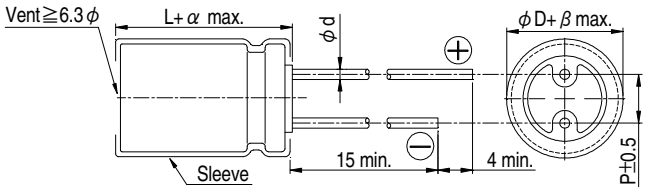
RZW Series

Features
- 105℃, 4,000 ~ 10,000 hours assured
- Low ESR, suitable for switching power supplies
- Smaller size with large permissible ripple current
- RoHs compliance

Specifications

Items	Performance
Category Temperature Range	-55℃ ~ +105℃
Capacitance Tolerance	±20% (at 120 Hz, 20℃)
Leakage Current (at 20℃)	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℃)	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 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. Rated Voltage: 6.3 / 10 / 16 / 25 / 35 / 50 / 63 Impedance Ratio Z(-55℃)/Z(+20℃): 3 / 3 / 3 / 3 / 3 / 3 / 3
Endurance	Time: 6.3 ~ 10V: 4,000 Hrs for φD = 5 ~ 6.3 mm; 6,000 Hrs for φD = 8 ~ 10 mm; 8,000 Hrs for φD ≧ 12.5 mm Time: 16 ~ 63V: 5,000 Hrs for φD = 5 ~ 6.3 mm; 7,000 Hrs for φD = 8 ~ 10 mm; 10,000 Hrs for φD ≧ 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℃ after the rated voltage applied with rated ripple current for 4,000 ~ 10,000 hours at 105℃.
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℃ after exposing them for 1,000 hours at 105℃ without voltage applied.
Ripple Current and Frequency Multipliers	Freq.(Hz) / Cap.(μF): 120 / 1k / 10k / 100k up ≦ ~ 33: 0.42 / 0.70 / 0.90 / 1.0 39 ~ 270: 0.50 / 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 ~ 18,000: 0.7 / 0.85 / 0.98 / 1.0

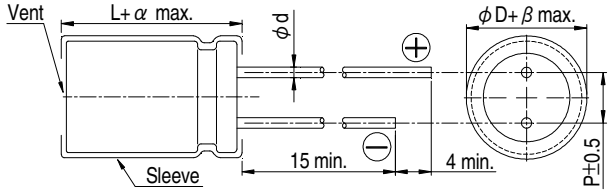
Diagram of Dimensions



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≧20: 2.0						
β	0.5						

The case size of 12.5×16, 16×16, 16×20, 18×16, 18×20 and 18×25 are suitable for below diagram:



