

RXK Series

Features

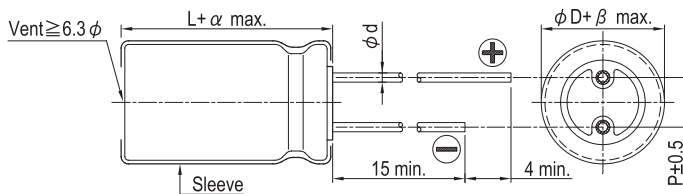
- 105°C, 2,000 ~ 5,000 hours assured
- Low ESR, suitable for switching power supplies
- Smaller size with large permissible ripple current
- RoHS compliant



Specifications

Items	Performance																																			
Category Temperature Range	-55°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 border="1"> <thead> <tr> <th>Rated Voltage</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> </tr> </thead> <tbody> <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> </tr> </tbody> </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	Tanδ (max)	0.22	0.19	0.16	0.14	0.12	0.10	0.09																			
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Low Temperature Characteristics (at 120 Hz)	<p>Impedance ratio shall not exceed the values given in the table below.</p> <table border="1"> <thead> <tr> <th>Rated Voltage</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> </tr> </thead> <tbody> <tr> <td>Impedance Ratio 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> </tbody> </table>	Rated Voltage	6.3	10	16	25	35	50	63	Impedance Ratio Z(-55°C)/Z(+20°C)	4	4	3	3	3	3	3																			
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Ripple Current and Frequency Multipliers	<table border="1"> <thead> <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> </thead> <tbody> <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> </tbody> </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

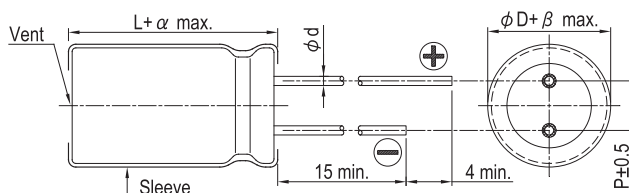


Lead Spacing and Diameter

Unit: mm

φ D	5	6.3	8	10	12.5	16	18
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5
φ d	0.5		0.6			0.8	
α	L < 20: 1.5, L ≥ 20: 2.0						
β	0.5						

The case size of 16×20 is suitable for below diagram:



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

Dimension and Permissible Ripple Current

Rated Volt. (V _{DC}) Contents Cap. (μF)	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	
56											5×11	0.72	1.8	116	165
68											5×11	0.72	1.8	126	180
82						5×11	0.72	1.8	116	165					
100						5×11	0.72	1.8	126	180					
120	5×11	0.72	1.8	116	165						6.3×11	0.38	0.95	179	255
180						6.3×11	0.38	0.95	179	255	6.3×15	0.27	0.68	231	330
220	6.3×11	0.38	0.95	179	255	6.3×11	0.38	0.95	196	280					
270	6.3×11	0.38	0.95	196	280	6.3×15	0.27	0.68	231	330	8×11.5 10×12.5	0.20 0.12	0.50 0.30	291 438	415 625
330	6.3×15	0.27	0.68	231	330	8×11.5	0.20	0.50	291	415	8×11.5 8×15 10×12.5	0.20 0.16 0.12	0.50 0.40 0.30	315 347 540	450 495 675
390	8×11.5	0.20	0.50	332	415	8×11.5 10×12.5	0.20 0.12	0.50 0.30	360 500	450 625					
470	8×11.5 10×12.5	0.20 0.12	0.50 0.30	360 500	450 625	8×15 10×12.5	0.16 0.12	0.40 0.30	396 540	495 675	8×15 8×20 10×16	0.16 0.11 0.084	0.40 0.28 0.21	472 512 660	590 640 825
560	8×15 10×12.5	0.16 0.12	0.40 0.30	396 540	495 675	8×15	0.16	0.40	472	590	8×20 10×16	0.11 0.084	0.28 0.21	560 728	700 910
680	10×16	0.084	0.21	660	825	8×20 10×16	0.11 0.084	0.28 0.21	512 660	640 825	10×20	0.062	0.16	832	1,040
820	8×15 8×20 10×16	0.16 0.11 0.084	0.40 0.28 0.21	472 512 728	590 640 910	8×20 10×16	0.11 0.084	0.28 0.21	560 728	700 910	10×20 10×25	0.062 0.052	0.16 0.13	904 1,008	1,130 1,260
1,000	8×20	0.11	0.28	560	700	10×20	0.062	0.16	832	1,040	10×25	0.052	0.13	1,112	1,390
1,200	10×20	0.062	0.16	936	1,040	10×20 10×25	0.062 0.052	0.16 0.13	1,017 1,134	1,130 1,260	10×30 12.5×20	0.044 0.046	0.11 0.12	1,296 1,206	1,440 1,340
1,500	10×20 10×25	0.062 0.052	0.16 0.13	1,017 1,134	1,130 1,260	10×25 10×30	0.052 0.044	0.13 0.11	1,251 1,296	1,390 1,440	10×30 12.5×20 12.5×25	0.044 0.046 0.034	0.11 0.12 0.085	1,413 1,305 1,521	1,570 1,450 1,690
1,800	10×25	0.052	0.13	1,251	1,390	10×30 12.5×20	0.044 0.046	0.11 0.12	1,413 1,206	1,570 1,340	12.5×25	0.034	0.085	1,629	1,810
2,200	10×30 12.5×20	0.044 0.046	0.11 0.12	1,296 1,206	1,440 1,340	12.5×20 12.5×25	0.046 0.034	0.12 0.085	1,305 1,521	1,450 1,690	12.5×30 16×20	0.030 0.035	0.075 0.087	1,755 1,485	1,950 1,650
2,700	10×30 12.5×20 12.5×25	0.044 0.046 0.034	0.11 0.12 0.085	1,413 1,305 1,521	1,570 1,450 1,690	12.5×25 12.5×30	0.034 0.030	0.085 0.075	1,629 1,755	1,810 1,950	12.5×30 12.5×35 16×25	0.030 0.027 0.028	0.075 0.068 0.070	1,917 1,980 1,863	2,130 2,200 2,070
3,300	12.5×25	0.034	0.085	1,629	1,810	12.5×30 12.5×35	0.030 0.027	0.075 0.068	1,917 1,980	2,130 2,200	12.5×35 12.5×40 16×25	0.027 0.024 0.028	0.068 0.060 0.070	2,151 2,196 2,025	2,390 2,440 2,250
3,900	12.5×30	0.030	0.075	1,755	1,950	12.5×35 12.5×40 16×20 16×25	0.027 0.024 0.035 0.028	0.068 0.060 0.087 0.070	2,196 2,151 1,692 1,863	2,390 2,440 1,880 2,070	16×31.5	0.025	0.063	2,115	2,350
4,700	12.5×30 12.5×35 16×20	0.030 0.027 0.035	0.075 0.068 0.087	1,917 1,980 1,440	2,130 2,200 1,600	12.5×40 16×25	0.024 0.028	0.060 0.070	2,358 2,025	2,620 2,250	16×31.5 16×35.5	0.025 0.022	0.055 0.055	2,295 2,295	2,550 2,550
5,600	12.5×35 12.5×40 16×25	0.027 0.024 0.028	0.068 0.060 0.070	2,151 2,196 1,863	2,390 2,440 2,070	16×31.5	0.025	0.063	2,115	2,350	16×35.5 16×40	0.022 0.018	0.055 0.045	2,394 2,610	2,660 2,900
6,800	12.5×40 16×25 16×31.5	0.024 0.028 0.025	0.060 0.070 0.063	2,358 2,025 2,115	2,620 2,250 2,350	16×31.5 16×35.5	0.025 0.022	0.063 0.055	2,295 2,295	2,550 2,550	16×40 18×35.5	0.018 0.021	0.045 0.053	2,844 2,448	3,160 2,720
8,200	16×31.5	0.025	0.063	2,295	2,550	16×35.5	0.022	0.055	2,448	2,720	18×35.5	0.021	0.053	2,601	2,890
10,000	16×35.5	0.022	0.055	2,691	2,990										

