



**THE DATASHEET OF  
RXW102M1VBK-1325S**



### Features

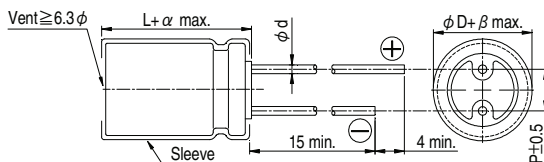
- 105°C, 4,000 ~ 7,000 hours assured
- Low ESR, suitable for switching power supplies
- Smaller size with large permissible ripple current
- RoHS compliance



### Specifications

Items	Performance																															
Category Temperature Range	6.3 ~ 63V	100V																														
	-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 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> <th>100</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> <td>0.08</td> </tr> </tbody> </table>		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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Tanδ (max)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08																								
When the capacitance exceeds 1000µF, 0.02 shall be added every 1000µF increase.																																
Low Temperature Characteristics (at 120 Hz)	Impedance ratio shall not exceed the values given in the table below.																															
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Impedance Ratio	Z(-55°C/-40°C) / Z(+20°C)	3	3	3	3	3	3	3																								
Endurance	Test Time	4,000 Hrs for φ D ≤ 6.3 mm; 5,000 Hrs for φ D = 8 mm; 6,000 Hrs for φ D = 10 mm; 7,000 Hrs for φ D ≥ 12.5 mm																														
	Capacitance Change	Within ±25% of initial value																														
	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 4,000 ~ 7,000 hours at 105°C.																																
Shelf Life Test	Test Time	1,000 Hrs																														
	Capacitance Change	Within ±25% of initial value																														
	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.																																
Ripple Current and Frequency Multipliers	<table border="1"> <thead> <tr> <th>Cap.(µF) \ Freq.(Hz)</th> <th>120</th> <th>1k</th> <th>10k</th> <th>100k up</th> </tr> </thead> <tbody> <tr> <td>≤ ~ 33</td> <td>0.42</td> <td>0.70</td> <td>0.90</td> <td>1.0</td> </tr> <tr> <td>39 ~ 270</td> <td>0.5</td> <td>0.73</td> <td>0.92</td> <td>1.0</td> </tr> <tr> <td>330 ~ 680</td> <td>0.55</td> <td>0.77</td> <td>0.94</td> <td>1.0</td> </tr> <tr> <td>820 ~ 1,800</td> <td>0.6</td> <td>0.80</td> <td>0.96</td> <td>1.0</td> </tr> <tr> <td>2,200 ~ 15,000</td> <td>0.7</td> <td>0.85</td> <td>0.98</td> <td>1.0</td> </tr> </tbody> </table>		Cap.(µF) \ Freq.(Hz)	120	1k	10k	100k up	≤ ~ 33	0.42	0.70	0.90	1.0	39 ~ 270	0.5	0.73	0.92	1.0	330 ~ 680	0.55	0.77	0.94	1.0	820 ~ 1,800	0.6	0.80	0.96	1.0	2,200 ~ 15,000	0.7	0.85	0.98	1.0
	Cap.(µF) \ Freq.(Hz)	120	1k	10k	100k up																											
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	820 ~ 1,800	0.6	0.80	0.96	1.0																											
2,200 ~ 15,000	0.7	0.85	0.98	1.0																												

### Diagram of Dimensions

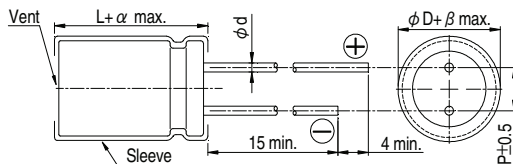


### Lead Spacing and Diameter

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, 18×20 and 18×25 are suitable for below diagram:



All product specifications in the catalog are subject to change without notice. (Cat. 2023E1)

