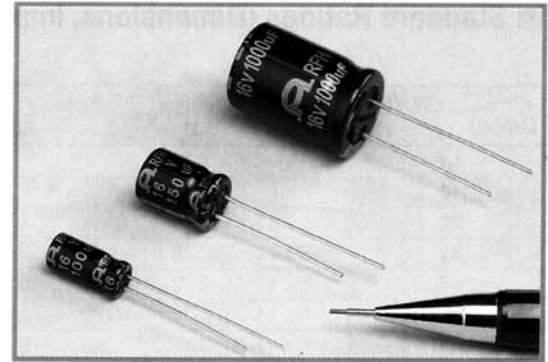


RFH SERIES

Low Z, Low ESR, Miniature

Features

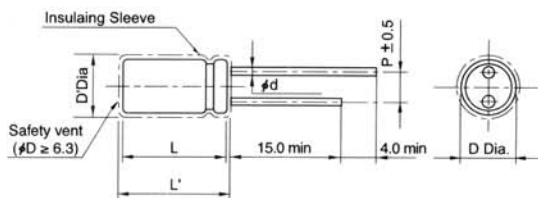
- Miniature, Radial
- Extremely low Impedance at high frequency
- For switching mode power supply
- Load life of 5000 hours at 105°C



Specifications

Item	Performance Characteristics						
Operating temperature range	-55°C ~ +105°C						
Rated working voltage range	6.3V ~ 50V						
Nominal capacitance range	10 μ F ~ 15000 μ F, \pm 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 4μ A (2 min), Whichever is greater Where I =Leakage current(μ A) C=Nominal capacitance(μ F) 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 1000 μ F, Tan δ shall be added 0.02 to the listed value with increase of every each 1000 μ F							
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) at +105°C and then being stabilized at +20°C, capacitors shall meet following limits.						
	Capacitance change	Within \pm 20% of the initial measured value					
	Tan δ	\leq 200% of the initial specified value					
	Leakage current	\leq 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 \pm 20% of the initial measure value					
	Tan δ	\leq 200% of the initial specified value					
	Leakage current	\leq 200% of the initial specified value					

Dimensions



Standard lead style

ϕ D	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	
ϕ d	0.5			0.6		0.8	

D'=[D +0.5] Max.

L'=[L+1.0] Max. at D \leq 8.0

L'=[L+1.5]Max. at D \geq 10.0

Ripple current coefficient

Frequency

Cap(μ F)	Freq(Hz)					
	50	120	400	1K	10K	100K
Cap \leq 4.7	0.34	0.46	0.54	0.70	0.83	1.0
4.7 < Cap \leq 47	0.45	0.57	0.68	0.80	0.87	1.0
47 < Cap \leq 330	0.55	0.70	0.76	0.88	0.90	1.0
330 < Cap \leq 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	\leq 70°C	85°C	105°C
Factor	1.65	1.4	1.0

RFH SERIES

Standard Ratings [Dimensions, Impedance, Ripple current]

 $\phi D \times L(\text{mm})$

Cap(μF)	W.V	6.3(OJ)			10(IA)			16(IC)		
		SIZE	I _r	Z	SIZE	I _r	Z	SIZE	I _r	Z
47							5 x 11	155	0.80	
68					5 x 11	155	0.80	6.3 x 11	220	0.50
100		5 x 11	150	0.85	6.3 x 11	210	0.55	6.3 x 11	265	0.35
150		6.3 x 11	225	0.49	6.3 x 11	265	0.30	8 x 11.5	370	0.23
220		6.3 x 11	285	0.30	6.3 x 11	290	0.29	8 x 11.5	460	0.18
330		6.3 x 11	295	0.30	8 x 11.5	445	0.17	10 x 12.5	620	0.12
470		10 x 12.5	500	0.14	10 x 12.5	590	0.12	10 x 16	740	0.095
680		10 x 16	700	0.11	10 x 16	770	0.095	10 x 20	1010	0.065
1000		10 x 20	900	0.085	10 x 20	1010	0.065	12.5 x 20	1350	0.050
1500		10 x 20	1050	0.065	12.5 x 20	1370	0.048	12.5 x 25	1600	0.036
2200		12.5 x 20	1400	0.042	12.5 x 25	1650	0.034	16 x 25	1900	0.030
3300		12.5 x 25	1700	0.035	16 x 25	2180	0.026	16 x 31.5	2200	0.023
4700		16 x 25	2100	0.028	16 x 31.5	2400	0.023	18 x 31.5	2500	0.022
6800		16 x 31.5	2350	0.025	16 x 35.5	2550	0.022	18 x 35.5	2900	0.018
10000		18 x 31.5	2550	0.023	18 x 40	3040	0.018			
15000		18 x 40	2950	0.018						

Cap(μF)	W.V	25(IE)			35(IV)			50(IH)		
		SIZE	I _r	Z	SIZE	I _r	Z	SIZE	I _r	Z
10							5 x 11	115	1.4	
15							5 x 11	145	0.93	
22					5 x 11	160	0.75	6.3 x 11	195	0.65
33		5 x 11	155	0.80	6.3 x 11	225	0.49	6.3 x 11	240	0.43
47		6.3 x 11	210	0.55	6.3 x 11	270	0.34	8 x 11.5	390	0.30
68		6.3 x 11	260	0.36	8 x 11.5	420	0.23	8 x 11.5	410	0.20
100		8 x 11.5	370	0.25	8 x 11.5	460	0.16	10 x 16	580	0.16
150		8 x 11.5	450	0.16	10 x 12.5	525	0.14	10 x 20	820	0.10
220		10 x 12.5	600	0.13	10 x 16	770	0.09	10 x 20	1010	0.075
330		10 x 16	750	0.095	10 x 20	1015	0.065	12.5 x 20	1300	0.055
470		10 x 20	1010	0.065	12.5 x 20	1400	0.050	12.5 x 25	1500	0.044
680		12.5 x 20	1400	0.046	12.5 x 25	1660	0.036	16 x 25	1850	0.036
1000		12.5 x 25	1650	0.036	16 x 25	1950	0.030	16 x 31.5	2120	0.030
1500		16 x 25	1950	0.030	16 x 31.5	2360	0.027	18 x 31.5	2220	0.028
2200		16 x 31.5	2350	0.025	16 x 35.5	2550	0.024	18 x 40	2560	0.024
3300		16 x 35.5	2550	0.022	18 x 40	3040	0.017			
4700		18 x 35.5	2960	0.018						

 I_r = Max. permissible ripple current[mA(rms) at 105°C, 100KHz]

 Z = Max. Impedance [Ω at 20°C, 100KHz]

Low Z