Radial



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

Dimension and Permissible Ripple Current

Cap. (μF)	Contents	63V(1J)				
		$\phi D \times L$	Impedance (Ω , max./100k Hz)		Ripple Current (mA/rms, 105°C)	
			20°C	-10°C	120 Hz	100k Hz
12	5×11	1.90	4.78	55	100	
27	6.3×11	1.10	2.78	88	160	
33	6.3×11	1.10	2.75	96	175	
39	6.3×15	0.62	1.55	161	230	
47	8×11.5	0.49	1.23	193	275	
56	8×11.5	0.49	1.23	203	290	
	10×12.5	0.27	0.675	294	420	
68	8×15	0.34	0.850	252	360	
	10×12.5	0.27	0.675	354	505	
	10×16	0.21	0.525	366	523	
82	8×20	0.21	0.525	350	500	
100	8×15	0.34	0.850	308	440	
120	10×16	0.210	0.525	455	650	
	10×20	0.160	0.400	490	700	
150	8×20	0.210	0.525	476	680	
	10×25	0.130	0.325	546	780	
180	10×20	0.160	0.400	553	790	
	10×30	0.100	0.250	672	960	
220	10×25	0.130	0.325	648	925	
	12.5×20	0.110	0.275	609	870	
270	10×30	0.100	0.250	812	1,160	
	12.5×25	0.074	0.185	805	1,150	
330	12.5×20	0.110	0.275	746	1,065	
390	12.5×25	0.074	0.185	1,088	1,280	
	12.5×30	0.068	0.170	1,024	1,360	
470	12.5×30	0.068	0.170	1,120	1,360	
	12.5×35	0.063	0.158	1,112	1,400	
	16×20	0.059	0.148	1,080	1,350	
	16×25	0.055	0.138	1,184	1,480	
560	12.5×40	0.051	0.128	1,224	1,530	
	16×25	0.055	0.138	1,296	1,620	
680	12.5×40	0.051	0.128	1,336	1,670	
	16×31.5	0.046	0.115	1,376	1,720	
820	12.5×40	0.051	0.128	1,480	1,850	
	16×31.5	0.046	0.115	1,512	1,890	
	16×35.5	0.040	0.100	1,528	1,910	
1,000	16×35.5	0.040	0.100	1,576	1,970	
	18×35.5	0.040	0.100	1,688	2,110	
1,500	18×35.5	0.040	0.100	2,169	2,410	

Radial

Part Numbering System

RXK Series 470 μF $\pm 20\%$ 6.3V Bulk Package Gas Type 8 $\phi \times 11.5L$ General Purpose

RXK **471** **M** **0J** **BK** - **0811**

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.