



ALUMINUM ELECTROLYTIC CAPACITORS

SKR Series

Low Impedance and high frequency (+105°C 高频低阻抗)

■ Features :105°C 2000~3000 hours,Low impedance , high permissible ripple current

特点:低阻抗,耐高频波电流, 105°C 2000~3000小时.

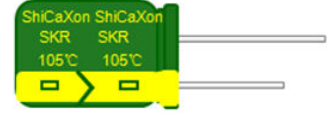
■ Recommended Applications .Apply to the power adapter, switching power supply,

charger power supply high frequency electronic circuit

适用于适配器电源,开关电源,充电器电源高频电子线路中.

■ Corresponding product to RoHS (2011/65/EU)

符合RoHS要求的相应产品(2011/65/EU)

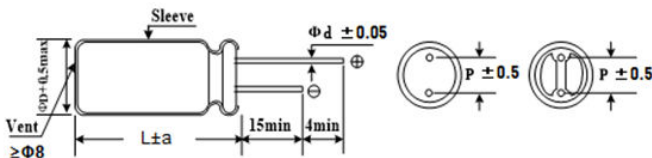


Specifications(技术性能)

Item 项目	Characteristics 性能																																		
Operating Temperature Range 温度范围	-40 ~ +105°C																																		
Rated Voltage Range 电压范围	6.3 ~ 100VDC	160 ~250VDC																																	
Rated Capacitance Range 容量范围	1 ~ 12000µF	1 ~ 470µF																																	
Capacitance Tolerance 容量偏差	± 20 % at 120Hz , 20°C																																		
Leakage Current (MAX) (20°C) 泄漏电流	I=0.01CV or 3(µA) whichever is greater.																																		
	After rated voltage applied for 2 min 两者取较大值, 2分钟测试																																		
Dissipation Factor 损耗角 (tanδ) (120Hz ,20°C)	I=0.03CV+10(µA) or (3mA) , whichever is smaller.																																		
	After rated voltage applied for 2 min 两者取较小值, 2分钟测试																																		
Low Temperature Stability Impedance Ratio (MAX) 低温阻抗比	<table border="1"> <tr> <td>WV(V)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> <td>160~250</td> <td>350~450</td> </tr> <tr> <td>tan δ</td> <td>0.22</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.09</td> <td>0.08</td> <td>0.15</td> <td>0.20</td> </tr> </table>											WV(V)	6.3	10	16	25	35	50	63	100	160~250	350~450	tan δ	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.15	0.20		
	WV(V)	6.3	10	16	25	35	50	63	100	160~250	350~450																								
tan δ	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.15	0.20																									
Capacitance > 1000µF, add 0.02per another1000µF.容量大于1000uF每增加1000uF损耗角增加0.02.																																			
High Temperature Load Life 高温负载耐久性	After applying rated voltage for 2000~3000 hours at 105°C. the capacitors shall meet the following requirements. 在105°C环境下连续施加额定电压2000~3000小时后,符合以下要求.																																		
	Capacitance Change 容量	Within ± 20 % of initial value 在初始值的±20%																																	
	Dissipation Factor 损耗角	Not more than 200% of the specified value 不超过标准值的200%																																	
Leakage Current 泄漏电流	Initial specified value or less 标准值内																																		
Life Time: 试验时间	<table border="1"> <tr> <td>ΦD(mm)</td> <td colspan="3">Φ5~Φ6</td> <td colspan="4">Φ8~10higher</td> <td colspan="4">Φ13~18higher</td> </tr> <tr> <td>Life(H)</td> <td colspan="3">2000</td> <td colspan="4">3000</td> <td colspan="4">4000</td> </tr> </table>											ΦD(mm)	Φ5~Φ6			Φ8~10higher				Φ13~18higher				Life(H)	2000			3000				4000			
ΦD(mm)	Φ5~Φ6			Φ8~10higher				Φ13~18higher																											
Life(H)	2000			3000				4000																											
High Temperature Shelf Life 高温放置耐久性	After leaving capacitors under no load at 105°C for 1000 hours.the capacitors shall meet the same requirement as Endurance. 在105°C环境下不加负载放置1000小时后电性能同耐久性要求.																																		

Diagram of Dimensions

外形尺寸



Unit: mm

ΦD	5	6.3	8	10	13	16	18	22
P	2.0	2.5	2.5/3.5	5.0	5.0	7.5	7.5	10.0
Φd	0.5	0.5	0.5	0.6	0.6	0.8	0.8	1.0
a	(L<20)1.5 (L≥20)2.0							

Multiplier for Ripple Current

(1) Frequency Coefficient (频率系数)

Cap(µf)	120	1k	10k	100k
1~5.6	0.20	0.40	0.90	1.00
6.8~180	0.40	0.75	0.90	1.00
220~560	0.50	0.85	0.94	1.00
680~1800	0.60	0.87	0.95	1.00
2200~3900	0.75	0.90	0.95	1.00
4700~12000	0.85	0.95	0.98	1.00

(2) Temperature Coefficient(温度系数)

Temperature (°C)	-40	60	70	85	105
Factor	2.33	2.17	2.00	1.75	1.00



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Series

■ DIMENSIONS Rated Capacitors, Voltage(Surge),Case Size,Imp,Ripple Current .容量、电压 (浪涌电压)、尺寸、阻抗、纹波电流.