Dimension: ϕD × L(mm)
Impedance: Ω/ at 100k Hz
Ripple Current: mA/rms at 105°C

Dimension and Permissible Ripple Current

Rated Volt. (Vdc) / Contents / Cap. (μF)	6.3V (0J)				10V (1A)				16V (1C)				25V (1E)			
	ϕD×L	Impedance (Ω, max./100kHz)		Ripple Current (mA/rms, 105℃)	ϕD×L	Impedance (Ω, max./100kHz)		Ripple Current (mA/rms, 105℃)	ϕD×L	Impedance (Ω, max./100kHz)		Ripple Current (mA/rms, 105℃)	ϕD×L	Impedance (Ω, max./100kHz)		Ripple Current (mA/rms, 105℃)
		20℃	-10℃	100k Hz		20℃	-10℃	100k Hz		20℃	-10℃	100k Hz		20℃	-10℃	100k Hz
47													5×11	0.58	1.16	210
56									5×11	0.58	1.16	210				
100					5×11	0.58	1.16	210					6.3×11	0.22	0.44	340
120									6.3×11	0.22	0.44	340				
150	5×11	0.58	1.16	210												
220					6.3×11	0.22	0.44	340	8×11.5	0.11	0.22	640	8×11.5	0.11	0.22	640
330	6.3×11	0.22	0.44	340					8×11.5	0.11	0.22	640	8×15 10×12.5	0.083 0.080	0.166 0.160	840 865
470					8×11.5	0.11	0.22	640	8×15 10×12.5	0.083 0.080	0.166 0.160	840 865	8×20 10×16	0.064 0.060	0.128 0.120	1,050 1,210
680	8×11.5	0.11	0.22	640	8×15 10×12.5	0.083 0.080	0.166 0.160	840 865	8×20 10×16	0.064 0.060	0.128 0.120	1,050 1,210	10×20 12.5×16	0.046 0.049	0.092 0.098	1,400 1,450
820	10×12.5	0.080	0.16	865									10×25	0.042	0.084	1,650
1,000	8×15	0.087	0.174	840	8×20 10×16	0.064 0.060	0.128 0.120	1,050 1,210	10×20 12.5×16	0.046 0.049	0.092 0.098	1,400 1,450	10×30 12.5×20 16×16	0.031 0.035 0.042	0.062 0.070 0.084	1,910 1,900 1,940
1,200	8×20 10×16	0.069 0.060	0.128 0.120	1,050 1,210	10×20	0.046	0.092	1,400	10×25	0.042	0.084	1,650	18×16	0.043	0.086	2,210
1,500	10×20	0.046	0.092	1,400	10×25 12.5×16	0.042 0.049	0.084 0.090	1,650 1,450	10×30 12.5×20 16×16	0.031 0.035 0.042	0.062 0.070 0.084	1,910 1,900 1,940	12.5×25	0.027	0.054	2,230
1,800	12.5×16	0.045	0.090	1,450									12.5×30 16×20	0.024 0.027	0.048 0.054	2,650 2,530
2,200	10×25	0.042	0.084	1,650	10×30 12.5×20 16×16	0.031 0.035 0.042	0.062 0.070 0.084	1,910 1,900 1,940	12.5×25 18×16	0.027 0.043	0.054 0.086	2,230 2,210	12.5×35 18×20	0.020 0.026	0.040 0.052	2,880 2,860
2,700	10×30 16×16	0.031 0.042	0.062 0.084	1,910 1,940	18×16	0.043	0.086	2,210	12.5×30 16×20	0.024 0.027	0.048 0.054	2,650 2,530	12.5×40 16×25	0.017 0.021	0.034 0.042	3,350 2,930
3,300	12.5×20	0.035	0.070	1,900	12.5×25	0.027	0.054	2,230	12.5×35	0.020	0.040	2,880	16×31.5 18×25	0.017 0.019	0.034 0.038	3,450 3,140
3,900	12.5×25 18×16	0.027 0.043	0.054 0.086	2,230 2,210	12.5×30 16×20	0.024 0.027	0.048 0.054	2,650 2,530	12.5×40 16×25 18×20	0.017 0.021 0.026	0.034 0.042 0.052	3,350 2,930 2,860	16×35.5 18×31.5	0.015 0.015	0.030 0.030	3,610 4,170
4,700	12.5×30	0.024	0.048	2,650	12.5×35	0.020	0.040	2,880	16×31.5 18×25	0.017 0.019	0.034 0.038	3,450 3,140	16×40 18×35.5	0.013 0.014	0.026 0.028	4,080 4,220
5,600	12.5×35 16×20	0.020 0.027	0.040 0.054	2,880 2,530	12.5×40 16×25 18×20	0.017 0.021 0.026	0.034 0.042 0.052	3,350 2,930 2,860	16×35.5 18×31.5	0.015 0.015	0.030 0.03	3,610 4,170	18×40	0.012	0.024	4,280
6,800	12.5×40 16×25 18×20	0.017 0.021 0.026	0.034 0.042 0.052	3,350 2,930 2,860	16×31.5 18×25	0.017 0.019	0.034 0.038	3,450 3,140	16×40	0.013	0.026	4,080				
8,200	16×31.5	0.017	0.034	3,450	16×35.5 18×31.5	0.015 0.015	0.030 0.030	3,610 4,170	18×35.5	0.014	0.02	4,220				
10,000	16×35.5 18×25	0.015 0.019	0.030 0.038	3,610 3,140	16×40 18×35.5	0.013 0.014	0.026 0.028	4,080 4,220	18×40	0.012	0.024	4,280				
12,000	16×40 18×31.5	0.013 0.015	0.026 0.030	4,080 4,170	18×40	0.012	0.024	4,280								
15,000	18×35.5	0.014	0.028	4,220												
18,000	18×40	0.012	0.024	4,280												

