SKM Series

特点 Features

- 宽温度产品，105℃，1000小时寿命，体积小，容量大。
  Wide temperature range,105℃, Load life:1000 hours, small size, large capacity.
- 适用于开关电源、适配器、DVD、背投彩电、空调等线路中。
  Used in Smps, Adapter, DVD, color-TV, air conditioning circuits etc.
- RoHS指令已对应完毕。 Adapted to the RoHS directive.

主要技术性能 Specifications

项目 Items	特性 Characteristics	
使用温度范围 Operating Temperature Range	-40~+105℃	-25~+105℃
额定电压范围 Rated Voltage Range	6.3~100V	160~450V
标称电容量范围 Nominal Capacitance Range	0.1~22000μF	0.47~470μF
标称电容量允许偏差 Capacitance Tolerance	± 20% (120Hz, +20°C)	
漏电流 Leakage Current	I≤0.01CV 或 3(μA) 2分钟 取较大者 (at 20℃, after 2 minutes) (whichever is greater)	I≤0.03CV (μA)+15μA 1分钟(1 minute)
损耗角正切值（tgδ） Dissipation Factor (+20℃, 120Hz)		

U_R (V)	6.3	10	16	25	35	50	63	100	160~450
tgδ	0.25	0.20	0.17	0.15	0.12	0.10	0.09	0.08	0.20

容量大于1000μF者，每增加1000μF，其损耗角正切值增加0.02
When nominal capacitance exceeds 1000μF, add 0.02 to the value above for each 1000μF increase.

温度特性 Temperature characteristics (Impedance ratio at 120Hz)

U_R (V)	6.3	10	16~50	63~100	160~250	400	450
Z-25℃ / Z+20℃	-	-	-	-	3	6	7
Z-40℃ / Z+20℃	≤8	≤6	≤4	≤3	-	-	-

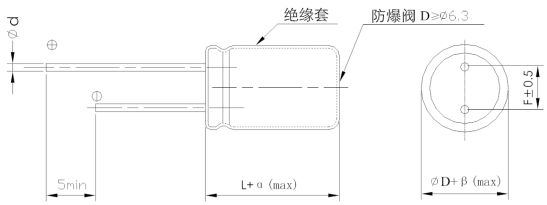
耐久性
Load Life

+105℃加额定电压1000小时，恢复16小时后：
After applying rated voltage for 1000 hours at +105℃ and then resumed for 16 hours:
电容量变化率 Capacitance change： ±20%初始测量值以内 ±20% of the initial measured value
漏 电 流 Leakage current： ≤初始规定值 ≤the initial specified value
损耗角正切值 Dissipation factor： ≤2倍初始规定值 ≤2times of the initial specified value

高温贮存
Shelf Life

+105℃,1000小时贮存后,恢复16小时后：
After storage for 1000 hours at +105℃ and then resumed 16 hours
电容量变化率 Capacitance change： ±20%初始测量值以内 ±20% of the initial measured value
漏 电 流 Leakage current： ≤2倍初始规定值 ≤2times of the initial specified value
损耗角正切值 Dissipation factor： ≤2倍初始规定值 ≤2times of the initial specified value

外形图及尺寸表 Case Size Table



单位 Unit: mm

D	5	6.3	8	10~12.5	16~18	22
F	2.0	2.5	3.5	5.0	7.5	10
d	0.5	0.5	0.5、0.6	0.6	0.8	0.8

αMAX	
	‹ L＜20 › 1.5
	‹ L≥20 › 2.0

βMAX	
	‹ D＜20 › 0.5
	‹ D≥20 › 1.0

频率修正系数 Frequency Coefficient

Rated Voltage(V)	Freq.(Hz) / CAP(μF)	50	120	300	1K	10K	100K
6.3~100	~47	0.75	1.00	1.35	1.57	2.00	2.30
	100~470	0.80	1.00	1.23	1.34	1.50	1.65
	≥560	0.85	1.00	1.10	1.13	1.15	1.40
160~450	0.47~4.7	0.65	1.00	1.35	1.75	2.30	2.50
	6.8~82	0.75	1.00	1.25	1.50	1.75	1.80
	≥100	0.80	1.00	1.15	1.30	1.40	1.50

