

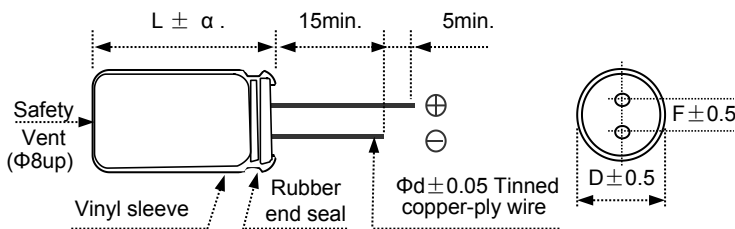
RF Series

- Low impedance, downsized
- Power supply output, 105°C 4000~8000hours
- RoHS2.0 Compliant

◆ 规格表 Specifications

项目 Items	特性参数 Characteristics										
使用温度范围 Category Temperature Range	-40 ~ +105°C										
额定工作电压范围 Rated Voltage	6.3 ~ 100V.DC										
静电容量允许偏差 Capacitance Tolerance	±20%(M) (at 20°C, 120Hz)										
漏电流 Leakage Current	I ≤ 0.01CV or 3μA, 二者取大值 (施加额定工作电压2分钟后) Whichever is greater (After 2 minutes application of rated voltage) Note: I=Max.leakage current (μA), C=Nominal capacitance(μF), V=Rated voltage(V) (at 20°C)										
损耗角正切值 tanδ Dissipation Factor	Rated voltage(Vdc)	6.3	10	16	25	35	50	63	80	100	
	tanδ (Max.)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.08	
标称容量超过1000 μF, 则每增加1000 μF, 损耗角正切值增加0.02 When nominal capacitance exceeds 1000μF, add 0.02 to the value above for each 1000μF increase. (at 20°C, 120Hz)											
低温特性 Low Temperature Characteristics (Max.Impedance Ratio)	阻抗比值不得超过下表中列出的值 The impedance ratio shall not exceed the values listed in the below table. (at 120Hz)										
	Rated voltage(V)	6.3	10	16	25	35	50	63	80	100	
	Z(-25°C)/Z(+20°C)	2	2	2	2	2	2	2	2	2	
Z(-40°C)/Z(+20°C)											
耐久性 Endurance	在105°C环境中, 不超过额定电压的范围内叠加最大允许纹波电流, 连续加载右表时间, 经恢复到20°C后, 电容器满足以下各项要求。 The following specifications shall be satisfied when the capacitors are restored to 20°C after applied within maximum allowable ripple current and not over rated voltage range for the time in the table at 105°C.										
	Capacitance change	≤ ±25% of the initial value					时间 (hrs)				
	D.F.(tanδ)	≤ 200% of the initial specified value					Φ5~Φ6.3 : 4000、Φ8~Φ10 : 5000				
	Leakage current	≤ The initial specified value					Φ13 : 7000、≥Φ16:8000				
高温储存特性 Shelf Life	在105°C环境中, 不施加电压条件下储存1000小时, 经恢复到20°C后, 电容器满足以下各项要求。 The following specifications shall be satisfied when the capacitors are restored at 20°C after exposing them for 500 hours at 105°C without voltage applied.										
	Capacitance change	≤ ±25% of the initial value									
	D.F.(tanδ)	≤ 200% of the initial specified value									
	Leakage current	≤ 200% of the initial specified value									

◆ 尺寸图 (单位: mm) DIMENSIONS (Unit:mm)



ΦD	5	6.3	8	10	13	16	18
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
Φd	0.5	0.5	0.5/0.6	0.6	0.6	0.8	0.8

α	(L < 20) 1.5
	(L ≥ 20) 2.0

◆ 纹波电流修正系数 Rated Ripple Current Coefficient

● 频率系数 Frequency Coefficient

Capacitance(μF)	Frequency(Hz)			
	120	1k	10k	100k
6.8~180	0.40	0.75	0.90	1.00
220~560	0.50	0.85	0.94	1.00
680~1,800	0.60	0.87	0.95	1.00
2,200~3,900	0.75	0.90	0.95	1.00
4,700 ~	0.85	0.95	0.98	1.00

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◆ 标准品一览表 Standard Ratings

WV(V)	Cap. (μF)	Case size ΦD×L (mm)	Impedance (Ω) Max. 20°C/100kHz	Rated ripple current (mA _{rms}) 105°C
6.3	150	5x11	0.30	250
	330	6.3x11	0.13	405
	560	8x12	0.072	760
	820	8x16	0.056	995
	1,000	10x13	0.053	1,030
	1,200	8x20	0.041	1,250
	1,200	10x16	0.038	1,430
	1,500	10x20	0.023	1,820
	2,200	10x25	0.022	2,150
	3,300	13x20	0.021	2,360
	3,900	13x25	0.018	2,770
	4,700	13x30	0.16	3,290
	5,600	13x35	0.015	3,400
	5,600	16x21	0.018	3,140
6,800	16x26	0.016	3,460	
10	100	5x11	0.30	250
	220	6.3x11	0.13	405
	470	8x12	0.072	760
	680	8x16	0.056	995
	680	10x13	0.053	1,030
	1,000	8x20	0.041	1,250
	1,000	10x16	0.038	1,430
	1,200	10x20	0.023	1,820
	1,500	10x25	0.022	2,150
	2,200	13x20	0.021	2,360
	3,300	13x25	0.018	2,770
	3,900	13x30	0.16	3,290
	3,900	16x21	0.018	3,140
	4,700	13x35	0.015	3,400
5,600	16x26	0.016	3,460	
16	56	5x11	0.30	250
	120	6.3x11	0.13	405
	330	8x12	0.072	760
	470	8x16	0.056	995
	470	10x13	0.053	1,030
	680	8x20	0.041	1,250
	680	10x16	0.038	1,430
	820	10x20	0.035	1,550
	1,000	10x20	0.023	1,820
	1,200	10x25	0.022	2,150
	1,500	13x20	0.021	2,360
	2,200	13x25	0.018	2,770
	2,700	13x30	0.016	3,290
	2,700	16x21	0.018	3,140
3,300	13x35	0.015	3,400	
3,900	16x26	0.016	3,460	
25	47	5x11	0.30	250
	100	6.3x11	0.13	405
	220	8x12	0.072	760
	330	8x16	0.056	995
	330	10x13	0.053	1,030
	470	8x20	0.041	1,250
	470	10x16	0.038	1,430
	680	10x20	0.023	1,820
	820	10x25	0.022	2,150
	1,000	13x20	0.021	2,360
	1,500	13x25	0.018	2,770
	1,800	13x30	0.016	3,290
	1,800	16x21	0.018	3,140
	2,200	13x35	0.015	3,400
2,700	16x26	0.016	3,460	

