϕ D ≥ 10 mm</td></tr><tr><td>Capacitance Change</td><td>Within ± 20% of initial value</td></tr><tr><td>Tanδ</td><td>Less than 200% of specified value</td></tr><tr><td>Leakage Current</td><td>Within specified value</td></tr></table> * The above specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied with rated ripple current for 2,000/5,000 hours at 105°C.								Test Time	2,000 Hrs for ϕ D ≤ 8 mm; 5,000 Hrs for ϕ D ≥ 10 mm	Capacitance Change	Within ± 20% of initial value	Tanδ	Less than 200% of specified value	Leakage Current	Within specified value																											
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Shelf Life Test	<table><tr><td>Test Time</td><td>1,000 Hrs</td></tr><tr><td>Capacitance Change</td><td>Within ± 20% of initial value</td></tr><tr><td>Tanδ</td><td>Less than 200% of specified value</td></tr><tr><td>Leakage Current</td><td>Within specified value</td></tr></table> * 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.								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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Ripple Current and Frequency Multipliers	<table><tr><th>Cap.(μF) \ Freq.(Hz)</th><th>60 (50)</th><th>120</th><th>500</th><th>1k</th><th>10k</th><th>100k</th></tr><tr><td>≤ 33</td><td>0.40</td><td>0.55</td><td>0.65</td><td>0.80</td><td>0.90</td><td>1.00</td></tr><tr><td>39 ~ 330</td><td>0.60</td><td>0.70</td><td>0.80</td><td>0.90</td><td>0.95</td><td>1.00</td></tr><tr><td>390 ~ 1,000</td><td>0.65</td><td>0.80</td><td>0.85</td><td>0.98</td><td>1.00</td><td>1.00</td></tr><tr><td>1,200 ≤</td><td>0.80</td><td>0.90</td><td>0.95</td><td>0.98</td><td>1.00</td><td>1.00</td></tr></table>								Cap.(μF) \ Freq.(Hz)	60 (50)	120	500	1k	10k	100k	≤ 33	0.40	0.55	0.65	0.80	0.90	1.00	39 ~ 330	0.60	0.70	0.80	0.90	0.95	1.00	390 ~ 1,000	0.65	0.80	0.85	0.98	1.00	1.00	1,200 ≤	0.80	0.90	0.95	0.98	1.00	1.00
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Diagram of Dimensions



Lead Spacing and Diameter

Unit: mm

ϕD	5	6.3	8	10	12.5	16	18
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5
ϕd	0.5		0.6			0.8	
α	L<20: 1.5, L $\geq$ 20: 2.0						
β	0.5						

All product specifications in the catalog are subject to change without notice. (Cat. 2025E3)

Dimension: $\phi D \times L$ (mm)
Impedance: Ω / at 100k Hz
Ripple Current: mA/rms at 105°C

Dimension and Permissible Ripple Current

Cap. (μF)	Rated Volt. (V _{DC})	Contents	6.3V (0J)					10V (1A)					16V (1C)				
			$\phi D \times L$	Impedance (Ω , max./100k Hz)		Ripple Current (mA/rms, 105°C)		$\phi D \times L$	Impedance (Ω , max./100k Hz)		Ripple Current (mA/rms, 105°C)		$\phi D \times L$	Impedance (Ω , max./100k Hz)		Ripple Current (mA/rms, 105°C)	
				20°C	-10°C	120 Hz	100k Hz		20°C	-10°C	120 Hz	100k Hz		20°C	-10°C	120 Hz	100k Hz
33													5×11	1.30	3.90	108	154
39													5×11	1.30	3.90	108	154
47								5×11	2.10	5.50	78	111	6.3×11	0.60	1.80	182	260
56								5×11	1.90	4.80	85	121	6.3×11	0.60	1.80	182	260
68								5×11	1.30	3.90	108	154	6.3×11	0.60	1.80	182	260
100			5×11	1.30	3.90	108	154	6.3×11	0.60	1.80	182	260	6.3×11	0.60	1.80	182	260
220			6.3×11	0.60	1.80	182	260	8×11.5	0.33	0.99	280	400	8×11.5	0.33	0.99	320	400
330			8×11.5	0.33	0.88	280	400	8×11.5	0.33	0.99	280	400	10×12.5	0.25	0.75	360	510
390			8×11.5	0.33	0.88	320	400	10×12.5	0.27	0.75	410	510	10×16	0.19	0.57	510	635
470			10×12.5	0.25	0.75	410	510	10×12.5	0.25	0.75	410	510	10×16	0.19	0.57	510	635
560			10×12.5	0.25	0.75	410	510	10×16	0.19	0.57	510	635	10×20	0.14	0.42	775	860
680			10×16	0.19	0.57	510	635	10×16	0.19	0.57	510	635	10×20	0.14	0.42	775	860
1,000			10×20	0.14	0.42	690	860	10×20	0.14	0.37	690	860	12.5×20	0.085	0.26	1,000	1,250
1,200			10×20	0.14	0.42	775	860	10×25	0.12	0.30	930	1,030	12.5×20	0.085	0.26	1,125	1,250
2,200			12.5×20	0.085	0.26	1,125	1,250	12.5×25	0.070	0.21	1,200	1,355	12.5×25	0.070	0.21	1,200	1,355
3,300			12.5×25	0.070	0.21	1,200	1,355	12.5×25	0.070	0.21	1,200	1,355	16×31.5	0.048	0.14	1,830	2,030
4,700			16×25	0.060	0.18	1,595	1,770	16×31.5	0.048	0.14	1,830	2,030	16×35.5	0.044	0.13	2,065	2,295

