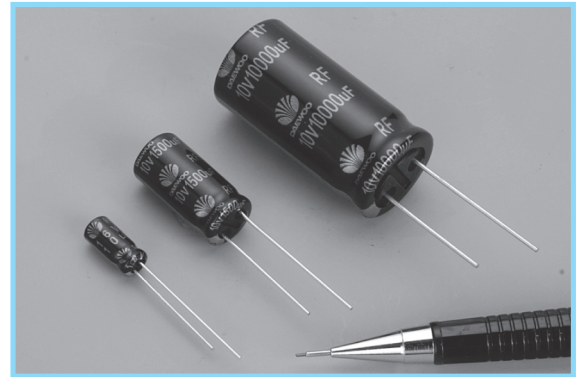


# RF SERIES

## Low Z, Low ESR, Miniature, Radial Leads

### Features

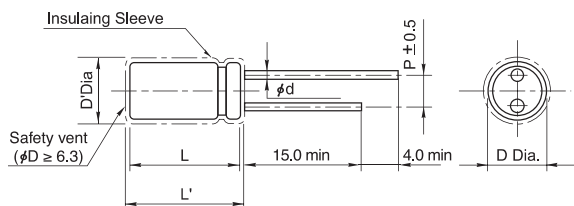
- Miniature
- Low impedance at high frequency
- For switching mode power supply
- Load life of 2000 hours at 105°C



### Specifications

Item	Performance Characteristics						
Operating temperature range	-55°C ~ +105°C						
Rated working voltage range	6.3V ~ 50V						
Nominal capacitance range	0.47μF ~ 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. $I \leq 0.01CV$ or $2\mu A(2 \text{ min})$ , 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	0.24	0.20	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 ~ 35		50	
	Z -55°C/Z20°C	3		3		2	
Load life	After applying rated working voltage for 2000 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 measured value					
	Tan δ	≤200% of the initial specified value					
	Leakage current	≤200% of 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	400	1K	10K	50~100K
Cap ≤ 4.7	0.34	0.46	0.54	0.70	0.83	1.0
4.7 < Cap ≤ 47	0.45	0.57	0.68	0.80	0.87	1.0
47 < Cap ≤ 330	0.55	0.70	0.76	0.88	0.90	1.0
330 < Cap ≤ 1000	0.67	0.78	0.88	0.90	0.92	1.0
1000 < Cap	0.82	0.84	0.90	0.94	0.97	1.0

#### Temperature

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

# RF SERIES

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

φ D x L(mm)

Cap(μF)	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>
10								5 x 11	0.78	180
22		5 x 11	0.78	180	5 x 11	0.78	180	5 x 11	0.78	180
33		5 x 11	0.78	180	5 x 11	0.78	180	5 x 11	0.78	180
47		5 x 11	0.78	180	5 x 11	0.78	180	5 x 11	0.78	180
100		5 x 11	0.78	180	5 x 11	0.78	180	6.3 x 11	0.33	280
150		6.3 x 11	0.33	280	6.3 x 11	0.33	280	6.3 x 11	0.33	280
220		6.3 x 11	0.33	280	6.3 x 11	0.33	280	8 x 11.5	0.18	450
330		6.3 x 11	0.33	280	8 x 11.5	0.18	450	8 x 11.5	0.18	450
470		8 x 11.5	0.18	450	8 x 11.5	0.18	450	10 x 12.5	0.12	660
680		10 x 12.5	0.12	660	10 x 12.5	0.12	660	10 x 16	0.091	850
1000		10 x 12.5	0.12	660	10 x 16	0.11	850	10 x 20	0.069	1100
1500		10 x 20	0.070	1100	10 x 20	0.069	1100	12.5 x 20	0.065	1400
2200		12.5 x 20	0.065	1400	12.5 x 20	0.065	1400	12.5 x 25	0.049	1700
3300		12.5 x 20	0.065	1400	12.5 x 25	0.038	1700	16 x 25	0.033	2100
4700		16 x 25	0.033	2100	16 x 25	0.032	2100	16 x 31.5	0.028	2600
6800		16 x 25	0.033	2100	16 x 31.5	0.028	2600	18 x 35.5	0.026	3000
10000		16 x 31.5	0.029	2600	18 x 35.5	0.023	3000	18 x 40	0.023	3600
15000		18 x 35.5	0.026	3000	18 x 40	0.023	3600			

Cap(μF)	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>
0.47								5 x 11	6.50	25
1.0								5 x 11	4.55	40
2.2								5 x 11	3.90	55
3.3								5 x 11	3.38	65
4.7		5 x 11	0.78	180	5 x 11	0.78	180	5 x 11	2.99	90
10		5 x 11	0.78	180	5 x 11	0.78	180	5 x 11	1.82	120
22		5 x 11	0.78	180	5 x 11	0.78	180	5 x 11	1.56	150
33		5 x 11	0.78	180	5 x 11	0.78	180	6.3 x 11	0.56	250
47		5 x 11	0.78	180	6.3 x 11	0.33	280	6.3 x 11	0.56	250
100		6.3 x 11	0.33	280	8 x 11.5	0.18	450	8 x 11.5	0.31	340
150		8 x 11.5	0.18	450	8 x 11.5	0.18	450	10 x 12.5	0.22	490
220		8 x 11.5	0.18	450	10 x 12.5	0.12	660	10 x 16	0.16	650
330		10 x 12.5	0.12	660	10 x 16	0.091	850	10 x 20	0.13	810
470		10 x 16	0.091	850	10 x 20	0.069	1100	12.5 x 20	0.11	1100
680		10 x 20	0.069	1100	12.5 x 20	0.065	1400	12.5 x 25	0.085	1200
1000		12.5 x 20	0.065	1400	12.5 x 25	0.049	1700	16 x 25	0.056	1600
1500		16 x 25	0.033	2100	16 x 25	0.033	2100	16 x 31.5	0.049	2000
2200		16 x 25	0.033	2100	16 x 31.5	0.028	2600	18 x 35.5	0.044	2300
3300		16 x 31.5	0.028	2600	18 x 35.5	0.026	3000			
4700		18 x 35.5	0.026	3000	18 x 40	0.023	3600			
6800		18 x 40	0.023	3600						

I<sub>R</sub> : Maximum permissible ripple current[mA(rms) at 105°C,100KHz]

Z : Max. Impedance[Ω at 20°C,100KHz]

LOW Z