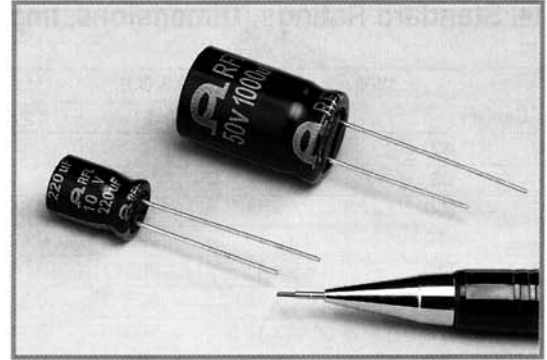


# RFL SERIES

Low Z, Long Life(8000 hours)

## Features

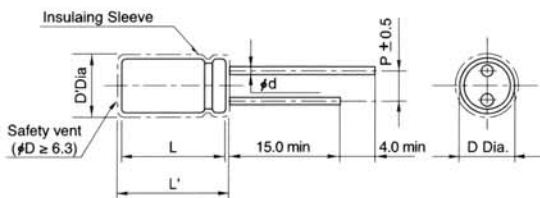
- Miniature, Radial, Long life
- Extremely low Impedance at high frequency
- For switching mode power supply
- Load life of 2000~8000 hours at 105°C



## Specifications

Item	Performance Characteristics						
Operating temperature range	-55°C ~ +105°C						
Rated working voltage range	6.3V ~ 50V						
Nominal capacitance range	22μF ~ 15000μF, ±20% (at 20°C, 120Hz)						
D.C Leakage current(at 20°C)	The following specifications shall be satisfied when the rated voltage is applied for the required time. $I \leq 0.03CV$ or $4\mu A$ (2 min), Whichever is greater Where I =Leakage current(μA)    C=Nominal capacitance(μF)    V=Rated voltage(V)						
Tan δ (max., at 20°C, 120Hz)	W.V(V)	6.3	10	16	25	35	50
	Tan δ	0.22	0.19	0.16	0.14	0.12	0.10
When capacitance is over 1000μF, Tan δ shall be added 0.02 to the listed value with increase of every each 1000μF							
Characteristics at low temperature(max.) (impedance ratio at 120Hz)	W.V(V)	6.3	10	16	25	35	50
	Z-55°C/Z20°C	4	4	3	3	3	2
Load life	After applying rated working voltage for 5000 hours (φ 5, φ 6.3 : 2000 hours, φ 8 : 3000 hours, φ 10 : 5000 hours, φ 12.5 : 7000 hours, φ 16, φ 18 : 8000 hours) at +105°C and then being stabilized at +20°C, capacitors shall meet following limits.						
	Capacitance change	Within ± 20% of the initial measured value					
	Tan δ	≤ 200% of the initial specified value					
	Leakage current	≤ The initial specified value					
Shelf life	After storage for 1000 hours at +105°C with no voltage applied and then being stabilized at +20°C, capacitors shall meet following limits.						
	Capacitance change	Within ± 20% of the initial measure value					
	Tan δ	≤ 150% of the initial specified value					
	Leakage current	≤ The initial specified value					

## Dimensions



### Standard lead style

φD	5.0	6.3	8.0	10.0	12.5	16.0	18.0
P	2.0	2.5	3.5	5.0		7.5	
φd	0.5			0.6		0.8	

D'=[D +0.5] Max.

L'=[L+1.0] Max. at D≤8.0

L'=[L+1.5]Max. at D≥10.0

## Ripple current coefficient

### Frequency

Cap(μF)	Freq(Hz)	50	120	1K	10K	100K
22 < Cap ≤ 330		0.55	0.65	0.85	0.90	1.0
330 < Cap ≤ 1000		0.70	0.75	0.90	0.95	1.0
1000 < Cap ≤ 2200		0.75	0.80	0.90	0.95	1.0
2200 < Cap		0.80	0.85	0.95	0.98	1.0

### Temperature

Temperature	≤ 70°C	85°C	105°C
Factor	1.65	1.4	1.0

# RFL SERIES

## Standard Ratings [Dimensions, Impedance, Ripple Current]

 $\phi$  D x L(mm)

Cap( $\mu$ F)	W.V(V)	6.3(0J)			10(1A)			16(1C)		
		SIZE	Z	I <sub>r</sub>	SIZE	Z	I <sub>r</sub>	SIZE	Z	I <sub>r</sub>
47							5 x 11	0.50	175	
68							6.3 x 11	0.35	235	
100					5 x 11	0.50	175	6.3 x 11	0.25	290
220					6.3 x 11	0.25	290	8 x 11.5	0.18	400
330					8 x 11.5	0.18	400	8 x 11.5	0.12	555
470					8 x 11.5	0.12	555	10 x 12.5	0.090	760
680					10 x 12.5	0.090	760	10 x 16	0.068	1050
1000	10 x 12.5	0.090	760		10 x 16	0.068	1050	10 x 20	0.052	1220
1500	10 x 20	0.052	1220	12.5 x 20	0.045	1440	12.5 x 20	0.038	1660	
2200	12.5 x 20	0.045	1440	12.5 x 20	0.038	1660	12.5 x 25	0.030	1950	
3300	12.5 x 20	0.038	1660	12.5 x 25	0.030	1950	16 x 25	0.022	2510	
4700	12.5 x 25	0.030	1950	16 x 25	0.022	2510	16 x 31.5	0.019	3010	
6800	16 x 25	0.022	2560	16 x 31.5	0.019	3010	16 x 35.5	0.018	3680	
10000	16 x 35.5	0.017	3150	18 x 35.5	0.016	3680	18 x 40	0.015	3800	
12000	18 x 31.5	0.018	3330	18 x 40	0.015	3800				
15000	18 x 35.5	0.016	3680							

Cap( $\mu$ F)	W.V(V)	25(1E)			35(1V)			50(1H)		
		SIZE	Z	I <sub>r</sub>	SIZE	Z	I <sub>r</sub>	SIZE	Z	I <sub>r</sub>
22							5 x 11	0.50	175	
33					5 x 11	0.50	175	6.3 x 11	0.35	235
47	5 x 11	0.50	175	6.3 x 11	0.35	235	6.3 x 11	0.45	260	
68	6.3 x 11	0.35	235	8 x 11.5	0.25	330	8 x 11.5	0.31	360	
100	6.3 x 11	0.25	290	8 x 11.5	0.18	400	8 x 11.5	0.22	485	
220	8 x 11.5	0.12	555	10 x 12.5	0.090	760	10 x 20	0.088	1050	
330	10 x 12.5	0.090	760	10 x 16	0.068	1050	12.5 x 20	0.073	1250	
470	10 x 16	0.068	1050	10 x 20	0.052	1220	12.5 x 25	0.064	1550	
680	10 x 20	0.052	1220	12.5 x 20	0.038	1660	16 x 25	0.048	1840	
1000	12.5 x 20	0.038	1660	12.5 x 25	0.030	1950	16 x 31.5	0.034	2240	
1500	12.5 x 25	0.030	1950	16 x 25	0.022	2510	16 x 35.5	0.025	2800	
2200	16 x 25	0.022	2510	16 x 31.5	0.019	3010	18 x 35.5	0.023	3100	
3300	16 x 31.5	0.019	3010	18 x 35.5	0.016	3680				
4700	18 x 35.5	0.016	3680							

I<sub>r</sub>: Maximum permissible ripple current[mA(rms) at 105°C, 100KHz]Z: Max. Impedance[ $\Omega$  at 20°C, 100KHz]