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

Dimension and Permissible Ripple Current

Rated Volt. (Voc)	6.3V (0J)				10V (1A)				16V (1C)				25V (1E)			
	$\phi D \times L$	Impedance ( $\Omega$ , max./100kHz)		Ripple Current (mA/rms,105°C)	$\phi D \times L$	Impedance ( $\Omega$ , max./100kHz)		Ripple Current (mA/rms,105°C)	$\phi D \times L$	Impedance ( $\Omega$ , max./100kHz)		Ripple Current (mA/rms,105°C)	$\phi D \times L$	Impedance ( $\Omega$ , max./100kHz)		Ripple Current (mA/rms,105°C)
		20°C	-10°C	100k Hz		20°C	-10°C	100k Hz		20°C	-10°C	100k Hz		20°C	-10°C	100k Hz
4.7													5x11	0.6	1.2	180
10									5x11	0.6	1.2	180	5x11	0.6	1.2	180
22	5x11	0.6	1.2	180	5x11	0.6	1.2	180	5x11	0.6	1.2	180	5x11	0.6	1.2	180
33	5x11	0.6	1.2	180	5x11	0.6	1.2	180	5x11	0.6	1.2	180	5x11	0.6	1.2	180
39													5x11	0.6	1.2	180
47	5x11	0.6	1.2	180	5x11	0.6	1.2	180	5x11	0.6	1.2	180	5x11	0.6	1.2	180
56									5x11	0.6	1.2	180				
82					5x11	0.6	1.2	180					6.3x11	0.25	0.50	290
100	5x11	0.6	1.2	180	5x11	0.6	1.2	180	6.3x11	0.25	0.5	290	6.3x11	0.25	0.50	290
120									6.3x11	0.25	0.5	290	6.3x15	0.23	0.46	430
150	6.3x11	0.25	0.5	290	6.3x11	0.25	0.5	290	6.3x11	0.25	0.5	290	8x11.5	0.117	0.234	555
180					6.3x11	0.25	0.5	290	6.3x15	0.23	0.46	430				
220	6.3x11	0.25	0.5	290	6.3x11	0.25	0.5	290	6.3x15	0.23	0.46	430	8x11.5	0.117	0.234	555
330	6.3x11 6.3x15	0.25 0.23	0.50 0.46	290 430	8x11.5	0.117	0.234	555	8x11.5	0.117	0.234	555	8x15 10x12.5	0.085 0.090	0.17 0.18	730 755
470	8x11.5	0.117	0.234	555	8x11.5	0.117	0.234	555	8x15 10x12.5	0.085 0.090	0.17 0.18	730 755	8x20 10x16	0.065 0.068	0.130 0.136	995 1,050
560	8x11.5	0.117	0.234	555									10x20	0.052	0.104	1,220
680	10x12.5	0.090	0.180	755	8x15 10x12.5	0.085 0.090	0.170 0.180	730 755	8x20 10x16	0.065 0.068	0.130 0.136	995 1,050	10x20	0.052	0.104	1,220
820	8x15 10x12.5	0.085 0.090	0.170 0.180	730 755					10x20	0.052	0.104	1,220	10x25	0.045	0.090	1,440
1,000	10x12.5	0.090	0.180	755	8x20 10x16	0.065 0.068	0.130 0.136	995 1,050	10x20	0.052	0.104	1,220	10x30 12.5x20	0.035 0.038	0.070 0.076	1,815 1,655
1,200	8x20 10x16	0.065 0.068	0.130 0.136	955 1,050	10x20	0.052	0.104	1,220	10x25	0.045	0.090	1,440				
1,500	10x20	0.052	0.104	1,220	10x20 10x25	0.052 0.045	0.104 0.090	1,220 1,440	12.5x20 10x30	0.038 0.035	0.076 0.070	1,655 1,815	12.5x25 16x25	0.030 0.022	0.060 0.044	1,945 2,555
1,800													12.5x30 16x20	0.025 0.029	0.050 0.058	2,310 2,205
2,200	10x25 12.5x20	0.045 0.038	0.090 0.076	1,440 1,615	10x30 12.5x20	0.035 0.038	0.070 0.076	1,815 1,655	12.5x25	0.030	0.06	1,945	12.5x35 16x25 18x20	0.022 0.022 0.028	0.044 0.044 0.056	2,510 2,555 2,490
2,700	10x30	0.035	0.070	1,815	12.5x25	0.030	0.060	1,945	12.5x30 16x20	0.025 0.029	0.05 0.058	2,310 2,205	16x25	0.022	0.044	2,555
3,300	12.5x20	0.038	0.076	1,655	12.5x25 12.5x30	0.030 0.025	0.060 0.050	1,945 2,310	16x25 12.5x35	0.022 0.022	0.044 0.044	2,555 2,510	16x31.5 18x25	0.018 0.020	0.036 0.040	3,010 2,740
3,900	12.5x25	0.030	0.060	1,945	12.5x35 16x20	0.022 0.029	0.044 0.058	2,510 2,205	16x25 18x20	0.022 0.028	0.044 0.056	2,555 2,490	16x35.5 18x31.5	0.016 0.016	0.032 0.032	3,150 3,635
4,700	12.5x30 16x25	0.025 0.022	0.050 0.044	2,310 2,555	16x25	0.022	0.044	2,555	16x31.5 18x25	0.018 0.020	0.036 0.040	3,010 2,740	18x35.5	0.015	0.030	3,680
5,600	12.5x35 16x20	0.022 0.029	0.044 0.058	2,510 2,205	16x25 18x20	0.022 0.028	0.044 0.056	2,555 2,490	16x35.5 18x31.5	0.016 0.016	0.032 0.032	3,150 3,635				
6,800	16x25 18x20	0.022 0.028	0.044 0.056	2,555 2,490	16x31.5 18x25	0.018 0.020	0.036 0.040	3,010 2,740	18x35.5	0.015	0.030	3,680	18x40	0.014	0.028	3,800
8,200	16x31.5	0.018	0.036	3,010	16x35.5 18x31.5	0.016 0.016	0.032 0.032	3,150 3,635	18x35.5	0.015	0.030	3,680				
10,000	16x31.5 18x25	0.016 0.020	0.032 0.040	3,150 2,740	18x35.5	0.015	0.030	3,680	18x40	0.014	0.028	3,800				
12,000	18x31.5	0.016	0.032	3,635												
15,000	18x35.5	0.015	0.030	3,680	18x40	0.014	0.028	3,800								