尺寸 Dimensions

WV / CAP(μF)		6.3V(0J)		10V(1A)		16V(1C)		25V(1E)		35V(1V)		50V(1H)	
		Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
0.1	0R1											5×11	3
0.22	R22											5×11	4
0.33	R33											5×11	5
0.47	R47											5×11	6
1	010											5×11	13
2.2	2R2											5×11	20
3.3	3R3											5×11	30
4.7	4R7					5×11	20	5×11	20			5×11	40
10	100	5×11	20			5×11	35	5×11	40	5×11	40	5×11	55
22	220			5×11	50	5×11	55	5×11	60	5×11	65	5×11	80
33	330	5×11	55	5×11	60	5×11	65	5×11	75	5×11	80	5×11	100
												6.3×11	115
47	470	5×11	65	5×11	70	5×11	80	5×11	85	5×11	100	6.3×11	135
												8×11.5	160
100	101	5×11	95	5×11	105	5×11	125	6.3×11	160	6.3×11	170	8×11.5	230
						6.3×11	140			8×11.5	200		
220	221	5×11	150	6.3×11	170	6.3×11	215	8×11.5	285	8×11.5	300	10×16	510
		6.3×11	170			8×11.5	250						
330	331	6.3×11	215	6.3×11	240	8×11.5	315	8×11.5	340	10×12.5	420	10×16	590
				8×11.5	280					10×16	470		
470	471	8×11.5	260	6.3×11	285	8×11.5	365	10×12.5	470	10×16	545	10×20	710
				8×11.5	330	10×12.5	430			10×20	590		
680	681	8×11.5	365	8×11.5	410	8×16	465	10×16	620	10×20	680	12.5×20	925
						10×12.5	480						
1000	102	8×11.5	445	8×16	550	10×16	680	10×20	820	12.5×20	1025	12.5×25	1290
				10×12.5	570								
1500	152			10×16	630	10×20	750	12.5×20	900	12.5×25	1125		
2200	222	10×16	740	10×20	900	12.5×20	1110	12.5×25	1460	16×25	1500	16×35	1230
				12.5×20	950					18×20	1460		
3300	332	10×20	1030	12.5×20	1205	12.5×25	1390	16×25	1645	16×30	1810	18×35	2165
4700	472	12.5×20	1280	12.5×25	1490	16×25	1740	16×30	1840	18×35	2335	22×40	2650
6800	682	12.5×25	1550	16×25	1825	16×30	2080	16×35	2100				
10000	103	16×25	1900	16×30	1980	16×35	2380	18×35	2500				
15000	153	16×30	2190	16×40	2180	18×35	2600						
22000	223	18×35	2400	18×40	2410								

Size φD×L(mm)
Maximum Allowable Ripple Current (mA rms) at 105℃ 120Hz

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尺寸 Dimensions

CAP(μF) \ WV		63V(1J)		100V(2A)		160V(2C)		200V(2D)		220V(2P)	
		Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
0.1	0R1			5×11	3						
0.22	R22			5×11	4						
0.33	R33			5×11	5						
0.47	R47			5×11	10						
1	010			5×11	16						
2.2	2R2			5×11	23			6.3×11	22	6.3×11	23
3.3	3R3			5×11	35			6.3×11	28	6.3×11	28
4.7	4R7	5×11	40	5×11	40	6.3×11	40	6.3×11	42	8×11.5	45
10	100	5×11	60	6.3×11	60	8×11.5	73	8×14	80	8×16	84
				8×11.5	70						
22	220	5×11	80	6.3×11	90	10×12.5	120	10×16	132	10×20	150
		6.3×11	90	8×11.5	100						
33	330	8×11.5	120	8×11.5	145	10×16	165	10×20	185	12.5×20	200
				10×12.5	170						
47	470	6.3×11	145	10×12.5	200	10×20	210	12.5×20	230	12.5×25	250
		8×11.5	165	10×16	250						
68	680					12.5×20	285	12.5×25	310	16×20	320
82	820					12.5×20	315	12.5×25	345	16×25	390
100	101	10×12.5	250	10×20	350	12.5×25	385	16×20	390	16×30	460
150	151					16×25	515	16×25	520	16×35	620
180	181					16×25	590	16×30	620	16×40	700
220	221	10×20	500	12.5×25	660	16×30	700	16×35	730	18×40	820
270	271					16×35	830	16×40	860		
330	331	12.5×20	690	12.5×25	800	16×40	980	18×40	1000		
390	391					18×40	1100	18×45	1150		
470	471	12.5×20	810	16×25	990	18×45	1250				
560	561										
1000	102	16×25	1450	18×40	2020						
2200	222	18×35	1780								
3300	332	22×40	2000								

