

特点 Features

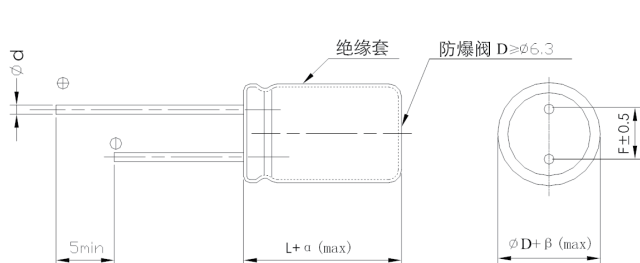
- 低阻抗, 105°C 长寿命
Long life 105°C and low impedance.
- 高纹波电流, 适用于通信设备, 开关电源, 工业测量仪器。
Excellent ripple current capability. Used in communication equipments, switching power supply, industrial measuring.
- RoHS指令已对应完毕。
Adapted to the RoHS directive.



主要技术性能 Specifications

项目 Items	特性 Performance Characteristics									
使用温度范围 Operating Temperature Range	-40~+105°C									
额定电压范围 Rated Voltage Range	6.3~100V									
标称电容容量范围 Nominal Capacitance Range	1~15000μF									
标称电容容量允许偏差 Capacitance Tolerance	± 20% (120Hz, +20°C)									
漏电流 Leakage Current	I ≤ 0.01CV (μA) 或 3μA 2分钟 取较大者 (at 20°C, after 2 minutes) (Whichever is greater)									
损耗角正切值 (tgδ) Dissipation Factor (+20°C, 120Hz)	U _R (V)	6.3	10	16	25	35	50	63	100	
	tgδ	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	
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	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										
耐久性 Load Life	Duration:									
	φD	5-6.3	8	10	12.5~					
Load life										
3000h 4000h 5000h 7000h										
+105°C加额定电压, 恢复16小时后: After applying rated voltage at +105°C and then resumed for 16 hours 电容变化率 Capacitance change : ±25%初始测量值以内 ±25% 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°C, 1000小时贮存后, 恢复16小时后: After storage for 1000 hours at +105°C and then resumed for 16 hours: 电容变化率 Capacitance change : ±25%初始测量值以内 ±25% 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
F	2.0	2.5	3.5	5.0	5.0	7.5
d	0.5		0.5、0.6		0.6	

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

Freq.(Hz) CAP(μF)	120	1K	10K	100K
~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
4700~18000	0.85	0.95	0.98	1.00

尺寸 Dimensions

CAP(μF)	WV	6.3V(0J)			10V(1A)			16V(1C)			25V(1E)		
		Size	ESR	Ripple	Size	ESR	Ripple	Size	ESR	Ripple	Size	ESR	Ripple
47	470							5×11	0.50	185	5×11	0.40	220
82	820										6.3×11	0.29	310
100	101	5×11	0.65	210				5×11	0.40	230	6.3×11	0.29	360
								6.3×11	0.28	300			
120	121							6.3×11	0.28	310	6.3×11	0.28	370
											8×11.5	0.17	560
150	151				6.3×11	0.28	300	6.3×11	0.25	340	8×11.5	0.17	570
180	181				6.3×11	0.27	310	6.3×11	0.25	350	8×11.5	0.17	580
220	221	6.3×11	0.28	375	6.3×11	0.25	375	6.3×11	0.20	400	8×11.5	0.15	620
								8×11.5	0.17	560			
270	271	6.3×11	0.28	375	6.3×11	0.25	385	8×11.5	0.17	570	8×11.5	0.15	630
330	331	6.3×11	0.25	380	6.3×11	0.25	395	8×11.5	0.17	580	8×11.5	0.15	645
		8×11.5	0.17	560	8×11.5						10×12.5	0.10	760
390	391	8×11.5	0.16	575	8×11.5	0.17	560	8×11.5	0.15	600	10×12.5	0.10	775
470	471	8×11.5	0.16	585	8×11.5	0.16	575	8×11.5	0.14	740	8×16	0.097	850
											10×12.5	0.090	1020
560	561	8×11.5	0.16	595	8×11.5	0.15	590	8×11.5	0.14	750	8×20	0.080	1050
											10×16	0.078	1100
680	681	8×11.5	0.13	605	8×11.5	0.14	600	8×16	0.11	785	10×16	0.075	1150
								10×12.5	0.10	795			
820	821	8×11.5	0.12	670	8×16	0.12	730	8×20	0.08	1050	10×20	0.060	1350
		10×12.5	0.10	780	10×12.5	0.11	750	10×16	0.078	1100			
1000	102	8×11.5	0.10	690	8×16	0.10	1020	10×16	0.065	1150	10×20	0.050	1580
		10×12.5	0.100	780	10×12.5	0.09	1050						
1200	122	8×16	0.095	850	8×20	0.085	1140	10×20	0.060	1500	12.5×20	0.040	1750
		10×12.5	0.090	860	10×16	0.080	1200	16×15					
1500	152	8×20	0.080	1050	10×16	0.070	1250	10×20	0.060	1565	12.5×20	0.038	1785
		10×16	0.078	1130									
1800	182	10×16	0.070	1150	10×20	0.060	1300	10×25	0.055	1700	12.5×25	0.035	1905
								12.5×20	0.046	1850			
2200	222	10×16	0.065	1200	10×20	0.058	1355	12.5×20	0.046	1900	12.5×25	0.034	1950
2700	272	10×20	0.060	1350	10×25	0.050	1650	12.5×25	0.040	2180	12.5×35	0.032	2500
					12.5×20	0.046	1670				16×25	0.030	2600
3300	332	10×25	0.055	1450	12.5×20	0.040	1700	12.5×25	0.035	2300	16×30	0.027	3200
		12.5×20	0.046	1670							18×25	0.025	3150
3900	392	12.5×20	0.046	1750	12.5×25	0.035	1900	12.5×35	0.030	2500	16×30	0.025	3300
								16×25	0.028	2600			
4700	472	12.5×25	0.034	1865	12.5×25	0.032	1980	16×25	0.027	2680	18×35	0.020	3550
5600	562	12.5×25	0.034	1900	16×25	0.030	2320	16×30	0.025	2850			
6800	682	12.5×30	0.030	2520	16×25	0.030	2385	16×30	0.024	2900			
		16×25	0.028	2720									
8200	822	16×25	0.028	2790	16×30	0.028	2500	16×35	0.023	3000			
10000	103	16×30	0.026	2900	16×30	0.025	2700						
15000	153	18×35	0.025	3320									