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

### Dimension and Permissible Ripple Current

Rated Volt. (V <sub>DC</sub> )	35V (1V)				50V (1H)				63V (1J)				100V (2A)			
	$\phi D \times L$	Impedance ( $\Omega$ , max./100kHz)		Ripple Current (mA/rms, 105°C)	$\phi D \times L$	Impedance ( $\Omega$ , max./100kHz)		Ripple Current (mA/rms, 105°C)	$\phi D \times L$	Impedance ( $\Omega$ , max./100kHz)		Ripple Current (mA/rms, 105°C)	$\phi D \times L$	Impedance ( $\Omega$ , max./100kHz)		Ripple Current (mA/rms, 105°C)
		20°C	-10°C	100k Hz		20°C	-10°C	100k Hz		20°C	-10°C	100k Hz		20°C	-10°C	100k Hz
2.2													5x11	9.8	19.6	44
3.3													5x11	6.6	13.2	58
4.7	5x11	0.6	1.2	180	5x11	2.3	4.6	90	5x11	4.7	9.4	68	5x11	4.6	9.2	74
6.8									5x11	2.5	5.0	95	5x11	3.5	7.0	95
10	5x11	0.6	1.2	180	5x11	1.4	2.8	120	5x11	2.1	4.2	110	6.3x11	1.8	3.6	130
12									5x11	2.0	4.0	145				
15									6.3x11	1.2	2.4	160				
18					5x11	1.3	2.6	155					6.3x15	0.80	1.60	200
22	5x11	0.6	1.2	180	5x11	1.2	2.4	170	6.3x11	0.71	1.42	250	8x11.5	0.68	1.36	230
27	5x11	0.6	1.2	180												
33	5x11	0.6	1.2	180	6.3x11	0.43	0.86	300	6.3x11	0.71	1.42	250	8x15 10x12.5	0.45 0.46	0.90 0.92	360 320
39									6.3x15	0.70	1.40	330				
47	6.3x11	0.25	0.5	290	6.3x11	0.43	0.86	300	8x11.5	0.342	0.684	405	10x16 8x20	0.37 0.37	0.74 0.74	420 420
56	6.3x11	0.25	0.5	290	6.3x15	0.40	0.80	360								
68									8x11.5	0.342	0.684	405	10x20	0.30	0.60	490
82	6.3x15	0.23	0.46	430	8x11.5	0.234	0.468	485					10x25	0.25	0.50	540
100	8x11.5	0.117	0.234	555	8x11.5	0.234	0.468	485	10x12.5 8x15	0.256 0.230	0.512 0.460	535 535	12.5x20	0.18	0.36	580
120					8x15 10x12.5	0.155 0.162	0.310 0.324	635 615	10x16	0.194	0.388	600				
150	8x11.5	0.117	0.234	555	10x12.5	0.162	0.324	615	10x16	0.194	0.388	660	12.5x25	0.13	0.26	710
180					8x20 10x16	0.120 0.119	0.240 0.238	860 850	10x20 12.5x16	0.147 0.150	0.294 0.300	885 1,020	12.5x30 16x20	0.12 0.13	0.24 0.26	790 750
220	8x15 10x12.5	0.085 0.090	0.17 0.18	730 755	10x16 10x20	0.119 0.090	0.238 0.180	850 1,030	10x20 10x25	0.147 0.130	0.294 0.260	885 1,050	16x25 18x20	0.10 0.11	0.20 0.22	890 850
270					10x25	0.082	0.164	1,200	16x16	0.090	0.180	1,410				