Capacitance (μF)	Rated (Surge) Voltage (V)											
	6.3 (8)			10 (13)			16 (20)			25 (32)		
	Size	Imp	Ripple	Size	Imp	Ripple	Size	Imp	Ripple	Size	Imp	Ripple
10							5x11	2.800	85	5x11	2.500	90
22							5x11	1.900	110	5x11	1.800	115
33							5x11	1.000	155	5x11	0.920	162
47							5x11	0.630	180	5x11	0.420	220
68							5x11	0.500	220			
82							5x11	0.420	240	6.3x12	0.250	350
100	5x11	0.600	200	5x11	0.420	220	5x11	0.250	295	6.3x12	0.220	368
							6.3x12	0.170	440			
150	5x11	0.420	230				8x12	0.150	510			
220	6.3x12	0.250	340	6.3x12	0.220	365	6.3x12	0.125	494	6.3x12	0.100	546
							8x12	0.110	595	8x12	0.098	625
330	6.3x12	0.220	365	6.3x12	0.140	470	8x12	0.100	625	8x12	0.080	708
										8x14	0.078	756
470	6.3x12	0.193	400	6.3x12	0.120	520	8x12	0.082	694	8x14	0.068	816
	8x12	0.180	485	8x12	0.110	593	8x14	0.078	750	8x16	0.065	870
							8x16	0.075	804	10x13	0.063	901
680	6.3x12	0.138	518	8x12	0.082	700	8x12	0.068	817	10x16	0.048	1190
	8x12	0.120	625	8x16	0.078	793	8x14	0.062	870	10x20	0.046	1310
	8x16	0.115	710				10x13	0.060	924			
820	8x16	0.087	770	8x12	0.060	820	8x16	0.053	1000	10x20	0.044	1345
				10x13	0.057	977	10x16	0.050	1130			
1000	8x12	0.080	735	8x12	0.055	840	8x16	0.048	1030	10x17	0.044	1345
	8x14	0.076	786	10x13	0.050	1040	10x13	0.048	1075	10x20	0.038	1440
	10x13	0.072	865	10x16	0.048	1136	10x16	0.046	1170			
1200	10x16	0.060	1078	10x16	0.042	1250	10x16	0.038	1280	13x20	0.034	1780
							10x20	0.036	1420	13x25	0.032	1960
1500	10x20	0.044	1380	10x16	0.038	1300	10x25	0.034	1690	13x25	0.028	2148
	10x25	0.042	1528	10x20	0.036	1440	13x20	0.032	1780			
2200	10x25	0.034	1690	10x20	0.032	1610	13x20	0.030	1900	13x25	0.026	2230
	13x20	0.034	1780	13x20	0.030	1875	13x25	0.028	2105			
3300	13x25	0.030	2100	13x20	0.028	1980	13x25	0.026	2340	13x25	0.022	2402
				13x25	0.026	2190	16x25	0.024	2634	16x22	0.020	3000
4700	16x25	0.026	2574	16x25	0.023	2520	16x30	0.020	3170	18x35	0.018	3738
6800				16x30	0.020	3080	18x35	0.018	3730	18x35	0.017	3850
10000				18x35	0.019	3736	18x40	0.017	4090	18x40	0.016	4400
12000				18x40	0.017	4090						

☆ Size : ΦDx L (mm) ☆ Ripple Current : (mA/rms), 105℃,100KHz ☆Impedance (Ω),20℃,100KHz



