

KF series

Features

- ◆ Used in communication equipments, switching power supply ,
- ◆ industrial measuring instruments, etc.
- ◆ Long life 2000~5000 Hrs at 105°C.
- ◆ Safety vent construction design.
- ◆ For detail specifications, please refer to Engineering Bulletin No.E126



Specifications

Item	Performance Characteristics									
Operating Temperature Range	-40~+105°C				-25~+105°C					
Rate Voltage Range	6.3~100VDC				160~450VDC					
Capacitance Range	0.47~15000uf				0.47~470uf					
Capacitance Tolerance	±20% (120Hz, +20°C)									
Leakage current (+20°C,max.)	I≤0.01CV或3 (µA)				I≤0.03CV (µA)					
	After 2 minutes ,whichever is greater measured with rated working voltage applied				After 2 minutes withrate working voltage applied					
Dissipation factor (tgδ)	Working Voltage(VDC)	6.3	10	16	25	35	50	63	100	
	D.F(%)max	18	16	14	12	10	9	8	8	
	Working Voltage(VDC)	160	200	250	350	400	450			
	D.F(%)max	12	12	12	15	15	17			
For capacitance>1000µF , Add 2% per another 1000µF (120Hz, +20°C)										
Low Temperature Characteristics (120Hz)	Impedance ratio max.									
	Working Voltage(VDC)	6.3	10	16	25	35	50	63	100	
	Z-25°C/ Z+20°C	4	3	3	3	3	3	2	2	
	Z-40°C/ Z+20°C	8	6	4	3	3	3	3	3	
	Working Voltage(VDC)	160	200	250	350	400	450			
	Z-25°C/ Z+20°C	2	2	3	5	6	6			
	Z-40°C/ Z+20°C	3	6	6	6	6	-			
For capacitance>1000µF , Add 0.5 per another 1000µF For Z-25°C/ Z+20°C Add 1.0 per another 1000µF For Z-40°C/ Z+20°C										
Load Life	Test conditions						DΦ		Life hours	
	Duration time	: as right				5-6.3Φ		2000		
Ambient temperature	: +105°C				8Φ		3000			
Applied voltage	: Rated DC working voltage				≥10≥		5000			
After test requirement at +20°C					(160-450V:2000hrs)					
Capacitance change	: ≤±20% of the initial measured value									
Dissipation factor	: ≤200% of the initial specified value									
Leakage current	: ≤The initial specified value									
Shelf Life	Test conditions									
	Duration time	: 1000Hrs								
	Ambient temperature	: +105°C								
	Applied voltage	: None								
	After test requirement at +20°C	: Same limits as Load life.								
Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes										

Multiplier for Ripple Current vs. Frequency

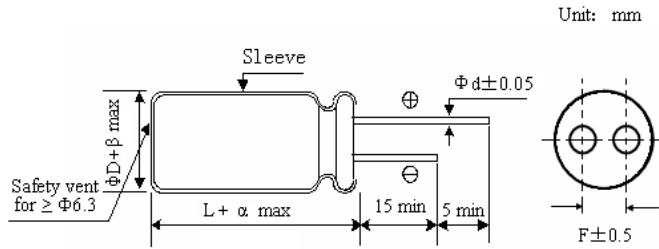
CAP(µF)	50(60)	120	400	1k	10k	50k-100k
Frequency (Hz)						
CAP ≤ 10	0.47	0.59	0.76	0.85	0.97	1
10<CAP≤ 100	0.52	0.62	0.80	0.89	0.97	1
100<CAP≤1000	0.58	0.72	0.84	0.90	0.98	1
1000 < CAP	0.63	0.78	0.87	0.91	0.98	1

Multiplier for Ripple Current vs. Temperature

Temperature°C	45	60	70	85	95	105
Factor	2.10	1.90	1.65	1.40	1.25	1.00

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Diagram of Dimensions



ΦD	5	6.3	8	10	13	16	18	22
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10
Φd	0.5		L<20	L≥20	0.6		0.8	
			0.5	0.6				