WV(V)	Cap. (μF)	Case size ΦD×L (mm)	Impedance (Ω) Max. 20°C/100kHz	Rated ripple current (mA _{rms}) 105°C/100kHz	
35	33	5×11	0.30	250	
	56	6.3×11	0.13	405	
	150	8×12	0.072	760	
	220	8×16	0.056	995	
	220	10×13	0.053	1,030	
	270	8×20	0.041	1,250	
	330	10×16	0.038	1,430	
	470	10×20	0.023	1,820	
	560	10×25	0.022	2,150	
	680	13×20	0.021	2,360	
	1,000	13×25	0.018	2,770	
	1,200	13×30	0.16	3,290	
	1,200	16×21	0.18	3,140	
	1,500	13×35	0.015	3,400	
	1,800	16×26	0.016	3,460	
	50	22	5×11	1.88	238
		56	6.3×11	1.65	385
100		8×12	1.45	724	
120		8×16	1.22	950	
150		10×13	1.23	979	
180		8×20	1.16	1,190	
220		10×16	1.12	1,370	
270		10×20	0.98	1,580	
330		10×25	0.89	1,870	
470		13×20	0.078	2,050	
560		13×25	0.056	2,410	
680		13×30	0.053	2,860	
820		13×35	0.041	2,960	
820		16×21	0.039	2,730	
1,000		16×26	0.036	3,010	
63		15	5×11	1.99	250
		33	6.3×11	1.88	405
	56	8×12	1.55	760	
	82	8×12	1.32	995	
	82	10×12	1.19	1,030	
	120	8×16	0.099	1,250	
	120	10×13	0.099	1,430	
	180	10×14	0.096	1,820	
	180	10×16	0.092	2,150	
	220	10×16	0.089	2,360	
	270	10×16	0.088	2,770	
	330	10×16	0.089	2,770	
	390	10×20	0.085	3,290	
	470	13×20	0.085	3,140	
	470	13×25	0.081	3,400	
	560	13×30	0.078	3,460	
	80	680	13×30	0.078	2800
680		16×26	0.086	2600	
680		18×20	0.099	2,500	
820		16×32	0.085	2,850	
820		18×26	0.092	2,800	
1,000		16×35	0.065	2,900	
1,200		16×40	0.061	3,400	
1,200		18×32	0.088	3,300	
1,500		18×35	0.058	3,400	
1,800		18×40	0.048	3,500	
68		10×13	1.55	480	
100		10×16	1.32	600	
120		10×20	1.21	800	
150		10×25	1.11	900	
150		13×16	1.11	750	

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WV(V)	Cap. (μF)	Case size ΦD×L (mm)	Impedance (Ω) Max. 20°C/100kHz	Rated ripple current (mA _{rms}) 105°C
80	220	13×20	0.062	1100
	330	13×25	0.047	1250
	330	16×20	0.048	1,350
	390	13×30	0.042	1,500
	470	13×35	0.036	1,650
	470	16×26	0.038	1,700
	470	18×20	0.045	1,500
	560	13×40	0.032	1,800
	680	16×32	0.032	1,850
	680	18×26	0.036	1,750
	820	16×35	0.029	2,000
	820	18×32	0.03	1,900
	1,000	16×40	0.027	2,200
	1,000	18×35	0.027	2,200
1,200	18×40	0.026	2,700	
100	6.8	5×11	1.4	125
	15	6.3×11	0.57	205
	27	8×12	0.36	355
	39	8×16	0.25	450
	47	10×13	0.17	480

WV(V)	Cap. (μF)	Case size ΦD×L (mm)	Impedance (Ω) Max. 20°C/100kHz	Rated ripple current (mA _{rms}) 105°C/100kHz
100	56	8×20	0.19	565
	68	10×16	0.11	600
	82	10×20	0.084	800
	100	13×16	0.11	750
	120	10×25	0.069	900
	150	13×20	0.062	1100
	220	13×25	0.047	1250
	220	16×20	0.048	1,350
	270	13×30	0.042	1,500
	330	13×35	0.036	1,650
	330	16×26	0.038	1,700
	330	18×20	0.045	1,500
	390	13×40	0.032	1,800
	470	16×32	0.032	1,850
	470	18×26	0.036	1,750
	560	16×35	0.029	2,000
	560	13×30	0.030	1,900
	680	16×40	0.027	2,200
	680	18×35	0.027	2,200
	820	18×40	0.026	2,700

※铝电解电容器由于在纹波电流叠加时自我发热、温度上升而老化，中心温度每升温5°C寿命减少一半。要想保持长寿命请在使用过程中降低纹波电流

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.