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Capacitance (μF)	Rated (Surge) Voltage (V)											
	35 (44)			50 (63)			63 (79)			100 (125)		
	Size	Imp	Ripple	Size	Imp	Ripple	Size	Imp	Ripple	Size	Imp	Ripple
1				5x11	3.5	80				5x11	3.0	80
2.2				5x11	3.0	88				5x11	2.5	88
3.3				5x11	2.8	93				5x11	2.3	93
4.7				5x11	2.6	98				5x11	1.8	104
6.8				5x11	2.2	104				5x11	1.6	110
10	5x11	0.900	155	5x11	2.0	110				6.3x12	1.500	134
15	5x11	0.690	172							6.3x12	1.400	139
22	5x11	0.420	220	5x11	0.950	142	6.3x12	1.000	164	8x12	1.100	180
33	5x11	0.390	234	6.3x12	0.550	221	6.3x12	0.900	173	8x16	0.480	310
47	6.3x12	0.350	290	6.3x12	0.480	244	8x12	0.700	224	8x16	0.440	320
56	6.3x12	0.270	335	8x12	0.400	317	8x12	0.500	265			
68	6.3x12	0.220	364	8x12	0.350	332	8x12	0.480	270	8x16	0.220	453
82	8x12	0.170	484	8x12	0.320	375	10x13	0.320	390			
100	6.3x12	0.160	435	8x12	0.300	401	8x16	0.300	390	10x16	0.150	622
	8x12	0.140	504	10x13	0.280	520	10x13	0.300	410	10x20	0.140	710
120	8x12	0.130	540	8x16	0.200	614	10x16	0.270	464			
150	8x12	0.120	565									
220	8x12	0.082	690	8x14	0.100	634	10x16	0.175	578	13x25	0.085	1165
	8x14	0.078	748	10x13	0.090	736	10x20	0.160	665	13x30	0.080	1264
				10x16	0.083	837				16x25	0.078	1368
330	8x16	0.070	840	10x13	0.078	790	10x25	0.100	930	13x35	0.056	1670
	10x13	0.070	872	10x16	0.072	900	13x20	0.090	1027	16x30	0.049	1868
	10x16	0.068	952	10x20	0.070	1005						
470	10x13	0.052	1000	10x20	0.059	1098	13x20	0.073	1130	16x25	0.046	1892
	10x16	0.048	1100	10x25	0.054	1265	13x25	0.065	1332	18x35	0.038	2424
680	10x20	0.038	1420	13x20	0.050	1378	16x25	0.054	1643			
				13x25	0.048	1550						
820	13x20	0.034	1770	13x30	0.042	1798						
1000	13x20	0.032	1840	16x25	0.036	2012	16x25	0.046	1780			
1200	13x25	0.028	2140	16x30	0.028	2470						
1500	16x25	0.024	2690	16x35	0.026	2746	18x35	0.034	2564			
2200	18x25	0.022	2960	16x40	0.024	3035						
	16x30	0.022	2990	18x35	0.024	3050						
3300	18x35	0.018	3730	18x35	0.022	3185						
4700				18x45	0.020	3740						

☆ Size : ΦDx L (mm) ☆ Ripple Current : (mA/rms), 105℃,100KHz ☆ Impedance (Ω),20℃,100KHz



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Capacitance (μF)	Rated (Surge) Voltage (V)									
	160 (200)		200 (250)		250 (300)		400 (450)		450 (500)	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
1							6.3x12	21	8x12	27
2.2	6.3x12	32	8x12	52			8x12	39	8x12	39
3.3	6.3x12	40	8x12	73	6.3x12	56	6.3x12	40	8x12	45
	8x12	48	10x13	87	8x12	65	8x12	45		
4.7	6.3x12	50	8x12	79	8x12	78	8x12	50	8x12	50
	8x12	58	10x13	90	10x13	90	10x13	56	10x13	55
					10x16	105			10x16	59
6.8	8x12	54					8x12	58	8x12	53
	10x13	60					8x14	60	10x13	57
							10x13	65	10x16	67
8.2							8x14	62		
							10x13	68		
10	8x12	74	8x12	98	8x12	110			10x13	85
	10x13	87	10x13	105	10x13	130	8x16	75	10x16	93
	10x16	100	10x16	125	10x16	146	10x13	83	10x20	105
					10x20	165	10x16	90		
15							10x16	100	13x17	107
									13x20	120
22	8x12	112	10x16	150	10x20	195	13x17	142	13x20	160
	10x13	132	10x20	170	13x17	213	13x20	160	13x25	176
	10x16	155			13x20	240				
33	10x16	195	10x20	204	13x20	315	13x25	209	13x20	209
	10x20	220	13x20	275	13x25	365	16x20	225	16x20	225
47	10x20	253	13x20	295	13x20	336	16x25	295	16x25	280
	13x20	293	13x25	310	13x25	390	18x20	274	18x20	282
	13x25	340								
56							16x25	302	18x25	300
68			13x20	340	16x25	485	16x25	352	16x35	400
			13x25	395			16x30	390	18x30	420
							18x25	390		
82							18x25	432	18x30	468
							16x30	460	18x35	476
100	13x25	450	13x25	465	16x25	610	18x30	487	18x35	504
			16x20	475	16x30	630	18x35	520	18x40	560
120							18x35	540	18x35	535
									18x40	568
150	16x25	610	16x26	632	18x30	780	18x35	592	18x40	654
			16x30	720			18x40	620		
220	16x30	755	16x35	800	18x35	879				
			18x30	790	18x40	970				
330	18x35	940								

☆ Size : ΦDx L (mm) ☆ Ripple Current : (mA/rms), 105℃, 120Hz