Cap. (μF)	Rated Volt. (V _{DC})	Contents	25V (1E)					35V (1V)					50V (1H)				
			$\phi D \times L$	Impedance (Ω , max./100k Hz)		Ripple Current (mA/rms, 105°C)		$\phi D \times L$	Impedance (Ω , max./100k Hz)		Ripple Current (mA/rms, 105°C)		$\phi D \times L$	Impedance (Ω , max./100k Hz)		Ripple Current (mA/rms, 105°C)	
				20°C	-10°C	120 Hz	100KHz		20°C	-10°C	120 Hz	100KHz		20°C	-10°C	120 Hz	100KHz
2.2													5×11	4.0	12.0	48	88
3.3													5×11	3.50	11.0	52	94
4.7													5×11	3.00	9.00	55	100
6.8													5×11	3.00	9.00	55	100
10													5×11	2.00	6.00	68	124
22								5×11	1.30	3.90	108	154	6.3×11	0.60	1.80	143	260
33			5×11	1.30	3.90	108	154	6.3×11	0.60	1.80	182	260	6.3×11	0.60	1.80	143	260
39			6.3×11	0.60	1.80	182	260	6.3×11	0.60	1.80	182	260	6.3×11	0.60	1.80	182	260
47			6.3×11	0.60	1.80	182	260	6.3×11	0.60	1.80	182	260	8×11.5	0.33	0.99	320	400
56			6.3×11	0.60	1.80	182	260	6.3×11	0.60	1.80	182	260	8×11.5	0.33	0.99	320	400
68			6.3×11	0.60	1.80	182	260	6.3×11	0.60	1.80	182	260	8×11.5	0.33	0.99	320	400
100			8×11.5	0.33	0.99	320	400	8×11.5	0.33	0.99	320	400	10×16	0.19	0.57	445	635
220			10×12.5	0.25	0.75	360	510	10×16	0.19	0.57	445	635	10×25	0.12	0.30	825	1,030
330			10×16	0.19	0.57	445	635	10×20	0.12	0.42	600	860	12.5×20	0.085	0.26	875	1,250
390			10×20	0.14	0.42	775	965	10×25	0.12	0.30	930	1,030	12.5×25	0.070	0.21	1,085	1,355
470			10×20	0.14	0.42	775	965	12.5×20	0.085	0.26	1,000	1,250	12.5×25	0.070	0.21	1,085	1,355
560			10×25	0.12	0.30	930	1,030	12.5×20	0.085	0.26	1,000	1,250	12.5×25	0.070	0.21	1,085	1,355
680			12.5×20	0.085	0.26	1,000	1,250	12.5×25	0.070	0.21	1,085	1,355	16×25	0.060	0.18	1,415	1,770
1,000			12.5×25	0.070	0.23	1,080	1,355	12.5×25	0.070	0.21	1,085	1,355	16×25	0.060	0.18	1,595	1,770
1,200			12.5×25	0.070	0.21	1,200	1,355	12.5×25	0.070	0.21	1,200	1,355	16×31.5	0.048	0.14	1,830	2,030
2,200			16×25	0.060	0.18	1,595	1,770	16×35.5	0.044	0.13	2,065	2,295	18×40	0.037	0.10	2,465	2,740
3,300			16×35.5	0.044	0.13	2,065	2,295	18×40	0.037	0.10	2,465	2,740					
4,700			18×40	0.037	0.10	2,465	2,740										

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Dimension: $\phi D \times L$ (mm)
 Impedance: Ω / at 100k Hz
 Ripple Current: mA/rms at 105°C

Dimension and Permissible Ripple Current

Cap. (μ F)	Contents	63V (1J)					100V (2A)				
		$\phi D \times L$	Impedance (Ω , max./100k Hz)		Ripple Current (mA/rms, 105°C)		$\phi D \times L$	Impedance (Ω , max./100k Hz)		Ripple Current (mA/rms, 105°C)	
			20°C	-10°C	120 Hz	100k Hz		20°C	-10°C	120 Hz	100k Hz
2.2							5×11	6.00	21.0	40	72
3.3							5×11	5.00	18.0	43	78
4.7							6.3×11	1.20	4.20	100	180
6.8							6.3×11	1.20	4.20	100	180
10		6.3×11	1.20	4.20	100	180	8×11.5	0.56	2.00	168	305
22		6.3×11	1.20	4.20	100	180	8×11.5	0.56	2.00	168	308
33		8×11.5	0.56	2.00	170	305	10×12.5	0.50	1.80	210	380
39		8×11.5	0.56	2.00	170	305	10×16	0.32	1.10	350	500
47		8×11.5	0.56	2.00	170	305	10×20	0.27	0.95	435	620
56		10×12.5	0.50	1.80	265	380	10×20	0.27	0.95	435	620
68		10×12.5	0.50	1.80	265	380	10×25	0.21	0.63	530	760
100		10×20	0.27	0.95	435	620	12.5×20	0.16	0.56	625	890
220		12.5×20	0.094	0.24	570	820	16×25	0.090	0.32	1,010	1,440
330		12.5×25	0.073	0.21	770	1,100	16×31.5	0.060	0.17	1,255	1,790
390		12.5×25	0.073	0.21	770	1,100	16×35.5	0.056	0.14	1,650	2,065
470		16×25	0.060	0.18	1,420	1,770					
560		16×31.5	0.048	0.14	1,625	2,030					
680		16×31.5	0.048	0.14	1,625	2,030					
1,000		18×35.5	0.041	0.11	1,790	2,240					

Part Numbering System

RXJ Series 470 μ F $\pm 20\%$ 6.3V Bulk Package Gas Type 10 $\phi \times 12.5L$
RXJ **471** **M** **0J** **BK** **-** **1012**
 Series Name Capacitance Capacitance Tolerance Rated Voltage Lead Configuration and Package Rubber Type Case Size

Regional Tracking Purpose

S

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

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