

特点 Features

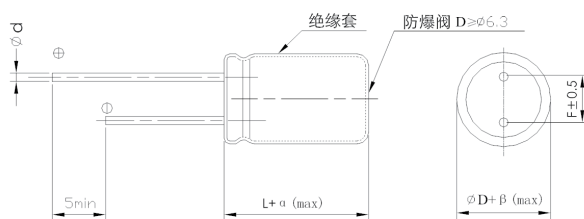
- 耐高纹波，耐高温，特长寿命，105°C 8000小时。
High Ripple Current High Temperature , extremely Long Life, Life time 105°C 8000 hours.
- RoHS指令已对应完毕。
Adapted to the RoHS directive.



主要技术性能 Specifications

项目 Items	特性 Characteristics														
使用温度范围 Operating Temperature Range	-25~+105°C														
额定电压范围 Rated Voltage Range	160~450V														
标称电容范围 Nominal Capacitance Range	2.2~330μF														
标称电容允许偏差 Capacitance Tolerance	±20% (+20°C, 120Hz)														
漏电流 Leakage Current	$I \leq 0.02CV$ (μA) +25 5分钟 (at 20°C, after 5 minutes)														
损耗角正切值 (tgδ) Dissipation Factor (+20°C, 120Hz)	<table border="1"> <tr> <td>U_R (V)</td> <td>160</td> <td>200</td> <td>250</td> <td>350</td> <td>400</td> <td>450</td> </tr> <tr> <td>tgδ</td> <td>0.20</td> <td>0.20</td> <td>0.20</td> <td>0.24</td> <td>0.24</td> <td>0.24</td> </tr> </table>	U_R (V)	160	200	250	350	400	450	tgδ	0.20	0.20	0.20	0.24	0.24	0.24
U_R (V)	160	200	250	350	400	450									
tgδ	0.20	0.20	0.20	0.24	0.24	0.24									
温度特性 Temperature Characteristic (Impedance ratio at 120Hz)	<table border="1"> <tr> <td>U_R (V)</td> <td>160</td> <td>200</td> <td>250</td> <td>350</td> <td>420</td> <td>450</td> </tr> <tr> <td>Z-25°C / Z+20°C</td> <td>3</td> <td>3</td> <td>4</td> <td>6</td> <td>7</td> <td>7</td> </tr> </table>	U_R (V)	160	200	250	350	420	450	Z-25°C / Z+20°C	3	3	4	6	7	7
U_R (V)	160	200	250	350	420	450									
Z-25°C / Z+20°C	3	3	4	6	7	7									
耐久性 Load Life	<p>在105°C条件下，施加额定电压和额定纹波电流，电容器应符合下列要求 After application of the rated voltage plus the rated ripple current at 105°C, the capacitors shall meet</p> <p>时间 Time : 105°C 8000 hours 电容变化率 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≤Initial specified value 损耗角正切值 Dissipation factor : ≤2倍初始规定值≤2times of the initial specified value</p>														
高温贮存 Shelf Life	<p>+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:</p> <p>电容变化率 Capacitance change : ±20%初始测量值以内 ±20% of the initial measured value 漏电流 Leakage current : ≤4倍初始规定值≤4 times 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</p>														

外形图及尺寸表 Case Size Table



单位 Unit: mm

D	8	10	12.5	16	18
F	3.5	5.0	5.0	7.5	7.5
d	0.5	0.6	0.6	0.8	0.8

αMAX	< L < 20 > 1.5	βMAX	< D < 20 > 0.5
	< L ≥ 20 > 2.0		< D ≥ 20 > 1.0

频率修正系数 Frequency Coefficient

Frequency (Hz) \ CAP(μF)	120	1K	10K	100K
≤100	1.00	1.75	2.25	2.50
> 100	1.00	1.67	2.05	2.25

尺寸 Dimensions

WV \ CAP(μF)		160V(2C)		200V(2D)		250V(2E)	
		Size	Ripple	Size	Ripple	Size	Ripple
4.7	4R7					8×11.5	78
6.8	6R8			8×11.5	87	8×16	98
10	100	8×16	120	8×16	121	10×16	132
22	220	10×16	198	10×20	215	10×20	210
33	330	10×20	270	12.5×20	285	12.5×20	293
47	470	12.5×20	350	12.5×20	340	12.5×25	395
68	680	12.5×20	425	16×20	480	16×25	530
100	101	16×20	580	16×25	635	16×30	700
150	151	16×25	765	16×30	850	18×30	805
220	221	16×30	880	18×35	1040	18×40	1070
330	331	18×35	1210	18×45	1350		

WV \ CAP(μF)		350V(2V)		400V(2G)		450V(2W)	
		Size	Ripple	Size	Ripple	Size	Ripple
2.2	2R2	8×11.5	50	8×11.5	51	8×11.5	49
3.3	3R3	8×11.5	62	8×16	70	8×16	68
4.7	4R7	8×16	83	10×12.5	87	10×16	85
6.8	6R8	10×12.5	100	10×16	109	10×20	110
10	100	10×16	140	10×20	142	10×20	135
22	220	12.5×20	235	12.5×25	258	12.5×25	235
33	330	12.5×25	320	16×20	350	16×25	345
47	470	16×25	430	16×25	434	16×30	455
68	680	16×30	570	16×35	615	18×30	560
82	820	16×35	640	18×35	660	18×35	645
100	101	18×30	715	18×40	795		

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

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 digits 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 indicates 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 page 11)

Radial type terminal code (please refer to page 12~15)

Snap-in Type and Screw Type 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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