

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 Compliance

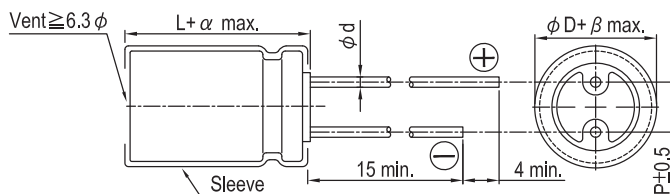


Sleeve & Marking Color: Brown & White

Specifications

Items	Performance																																			
Category	6.3 ~ 63V																																			
Temperature Range	100V																																			
	-55°C ~ +105°C																																			
Capacitance Tolerance	±20% (at 120Hz, 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 120Hz, 20°C)	<table border="1"> <tr> <th>Rated Voltage</th> <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> <th>Tanδ (max)</th> <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> <p>When the capacitance exceeds 1,000μF, 0.02 shall be added every 1,000μF increase.</p>	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																	
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																												
Low Temperature Characteristics (at 120Hz)	<p>Impedance ratio shall not exceed the values given in the table below.</p> <table border="1"> <tr> <th>Rated Voltage</th> <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> <th>Impedance Ratio</th> <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> </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																	
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																												
Endurance	<table border="1"> <tr> <th>Test Time</th> <td>2,000 Hrs for φ D ≤ 8 mm; 5,000 Hrs for φ D ≥ 10 mm</td> </tr> <tr> <th>Capacitance Change</th> <td>Within ±20% of initial value</td> </tr> <tr> <th>Tanδ</th> <td>Less than 200% of specified value</td> </tr> <tr> <th>Leakage Current</th> <td>Within specified value</td> </tr> </table> <p>* 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.</p>	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																											
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																																			
Shelf Life Test	<table border="1"> <tr> <th>Test Time</th> <td>1,000 Hrs</td> </tr> <tr> <th>Capacitance Change</th> <td>Within ±20% of initial value</td> </tr> <tr> <th>Tanδ</th> <td>Less than 200% of specified value</td> </tr> <tr> <th>Leakage Current</th> <td>Within specified value</td> </tr> </table> <p>* 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.</p>	Test Time	1,000 Hrs	Capacitance Change	Within ±20% of initial value	Tanδ	Less than 200% of specified value	Leakage Current	Within specified value																											
Test Time	1,000 Hrs																																			
Capacitance Change	Within ±20% of initial value																																			
Tanδ	Less than 200% of specified value																																			
Leakage Current	Within specified value																																			
Ripple Current and Frequency Multipliers	<table border="1"> <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>Under 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 up above</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	Under 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 up above	0.80	0.90	0.95	0.98	1.00	1.00
Cap.(μF) \ Freq.(Hz)	60 (50)	120	500	1k	10k	100k																														
Under 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 up above	0.80	0.90	0.95	0.98	1.00	1.00																														

Diagram of Dimensions



Lead Spacing and Diameter Unit: mm

	5	6.3	8	10	12.5	16	18
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≥20: 2.0						
β	0.5						



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

Dimension and Permissible Ripple Current

Cap. (μF)	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)	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	120Hz	100KHz		20°C	-10°C	120Hz	100KHz		20°C	-10°C	120Hz	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											

Radial



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

Ripple Current: mA/rms at 100k Hz, 105°C

Dimension and Permissible Ripple Current

Cap. (μF)	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 μF	$\pm 20\%$	6.3V	Bulk Package	Gas Type	10 $\phi \times 12.5L$	Pb-free and PET sleeve
RXJ	471	M	0J	BK	-	1012	
Series Name	Capacitance	Capacitance Tolerance	Rated Voltage	Lead Configuration & Package	Rubber Type	Case Size	Lead Wire and Sleeve type

Note: For more details, please refer to "Part Numbering System (Radial Type)" on page 13.

Radial