Dimension: ϕD × L(mm)
Impedance: Ω/ at 100k Hz
Ripple Current: mA/rms at 105°C

Dimension and Permissible Ripple Current

Rated Volt. (VDC) / Contents / Cap. (μF)	35V (1V)				50V (1H)				63V (1J)			
	ϕD×L	Impedance (Ω, max./100kHz)		Ripple Current (mA/rms, 105℃)	ϕD×L	Impedance (Ω, max./100kHz)		Ripple Current (mA/rms, 105℃)	ϕD×L	Impedance (Ω, max./100kHz)		Ripple Current (mA/rms, 105℃)
		20℃	-10℃	100k Hz		20℃	-10℃	100k Hz		20℃	-10℃	100k Hz
3.3					5×11	2.9	5.8	53				
4.7					5×11	2.5	5.0	95				
10					5×11	2.0	4.0	130				
15									5×11	1.2	2.4	165
22					5×11	0.91	1.82	180				
33	5×11	0.58	1.16	210					6.3×11	0.49	0.98	265
56	6.3×11	0.22	0.44	340	6.3×11	0.39	0.78	295	8×11.5	0.31	0.62	500
82									8×15 10×12.5	0.22 0.15	0.44 0.30	665 690
100					8×11.5	0.22	0.44	555				
120					8×15	0.190	0.38	730	8×20 10×16	0.17 0.11	0.34 0.22	820 950
150	8×11.5	0.11	0.22	640	10×12.5	0.160	0.32	760				
180					8×20	0.17	0.34	880	10×20 12.5×16	0.078 0.101	0.156 0.202	1,150 1,150
220	8×15 10×12.5	0.083 0.080	0.166 0.160	840 865	10×16	0.110	0.22	1,050	10×25	0.064	0.128	1,350
270	8×20	0.064	0.128	1,050	10×20 12.5×16	0.078 0.079	0.156 0.158	1,220 1,260	12.5×20	0.057	0.114	1,500
330	10×16	0.060	0.120	1,210	10×25	0.072	0.144	1,440				
390									12.5×25	0.043	0.086	1,900
470	10×20 12.5×16	0.046 0.049	0.092 0.098	1,400 1,450	10×30 12.5×20 16×16	0.056 0.059 0.072	0.112 0.118 0.114	1,690 1,660 1,690	12.5×30 16×20	0.039 0.045	0.078 0.090	2,300 2,000
560	10×25	0.042	0.084	1,650	12.5×25 18×16	0.044 0.070	0.088 0.140	1,950 1,930	12.5×35	0.034	0.068	2,500
680	10×30 12.5×20 16×16	0.031 0.035 0.042	0.062 0.070 0.084	1,910 1,900 1,940	12.5×30	0.039	0.078	2,310	12.5×40 16×25 18×20	0.029 0.035 0.042	0.058 0.070 0.084	2,800 2,600 2,500
820					12.5×35 16×20	0.033 0.044	0.066 0.088	2,510 2,210	16×31.5 18×25	0.029 0.034	0.058 0.068	2,850 2,800
1,000	12.5×25 18×16	0.027 0.043	0.054 0.086	2,230 2,210	12.5×40 16×25 18×20	0.027 0.033 0.047	0.054 0.066 0.094	2,920 2,555 2,490	16×35.5	0.027	0.054	2,900
1,200	12.5×30 16×20	0.024 0.027	0.048 0.054	2,650 2,530	16×31.5 18×25	0.027 0.028	0.054 0.056	3,010 2,740	16×40 18×31.5	0.025 0.028	0.050 0.056	3,400 3,300
1,500	12.5×35	0.020	0.040	2,880	16×35.5	0.024	0.048	3,150	18×35.5	0.025	0.050	3,400
1,800	12.5×40 16×25 18×20	0.017 0.021 0.026	0.034 0.042 0.052	3,350 2,930 2,860	16×40 18×31.5	0.021 0.024	0.042 0.048	3,710 3,635	18×40	0.024	0.048	3,500
2,200	16×31.5 18×25	0.017 0.019	0.034 0.038	3,450 3,140	18×35.5	0.022	0.044	3,680				
2,700	16×35.5 18×31.5	0.015 0.015	0.030 0.030	3,610 4,170	18×40	0.018	0.036	3,800				
3,300	16×40 18×35.5	0.013 0.014	0.026 0.028	4,080 4,220								
3,900	18×40	0.012	0.024	4,280								