a	D<18	D=18		D>18
		L<35.5	L≥35.5	
	1.5	1.5	2.0	2.0

Case Size

Voltage	Φ D × L								
	6.3V			10V			16V		
Cap(μF)	Case Size	Ripple Current	Impedance	Case Size	Ripple Current	Impedance	Case Size	Ripple Current	Impedance
10							5×11	74	4.70
22				5×11	98	2.70	5×11	100	2.60
33				5×11	100	2.60	5×11	114	2.0
47				5×11	150	1.34	5×11	155	11.0
56				5×11	160	1.23	5×11	180	0.82
68				5×11	170	1.05	5×11	195	0.69
100	5×11	170	1.00	5×11	210	0.80	6.3×12	265	0.50
120	5×11	175	0.92	6.3×12	250	0.75	6.3×12	270	0.47
150	6.3×12	220	0.81	6.3×12	290	0.61	6.3×12	290	0.41
	5×11	185	0.90						
180	6.3×12	240	0.76	6.3×12	320	0.46	8×12	370	0.34
							6.3×12	315	0.38
220	6.3×12	310	0.65	6.3×12	340	0.35	8×12	480	0.25
270	6.3×12	340	0.54	8×12	400	0.30	8×12	520	0.21
330	8×12	390	0.42	8×12	460	0.27	8×12	590	0.156
470	8×12	450	0.25	8×12	580	0.25	10×13	750	0.124
560	8×12	490	0.23	10×13	635	0.16	10×13	785	0.105
				8×12	550	0.17			
680	8×12	550	0.21	10×13	765	0.11	10×16	1100	0.092
820	8×16	620	0.20	10×16	890	0.1	10×16	1180	0.078
1000	10×13	770	0.17	10×16	1040	0.076	10×20	1350	0.065
	8×16	750	0.15						
1200	10×16	860	0.16	10×16	1200	0.067	10×25	1500	0.061
1500	10×16	1100	0.14	10×20	1400	0.062	10×30	1600	0.056
							13×21	1380	0.06
1800	10×20	1250	0.11	10×25	1550	0.058	13×21	1800	0.047
							10×25	1730	0.05
2200	10×20	1380	0.090	13×21	1750	0.041	13×25	2000	0.038
	10×25	1470	0.095	10×25	1650	0.52	13×21	1880	0.04
2700	10×25	1490	0.075	13×21	1900	0.035	13×25	2450	0.033
	13×20	1550	0.075						
3300	13×20	1650	0.036	13×25	2000	0.031	16×25	2790	0.030

Ripple Current (mA,rms) at 105°C 100KHz
Max Impedance (Ω) at 20°C 100KHz

KF series

Case Size

 $\Phi \times D \times L$

Voltage	6.3V			10V			16V		
Cap(μ F)	Case Size	Ripple Current	Impedance	Case Size	Ripple Current	Impedance	Case Size	Ripple Current	Impedance
3300							13×30	2640	0.030
4700	13×30	2100	0.036	16×25	2100	0.030	16×32	2880	0.026
	13×25	1900	0.040						
5600	13×30	2160	0.034	16×25	2290	0.028	16×36	2990	0.025
6800	16×25	2350	0.032	16×32	2650	0.026	18×36	3200	0.024
8200	16×32	2550	0.027	16×36	2770	0.026	18×36	3320	0.024
10000	16×36	2700	0.024	18×36	2850	0.024	18×41	3550	0.024
15000	18×36	2950	0.023						

Voltage	25V			35V			50V		
Cap(μ F)	Case Size	Ripple Current	Impedance	Case Size	Ripple Current	Impedance	Case Size	Ripple Current	Impedance
0.47							5×11	25	5.4
1							5×11	40	4.0
2.2							5×11	55	2.8
3.3							5×11	60	2.2
4.7	5×11	68	3.95	5×11	85	3.65	5×11	90	2.0
5.6	5×11	75	3.25	5×11	92	3.09	5×11	105	1.93
6.8	5×11	80	2.98	5×11	97	2.82	5×11	110	1.89
10	5×11	85	2.56	5×11	105	2.37	5×11	120	1.82
22	5×11	125	1.95	5×11	150	1.50	6.3×12	150	1.25
33	5×11	155	1.42	5×11	180	1.21	6.3×12	250	0.80
47	5×11	190	1.10	6.3×12	280	0.80	6.3×12	290	0.65
	6.3×12	220	1.00						
56	6.3×12	250	0.79	6.3×12	310	0.64	8×12	310	0.49
68	6.3×12	280	0.65	8×12	350	0.52	8×12	375	0.33
100	6.3×12	370	0.35	8×12	450	0.25	10×13	480	0.17
120	6.3×12	380	0.33	8×12	510	0.22	10×13	530	0.156
150	8×12	410	0.31	8×12	540	0.191	10×13	590	0.132
180	8×12	455	0.25	10×13	650	0.172	10×16	860	0.114
220	8×12	550	0.15	10×13	750	0.114	10×16	930	0.096
270	10×13	720	0.125	10×16	910	0.095	10×20	1060	0.078
330	10×13	820	0.114	10×16	1050	0.079	10×25	1150	0.065
470	10×16	1200	0.076	10×20	1200	0.065	13×21	1590	0.055
560	10×16	1250	0.072	10×25	1500	0.061	13×21	1740	0.05
680	10×20	1320	0.065	13×21	1570	0.056	13×25	1930	0.044
820	10×20	1400	0.052	13×21	1700	0.048	13×30	2100	0.039

