

## RZ Low Impedance Series

Long Life   
 Solvent Proof   
 Low Impedance



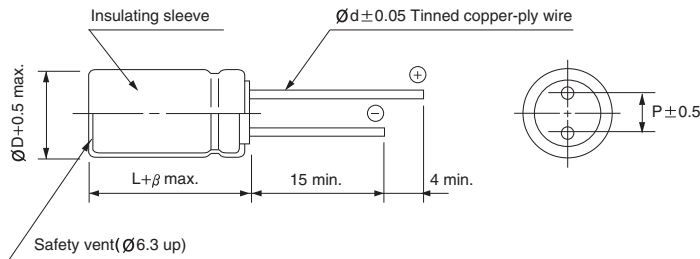
- Low impedance at high frequency
- High reliability withstanding 5000 hours load life at 105°C (2000/3000 hours for smaller case sizes as specified below)
- Ideally suited for use in switching power supplies
- Complied to the RoHS directive

$\Rightarrow$  RP  
 Long life

Item	Characteristics															
Operating temperature range	-55 ~ +105°C															
Leakage current max.	I = 0.01CV or 3 $\mu$ A whichever is greater (after 2 minutes) I = 0.03CV or 4 $\mu$ A whichever is greater (after 1 minute)															
Capacitance tolerance	$\pm 20\%$ at 120Hz, 20°C															
Dissipation factor max. (at 120Hz, 20°C)	Capacitance > 1000 $\mu$ F : $\tan\delta$ increases by 0.02 for each 1000 $\mu$ F from below value															
	<table border="1"> <thead> <tr> <th>WV</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><math>\tan\delta</math></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>0.08</td> </tr> </tbody> </table>	WV	6.3	10	16	25	35	50	63	$\tan\delta$	0.22	0.19	0.16	0.14	0.12	0.10
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Low temperature characteristics (Impedance ratio at 120Hz)	<table border="1"> <thead> <tr> <th>WV</th> <th>6.3, 10</th> <th>16 ~ 35</th> <th>50, 63</th> </tr> </thead> <tbody> <tr> <td>Z-55°C/Z+20°C</td> <td>4</td> <td>3</td> <td>2</td> </tr> </tbody> </table>	WV	6.3, 10	16 ~ 35	50, 63	Z-55°C/Z+20°C	4	3	2							
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Load life	After an application of DC bias voltage plus the rated AC ripple current for 5000 hours at 105°C. The measurement shall meet the following limits. The DC voltage plus the peak AC voltage combined must not exceed the rated voltage.															
	<table border="1"> <tbody> <tr> <td>Leakage current</td> <td>Less than specified value</td> </tr> <tr> <td>Capacitance change</td> <td>Within <math>\pm 20\%</math> of initial value</td> </tr> <tr> <td><math>\tan\delta</math></td> <td>Less than 200% of specified value</td> </tr> </tbody> </table>	Leakage current	Less than specified value	Capacitance change	Within $\pm 20\%$ of initial value	$\tan\delta$	Less than 200% of specified value									
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Life time	2000 hours	3000 hours	5000 hours													
Shelf life (at 105°C)	After 1000 hours no load test, leakage current, capacitance and $\tan\delta$ are same as load life value. The measurement shall be performed at 20°C by the KS C IEC 60384 - 4															
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### DRAWING

Unit : mm



$\varnothing D$	5	6.3	8	10	12.5	16	18
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5
$\varnothing d$	0.5	0.5	0.6	0.6	0.6	0.8	0.8
$\beta$	1.5			2.0			

MINIATURE TYPES

### FREQUENCY COEFFICIENT OF PERMISSIBLE RIPPLE CURRENT

$\mu$ F \ Frequency	120Hz	1kHz	10kHz	50kHz	100kHz $\leq$
~ 33	0.40	0.65	0.82	0.91	1.00
47 ~ 270	0.50	0.70	0.84	0.92	1.00
330 ~ 680	0.55	0.75	0.86	0.93	1.00
1000 ~ 1500	0.60	0.80	0.88	0.94	1.00
2200 ~	0.70	0.85	0.90	0.95	1.00

# MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

**RZ** series

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

WV Item μF	6.3			10			16			25		
	∅D×L (mm)	Impedance (Ω)max. 20°C 100kHz	Ripple current (mA rms) 105°C 100kHz	∅D×L (mm)	Impedance (Ω)max. 20°C 100kHz	Ripple current (mA rms) 105°C 100kHz	∅D×L (mm)	Impedance (Ω)max. 20°C 100kHz	Ripple current (mA rms) 105°C 100kHz	∅D×L (mm)	Impedance (Ω)max. 20°C 100kHz	Ripple current (mA rms) 105°C 100kHz
33										5×11	0.80	155
47							5×11	0.80	155	6.3×11	0.55	210
68				5×11	0.80	155	6.3×11	0.50	220	6.3×11	0.36	260
100	5×11	0.85	150	6.3×11	0.55	210	6.3×11	0.35	265	8×11.5	0.24	383
150	6.3×11	0.49	225	6.3×11	0.35	265	8×11.5	0.23	388	8×11.5	0.16	460
220	6.3×11	0.30	285	8×11.5	0.24	387	8×11.5	0.16	460	10×12.5	0.13	600
330	8×11.5	0.20	292	8×11.5	0.16	460	10×12.5	0.12	625	10×16	0.095	750
470	10×12.5	0.14	575	10×12.5	0.13	600	10×16	0.09	770	10×20	0.065	1020
680	10×16	0.11	700	10×16	0.09	770	10×20	0.065	1020	12.5×20	0.046	1392
1000	10×20	0.075	950	10×20	0.060	1060	12.5×20	0.047	1411	12.5×25	0.036	1660
1500	10×25	0.055	1220	12.5×20	0.045	1417	12.5×25	0.036	1660	16×20	0.034	1770
2200	12.5×20	0.043	1438	12.5×25	0.034	1710	16×20	0.033	1800	16×25	0.028	2051
3300	12.5×25	0.034	1710	16×20	0.031	1850	16×25	0.027	2095	16×35.5	0.020	2680
4700	16×25	0.032	1935	16×31.5	0.023	2420	16×35.5	0.020	2680	18×40	0.018	2960
6800	16×31.5	0.024	2370	16×35.5	0.020	2680	18×35.5	0.018	2900			
10000	16×40	0.020	2750	18×40	0.017	3040						
15000	18×40	0.018	2960									

WV Item μF	35			50			63		
	∅D×L (mm)	Impedance (Ω)max. 20°C 100kHz	Ripple current (mA rms) 105°C 100kHz	∅D×L (mm)	Impedance (Ω)max. 20°C 100kHz	Ripple current (mA rms) 105°C 100kHz	∅D×L (mm)	Impedance (Ω)max. 20°C 100kHz	Ripple current (mA rms) 105°C 100kHz
1.0				5×11	4.00	36			
1.5				5×11	3.80	45			
2.2				5×11	3.50	54			
3.3				5×11	3.00	66			
4.7				5×11	2.20	81			
6.8				5×11	1.80	91			
10				5×11	1.80	115	5×11	1.80	135
15				5×11	1.60	145	6.3×11	1.00	185
22	5×11	0.75	160	6.3×11	1.40	195	6.3×11	1.00	215
33	6.3×11	0.49	225	6.3×11	1.20	240	8×11.5	0.80	320
47	6.3×11	0.34	270	8×11.5	0.80	344	8×11.5	0.80	365
68	8×11.5	0.24	384	8×11.5	0.65	410	10×12.5	0.23	495
100	8×11.5	0.16	460	10×16	0.40	581	10×20	0.16	750
150	10×12.5	0.12	625	10×20	0.30	820	10×25	0.12	950
220	10×16	0.09	770	10×25	0.20	1040	12.5×20	0.085	1140
330	10×20	0.060	1060	12.5×20	0.12	1281	12.5×25	0.060	1420
470	12.5×20	0.046	1401	12.5×25	0.085	1500	16×25	0.055	1700
680	12.5×25	0.036	1660	16×20	0.060	1630	16×31.5	0.032	2050
1000	16×20	0.034	1770	16×31.5	0.040	2120	18×35.5	0.029	2280
1500	16×31.5	0.028	2385	16×40	0.035	2410			
2200	16×35.5	0.020	2680	18×40	0.030	2560			
3300	18×40	0.017	3040						