Size φD×L(mm)

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

Maximum ESR (Ω) at 20°C 100KHz

尺寸 Dimensions

CAP(μF)	WV	35V(1V)			50V(1H)			63V(1J)			100V(2A)		
		Size	ESR	Ripple	Size	ESR	Ripple	Size	ESR	Ripple	Size	ESR	Ripple
1	010				5×11	2.5	40						
4.7	4R7				5×11	2.3	80						
10	100				5×11	2.0	120				6.3×11	1.85	260
22	220	5×11	1.00	165	5×11	1.2	160	6.3×11	1.56	230	6.3×11	1.50	270
					6.3×11	1.0	190						
27	270										8×11.5	0.80	325
33	330	5×11	0.85	220	6.3×11	0.40	260	6.3×11	1.56	265	8×11.5	0.75	335
39	390				6.3×11	0.38	270	8×11.5	0.80	405	8×16	0.60	405
47	470	6.3×11	0.29	300	6.3×11	0.35	300	8×11.5	0.60	425	10×12.5	0.55	480
56	560	6.3×11	0.29	310	8×11.5	0.22	450	8×11.5	0.60	460	8×20	0.42	540
68	680	6.3×11	0.29	320	8×11.5	0.22	460	8×11.5	0.50	485	10×16	0.40	620
82	820	8×11.5	0.17	560	8×11.5	0.20	490	10×12.5	0.45	690	10×20	0.18	655
100	101	8×11.5	0.17	570	8×11.5	0.16	540	8×16	0.42	690	10×20	0.13	860
								10×12.5	0.42	700			
120	121	8×11.5	0.17	585	8×16	0.15	640	10×16	0.40	755	12.5×20	0.10	930
					10×12.5	0.14	660						
150	151	8×11.5	0.17	595	8×16	0.15	660	8×20	0.20	930			
					10×12.5	0.14	685						
180	181	8×16	0.12	730	8×20	0.11	800	10×20	0.10	1055	12.5×20	0.09	950
		10×12.5	0.10	760	10×16	0.10	920						
220	221	8×16	0.12	745	10×12.5	0.10	840	10×20	0.08	1240	12.5×20	0.08	1000
		10×12.5	0.10	775							12.5×25	0.07	1510
270	271	8×16	0.11	755	10×20	0.085	1155	12.5×20	0.07	1385			
		10×12.5	0.10	795									
330	331	8×20	0.09	1140	10×20	0.085	1210	12.5×20	0.06	1465	16×25	0.068	1910
		10×12.5	0.080	815	12.5×20	0.060	1460						
390	391	10×16	0.078	1180				12.5×20	0.06	1490	16×25	0.068	1955
470	471	10×16	0.065	1230	12.5×20	0.058	1520	12.5×25	0.05	1775	16×30	0.040	2400
		10×20	0.060	1300									
560	561	10×20	0.060	1350	12.5×20	0.058	1590	12.5×25	0.05	1900	16×35	0.035	2580
					12.5×25	0.050	1650						
680	681	10×25	0.058	1650	12.5×25	0.045	1780	12.5×30	0.040	2350	18×35	0.030	2800
		12.5×20	0.055	1680	10×30	0.043	1710	16×25	0.038	2400			
820	821	12.5×20	0.055	1710	12.5×30	0.042	1850	16×25	0.038	2455	18×40	0.028	3075
1000	102	12.5×20	0.050	1750	12.5×30	0.042	1900	16×30	0.035	2750			
		12.5×25	0.040	1870	16×25	0.040	2050						
1200	122	12.5×25	0.040	1920	16×30	0.030	2350						
					18×25	0.028	2260						
1500	152	12.5×35	0.030	2500	16×30	0.030	2420						
1800	182	12.5×35	0.030	2565	16×35	0.025	2680						
		16×25	0.028	2480	18×30	0.025	2680						
2200	222	16×30	0.027	2790	18×35	0.022	2900						
		18×25	0.026	2850									
2700	272	16×35	0.025	2900									
		18×30	0.023	3150									
3300	332	18×35	0.020	3400									

Size φD×L(mm)

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

Maximum ESR (Ω) at 20°C 100KHz

Product symbol system for Aluminum Electrolytic Capacitors



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 $10\mu\text{F}$.

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 2200 μF 20% 12.5 \times 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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