Part Numbering System

RZW Series	470μF	±20%	16V	Bulk Package	Gas Type	8ϕ×15L	Pb-free and PET sleeve
RZW	**471**	**M**	**1C**	**BK**	**-**	**0815**	
Series Name	Capacitance	Capacitance Tolerance	Rated Voltage	Lead Configuration and 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.

Mouser Electronics

Authorized Distributor

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Lelon:

RZW010M1HBK-0511P RZW100M1HBK-0511P RZW101M1ABK-0511P RZW101M1EBK-0611P RZW101M1HBK-0811P RZW102M0JBK-0815P RZW102M1ABK-0820P RZW102M1ABK-1016P RZW102M1CBK-1020P RZW102M1CBK-1316P RZW102M1EBK-1030P RZW102M1EBK-1320P RZW102M1EBK-1616P RZW102M1HBK-1340P RZW102M1HBK-1625P RZW102M1HBK-1820P RZW102M1JBK-1636P RZW102M1VBK-1325P RZW102M1VBK-1816P RZW103M0JBK-1636P RZW103M0JBK-1825P RZW103M1ABK-1640P RZW103M1ABK-1836P RZW103M1CBK-1840P RZW121M1CBK-0611P RZW121M1HBK-0815P RZW121M1JBK-0820P RZW121M1JBK-1016P RZW122M0JBK-0820P RZW122M0JBK-1016P RZW122M1ABK-1020P RZW122M1CBK-1025P RZW122M1EBK-1816P RZW122M1HBK-1632P RZW122M1HBK-1825P RZW122M1JBK-1640P RZW122M1JBK-1832P RZW122M1VBK-1330P RZW122M1VBK-1620P RZW123M0JBK-1640P RZW123M0JBK-1832P RZW123M1ABK-1840P RZW150M1JBK-0511P RZW151M0JBK-0511P RZW151M1HBK-1012P RZW151M1VBK-0811P RZW152M0JBK-1020P RZW152M1ABK-1025P RZW152M1ABK-1316P RZW152M1CBK-1030P RZW152M1CBK-1320P RZW152M1CBK-1616P RZW152M1EBK-1325P RZW152M1JBK-1836P RZW152M1KBK-1636P RZW152M1VBK-1335P RZW153M0JBK-1836P RZW181M1HBK-0820P RZW181M1JBK-1020P RZW181M1JBK-1316P RZW182M1EBK-1330P RZW182M1EBK-1620P RZW182M1HBK-1640P RZW182M1HBK-1832P RZW182M1JBK-1840P RZW182M1VBK-1340P RZW182M1VBK-1625P RZW182M1VBK-1820P RZW183M0JBK-1840P RZW220M1HBK-0511P RZW221M1ABK-0611P RZW221M1HBK-1016P RZW221M1JBK-1025P RZW221M1VBK-0815P RZW221M1VBK-1012P RZW222M0JBK-1025P RZW222M1ABK-1030P RZW222M1ABK-1616P RZW222M1CBK-1325P RZW222M1CBK-1816P RZW222M1EBK-1335P RZW222M1EBK-1820P RZW222M1HBK-1836P RZW222M1VBK-1632P RZW222M1VBK-1825P RZW271M1HBK-1020P RZW271M1HBK-1316P RZW271M1JBK-1320P RZW271M1VBK-0820P RZW272M0JBK-1030P RZW272M1ABK-1816P RZW272M1CBK-1330P RZW272M1CBK-1620P RZW272M1EBK-1340P RZW272M1EBK-1625P RZW272M1VBK-1636P RZW272M1VBK-1832P RZW2R2M1HBK-0511P RZW330M1JBK-0611P RZW330M1VBK-0511P