Ripple Current (mA,rms) at 105°C 100KHz
 Max Impedance (Ω) at 20°C 100KHz

KF series

Case Size

Φ D x L

Voltage	25V			35V			50V		
Cap(μF)	Case Size	Ripple Current	Impedance	Cap(μF)	Case Size	Ripple Current	Impedance	Cap(μF)	Case Size
820	10×20	1400	0.052	13×21	1700	0.048	13×30	2100	0.039
	10×25	1530	0.052						
1000	13×21	1650	0.045	13×25	1900	0.042	16×25	2300	0.036
1200	13×25	1980	0.041	13×30	2130	0.039	16×32	2650	0.036
1500	13×25	2210	0.038	16×25	2270	0.036	16×36	2750	0.034
1800	16×25	2510	0.036	16×32	2700	0.035	16×36	2850	0.034
2200	16×25	2650	0.035	16×32	2780	0.034	18×36	3040	0.032
2700	16×25	2820	0.031	16×36	2850	0.029	18×41	3070	0.027
3300	16×32	3240	0.026	18×36	3100	0.026	18×41	3100	0.025
4700	16×36	3650	0.024	18×41	3500	0.024			
5600	18×36	3720	0.24						
6800	18×41	3850	0.024						

Voltage	63V			100V			160V		
Cap(μF)	Case Size	Ripple Current	Impedance	Case Size	Ripple Current	Impedance	Case Size	Ripple Current	Impedance
0.47	5×11	25	5.40	5×11	20	5.90	5×11	36	9.44
1	5×11	33	4.00	5×11	30	4.40	6.3×12	45	7.85
2.2	5×11	45	2.80	5×11	42	3.30	6.3×12	55	5.21
3.3	5×11	58	2.20	5×11	55	2.80	8×12	70	4.31
4.7	5×11	65	2.00	5×11	72	2.60	8×12	80	4.16
5.6	5×11	95	1.90	5×11	100	2.33	10×13	91	3.61
6.8	5×11	100	1.82	6.3×12	115	1.95	10×16	100	3.12
10	5×11	110	1.75	6.3×12	130	1.77	10×16	140	2.69
22	6.3×12	180	0.80	8×12	220	0.85	10×16	205	1.30
33	8×12	270	0.61	10×13	320	0.69	10×20	260	1.10
47	8×12	300	0.56	10×13	370	0.58	13×21	320	0.91
56	8×12	330	0.38	10×13	400	0.43	13×21	340	0.67
				10×16	440	0.42	13×25	370	0.66
68	10×13	480	0.21	10×16	470	0.35	13×25	450	0.56
100	10×16	610	0.14	10×25	560	0.30	16×25	540	0.47
120	10×16	620	0.13	10×25	660	0.22	16×25	560	0.35
150	10×16	700	0.11	13×21	780	0.174	16×32	710	0.26
180	10×20	800	0.10	13×21	820	0.142	16×36	760	0.22
220	10×20	920	0.080	13×25	950	0.13	16×36	820	0.19
270	13×21	1150	0.065	13×30	1120	0.11	18×36	990	0.18
330	13×21	1250	0.055	16×25	1440	0.10	18×41	1180	0.16
470	13×25	1620	0.053	16×32	1650	0.09			

Ripple Current (mA,rms) at 105 °C 100KHz

Max Impedance (Ω) at 20 °C 100KHz

KF series
Case Size

Φ D × L

Voltage	63V			100V			160V		
Cap(μF)	Case Size	Ripple Current	Impedance	Case Size	Ripple Current	Impedance	Case Size	Ripple Current	Impedance
560	13×25	1680	0.049	16×36	1720	0.085			
680	13×30	1950	0.043	18×36	1790	0.080			
820	16×25	2150	0.038	18×36	1840	0.071			
1000	16×32	2350	0.034	18×41	1930	0.066			
1200	16×36	2550	0.032						
1500	18×36	2710	0.031						
1800	18×41	3000	0.027						

