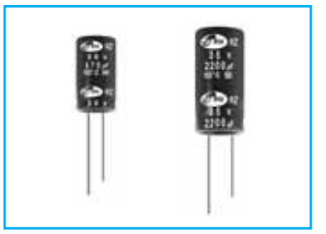
RZ Extremely Low Impedance Series

Long Life | Solvent Proof | Low Impedance



- Extremely 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

RZ ⟹ RP
Long life

Item	Characteristics
Operating temperature range	-55 ~ +105˚C
Leakage current max.	I = 0.01CV or 3μA whichever is greater (after 2 minutes) I = 0.03CV or 4μA whichever is greater (after 1 minute)
Capacitance tolerance	±20% at 120Hz, 20˚C
Dissipation factor max. (at 120Hz, 20˚C)	Capacitance > 1000μF : tanδ increases by 0.02 for each 1000μF from below value

WV	6.3	10	16	25	35	50	63
tanδ	0.22	0.19	0.16	0.14	0.12	0.10	0.08

Low temperature characteristics (Impedance ratio at 120Hz)

WV	6.3, 10	16 ~ 35	50, 63
Z-55˚C/Z+20˚C	4	3	2

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.

Leakage current	Less than specified value
Capacitance change	Within ±20% of initial value
tanδ	Less than 200% of specified value

ØD	ØD ≦ 6.3	ØD = 8	ØD ≧ 10
Life time	2000 hours	3000 hours	5000 hours

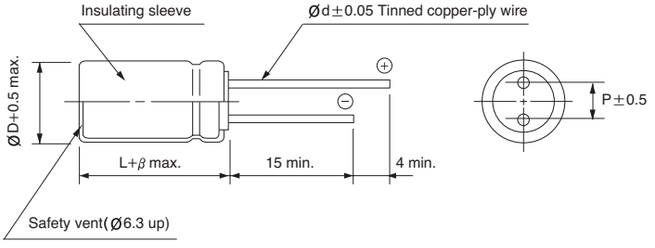
Shelf life (at 105˚C)

After 1000 hours no load test, leakage current, capacitance and tanδ are same as load life value. The measurement shall be performed at 20˚C by the KS C 6035 clause 5.4.

Leakage current	Less than specified value
Capacitance change	Within ±20% of initial value
tanδ	Less than 150% of specified value

DRAWING

Unit : mm



ØD	5	6.3	8	10	12.5	16	18
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5
Ød	0.5	0.5	0.6	0.6	0.6	0.8	0.8
β	1.5			2.0			

FREQUENCY COEFFICIENT OF PERMISSIBLE RIPPLE CURRENT

μF \ Frequency	120Hz	1kHz	10kHz	50kHz	100kHz≦
~ 33	0.40	0.65	0.82	0.91	1.00
47 ~ 220	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

RZ series

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

WV / Item / μF	6.3			10			16			25		
	ØD×L (mm)	Impedance (Ω)max. 20˚C 100kHz	Ripple current (mA rms) 105˚C 100kHz	ØD×L (mm)	Impedance (Ω)max. 20˚C 100kHz	Ripple current (mA rms) 105˚C 100kHz	ØD×L (mm)	Impedance (Ω)max. 20˚C 100kHz	Ripple current (mA rms) 105˚C 100kHz	ØD×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		
	ØD×L (mm)	Impedance (Ω)max. 20˚C 100kHz	Ripple current (mA rms) 105˚C 100kHz	ØD×L (mm)	Impedance (Ω)max. 20˚C 100kHz	Ripple current (mA rms) 105˚C 100kHz	ØD×L (mm)	Impedance (Ω)max. 20˚C 100kHz	Ripple current (mA rms) 105˚C 100kHz
1.0				5 × 11	4.0	36			
1.5				5 × 11	3.8	45			
2.2				5 × 11	3.5	54			
3.3				5 × 11	3.0	66			
4.7				5 × 11	2.2	81			
6.8				5 × 11	1.8	91			
10				5 × 11	1.8	115	5 × 11	1.06	135
15				5 × 11	0.93	145	6.3 × 11	0.73	185
22	5 × 11	0.75	160	6.3 × 11	0.65	195	6.3 × 11	0.52	215
33	6.3 × 11	0.49	225	6.3 × 11	0.43	240	8 × 11.5	0.35	320
47	6.3 × 11	0.34	270	8 × 11.5	0.30	344	8 × 11.5	0.25	365
68	8 × 11.5	0.24	384	8 × 11.5	0.20	410	10 × 12.5	0.19	495
100	8 × 11.5	0.16	460	10 × 16	0.16	581	10 × 20	0.12	750
150	10 × 12.5	0.12	625	10 × 20	0.10	820	10 × 25	0.09	950
220	10 × 16	0.09	770	10 × 25	0.075	1040	12.5 × 20	0.065	1140
330	10 × 20	0.060	1060	12.5 × 20	0.075	1281	12.5 × 25	0.049	1420
470	12.5 × 20	0.046	1401	12.5 × 25	0.044	1500	16 × 25	0.042	1700
680	12.5 × 25	0.036	1660	16 × 20	0.040	1630	16 × 31.5	0.032	2050
1000	16 × 20	0.034	1770	16 × 31.5	0.030	2120	18 × 35.5	0.029	2280
1500	16 × 31.5	0.028	2385	16 × 40	0.026	2410			
2200	16 × 35.5	0.020	2680	18 × 40	0.024	2560			
3300	18 × 40	0.017	3040						