CAP(μF) \ WV		250V(2E)		350V(2V)		400V(2G)		420V(2M)		450V(2W)	
		Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
0.47	R47							6.3×11	11	6.3×11	11
1	010					6.3×11	15	6.3×11	15	6.3×11	15
2.2	2R2	6.3×11	23	6.3×11	25	8×11.5	26	8×11.5	26	8×11.5	26
3.3	3R3	6.3×11	28	8×11.5	28	8×11.5	30	8×11.5	30	8×11.5	30
4.7	4R7	8×11.5	45	8×11.5	48	8×11.5	50	8×16	50	8×16	50
6.8	6R8	8×11.5	58	8×14	60	8×12	63	10×16	63	10×16	63
8.2	8R2	8×14	68	8×16	70	8×16	72	10×16	72	10×16	72
10	100	8×16	84	10×16	85	10×16	88	10×16	80	10×20	85
15	150	10×16	112	10×20	113	10×20	115	12.5×20	112	12.5×20	112
22	220	10×20	150	12.5×20	152	12.5×20	155	12.5×25	152	12.5×25	152
27	270	10×20	170	12.5×25	188	12.5×25	190	12.5×25	175	12.5×30	185
33	330	12.5×20	200	12.5×25	205	12.5×25	210	12.5×30	202	12.5×30	202
39	390	12.5×20	210	12.5×30	255	12.5×30	260	16×20	220	16×25	240
47	470	12.5×25	250	16×25	290	16×25	295	16×25	270	16×30	290
56	560	12.5×30	300	16×25	320	16×25	325	16×30	320	16×30	320
68	680	16×20	320	16×30	370	16×30	380	16×30	340	16×35	360
82	820	16×25	390	16×35	440	16×35	450	16×35	405	16×40	430
100	101	16×30	460	16×40	510	16×40	520	16×40	480	18×35	480
120	121	16×30	510	18×40	590	18×40	600	18×40	550	18×40	550
150	151	16×35	620	18×45	690	18×45	700	18×45	650	18×45	650
180	181	16×40	700								
220	221	18×40	820								

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Product symbol system for Aluminum Electrolytic Capacitors

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
① Series			② Voltage		③ Capacitance			④ Tolerance	⑤ Size code				⑥ Terminal Code			⑦ Brand	⑧ Sleeve	⑨ Other	⑩ Supplement Code	

① Series

Series is represented by a two-letter code. For example "SGR".

② Voltage

Voltage in volts(V) is represented by a one-digit and one-letter code.
Example:

Voltage(V)	2.5	4	6.3	10	16	25	35	50	63	80	100
Code	0E	0G	0J	1A	1C	1E	1V	1H	1J	1K	2A

Voltage(V)	160	200	250	315	350	400	420	450	500	550
Code	2C	2D	2E	2F	2V	2G	2M	2W	2H	2L

③ Capacitance

Capacitance in μF is represented by a three-digit code.the first two digis are significant and the third digit indicates the number of zeros following the significant figure "R" represents the decimal point for capacitance under 10μF.
Example:

Capacitance(μF)	0.1	0.47	1	4.7	10	47	100	470	1000	4700	10000
Code	0R1	R47	010	4R7	100	470	101	471	102	472	103

④ Tolerance

Tolerance is represented by a one-letter code.
Example:

Tolerance(%)	-5~+5	-10~+10	-15~+15	-20~+20	-0~+20	-5~+20	-10~+20	-0~+30	+10~+30	-10~+30	-15~+20
Code	J	K	Y	M	R	H	V	F	G	Q	E

⑤ Size code

Size code is represented by a one-letter and three-digit code. The first one-letter indicate case diameter in mm .The last three digits indicate case length in mm, When the height of a product exceeds 100mm, if the last digit is 0,it is represented by A, otherwise, it is represented by B .
Example:

ΦD	4	5	6.3	8	10	12	12.5	13	16	18	20	22	25	30	35	40	50	63.5	89
Code	B	C	E	F	G	H	I	J	L	M	O	P	Q	R	S	T	U	W	Y

L	5	5.4	9	10	11	11.5	12	14	16	20	25	50	100	105	110	115	120	200	205
Code	050	054	090	100	110	115	120	140	160	200	250	500	10A	10B	11A	11B	12A	20A	20B

Note:When a case size is required and not shown in the table ,please contact with us for further discussion.

⑥ Terminal Code

Terminal Code is represented by a combination of letters or numbers
SMD Type terminal code (please refer to page11)
Radial type terminal code (please refer to page 12~15)
Snap-in Type and ScrewType terminal code(please refer to page 16~17)
Note:When a terminal code is required and not shown in the table ,please contact with us for further discussion.

⑦ Brand

The Surge trademark is represented by the letter "S".

⑧ Sleeve

The sleeve material is represented by the letter E for PET and V for PVC.

⑨ Other

It is represented by a letter or number for rubber shape or other information.

⑩ Supplement Code

For special control purposes.

For example: SGR 16V 2200μF 20% 12.5×25 taping F=5.0 Brand: Surge PVC Sleeve

S	G	R	1	C	2	2	2	M	I	2	5	0	B	5	0	S	V	0

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