Voltage	200			250			350		
Cap(μF)	Case Size	Ripple Current	Impedance	Case Size	Ripple Current	Impedance	Case Size	Ripple Current	Impedance
0.47	5×11	36	9.38	5×11	40	8.85	6.3×12	40	8.82
1	6.3×12	45	7.76	6.3×12	50	6.54	6.3×12	50	7.90
							8×12	58	6.35
2.2	6.3×12	55	5.18	8×12	72	4.12	8×12	75	5.30
							10×13	86	4.02
3.3	8×12	71	4.25	8×12	75	3.85	10×13	90	3.80
							10×16	100	3.52
4.7	8×12	78	5.00	8×12	85	3.50	10×16	118	3.13
	10×13	85	4.12	10×13	100	2.95	10×20	130	2.77
5.6	8×12	90	4.50	8×12	95	2.93	10×16	120	2.76
	10×13	95	3.55	10×13	105	2.72	10×20	132	2.58
6.8	8×16	115	3.25	8×16	124	2.50	10×16	148	2.43
	10×16	140	2.71	10×13	126	2.20	10×25	180	1.65
				10×16	140	1.86			
10	10×16	150	2.02	8×16	141	1.80	10×16	165	1.64
				10×13	144	1.75	10×25	200	1.35
				10×16	160	1.40			
22	10×16	186	1.80						
	10×20	205	1.40	10×20	210	1.30	13×21	220	1.22
33	10×20	280	1.00	10×25	248	1.25	13×21	263	1.02
	13×21	330	0.80	13×21	310	0.90	13×25	290	0.86
47	13×21	360	0.65	13×21	375	0.60	16×25	389	0.76
	13×25	400	0.62	13×25	405	0.45	16×32	430	0.62
56	13×21	430	0.45	13×25	420	0.42	16×36	460	0.60
68	13×25	480	0.42						
	16×25	540	0.35	16×25	490	0.38	16×32	475	0.57

Ripple Current (mA,rms) at 105°C 100KHz
Max Impedance (Ω) at 20°C 100KHz

KF series

Case Size

 $\Phi \times D \times L$

Voltage	200V			250V			350V		
Cap(μ F)	Case Size	Ripple Current	Impedance	Case Size	Ripple Current	Impedance	Case Size	Ripple Current	Impedance
100	16×25	780	0.30	16×32	675	0.27	16×36	481	0.56
	16×32	820	0.28				18×32	487	0.56
							18×36	513	0.55
120	16×25	740	0.28	16×32	692	0.26	18×36	525	0.54
	16×32	830	0.26	16×36	730	0.25	18×41	560	0.52
150	16×32	840	0.25	16×36	750	0.24	18×41	590	0.50
	16×36	860	0.23	18×32	750	0.23			
180	18×32	920	0.20	18×36	830	0.21			
220	18×36	1050	0.19	18×32	850	0.20			
	18×41	1090	0.16	18×41	910	0.19			

Voltage	400V			450V		
Cap(μ F)	Case Size	Ripple Current	Impedance	Case Size	Ripple Current	Impedance
0.47	6.3×12	26	33.00	8×12	30	34.00
1	8×12	36	16.50	8×12	45	17.35
2.2	10×13	76	13.00	10×16	65	10.25
	8×12	65	13.00			
3.3	8×12	86	12.00	10×16	89	10.00
4.7	10×13	105	10.00	10×20	105	5.00
5.6	8×16	105	8.00	10×20	110	4.75
	10×13	120	9.00			
6.8	10×16	160	7.50	10×20	135	4.05
10	10×20	235	3.60	10×25	180	3.75
22	13×21	295	2.65	13×25	320	2.80
33	13×25	440	1.60	16×25	460	2.20
47	16×25	580	1.40	16×36	650	1.05
56	16×32	650	0.85	18×32	730	0.95
68	16×32	800	0.80	18×36	760	0.75
100	18×36	900	0.61	18×41	880	0.74

Ripple Current (mA,rms) at 105°C 100KHz

Max Impedance (Ω) at 20°C 100KHz