330	8x20 10x16	0.065 0.068	0.130 0.136	995 1,050	10x20 10x30	0.090 0.060	0.180 0.120	1,030 1,610	12.5x20	0.085	0.170	1,285	16x25	0.090	0.180	1,080
390	10x20	0.052	0.104	1,220	12.5x20	0.063	0.126	1,480	12.5x25 18x16	0.070 0.086	0.140 0.172	1,720 1,690	18x25	0.083	0.166	1,260
470	10x20	0.052	0.104	1,220	12.5x20	0.060	0.120	1,500	12.5x25 12.5x30 16x20	0.070 0.055 0.059	0.140 0.110 0.118	1,720 2,090 1,765	16x31.5	0.076	0.152	1,310
560	10x25	0.045	0.090	1,440	12.5x25	0.050	0.100	1,832	16x25	0.050	0.100	2,160	18x31.5 18x35.5	0.068 0.064	0.136 0.128	1,370 1,410
680	10x30 12.5x20	0.035 0.038	0.070 0.076	1,815 1,655	12.5x25 16x20	0.050 0.048	0.100 0.096	1,832 1,835	12.5x35 18x20	0.047 0.055	0.094 0.110	2,265 2,290				
820					12.5x35 18x20	0.034 0.042	0.068 0.084	2,285 2,200	16x31.5 18x25	0.043 0.043	0.086 0.086	2,670 2,585	18x40	0.047	0.094	1,520
1,000	12.5x25	0.030	0.060	1,945	16x25	0.034	0.068	2,235	16x31.5 16x35.5	0.043 0.036	0.086 0.072	2,670 2,770				
1,200	12.5x30 16x20	0.025 0.029	0.050 0.058	2,310 2,205	16x31.5 18x25	0.028 0.029	0.056 0.058	2,700 2,610	18x31.5	0.032	0.064	2,950				
1,500	12.5x35 16x25	0.022 0.022	0.044 0.044	2,510 2,555	16x31.5 16x35.5	0.028 0.025	0.056 0.050	2,700 2,790	18x35.5	0.030	0.060	3,095				
1,800	16x25 18x20	0.022 0.028	0.044 0.056	2,555 2,490	18x31.5	0.025	0.05	3,000								
2,200	16x31.5 18x25	0.018 0.020	0.036 0.040	3,010 2,740	18x35.5	0.023	0.046	3,100	18x40	0.028	0.056	3,200				
2,700	16x35.5 18x31.5	0.016 0.016	0.032 0.032	3,150 3,635												
3,300	18x35.5	0.015	0.030	3,680												
4,700	18x40	0.014	0.028	3,800												

### Part Numbering System

RXW Series    470 $\mu$ F     $\pm 20\%$     6.3V    Bulk Package    Gas Type    8  $\phi$  x 11.5L

**RXW**    **471**    **M**    **OJ**    **BK**    -    **0811**    **XX**  
 Series Name    Capacitance    Capacitance Tolerance    Rated Voltage    Lead Configuration and Package    Rubber Type    Case Size

**S** = Standard  
**KS** = AEC-Q200 Qualified, Safety Critical Application  
**LS** = AEC-Q200 Qualified, Non-Safety Critical Application

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