

## 特点 Features

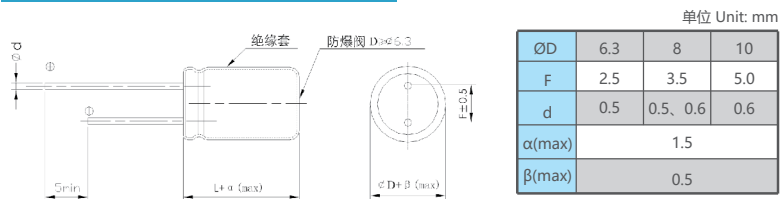
- 钛金属电容器, 100KHz低阻抗, 105°C 2000小时。  
Titanium capacitor, Low impedance at 100KHz, Load life: 105°C 2000hours.
- 符合RoHS标准。Adapted to the RoHS directive.



## 主要技术性能 Specifications

项目 Items	特性 Characteristics												
使用温度范围 Operating Temperature Range	-40~+105°C												
额定电压范围 Rated Voltage Range	6.3~35V												
标称电容量范围 Nominal Capacitance Range	220~2200μF												
标称电容量允许偏差 Nominal Capacitance Tolerance	±20% (120Hz, +20°C)												
漏电流 Leakage Current	$I \leq 0.01CV$ or $3(\mu A)$ 2分钟 (at 20°C, after 2 minutes) 取较大者 (whichever is greater)												
损耗角正切值(tgδ) Dissipation Factor (+20°C, 120Hz)	<table border="1"> <tr> <td><math>U_r</math> (V)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> </tr> <tr> <td>tgδ</td> <td>0.14</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.08</td> </tr> </table>	$U_r$ (V)	6.3	10	16	25	35	tgδ	0.14	0.14	0.12	0.10	0.08
	$U_r$ (V)	6.3	10	16	25	35							
tgδ	0.14	0.14	0.12	0.10	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)	<table border="1"> <tr> <td><math>U_r</math> (V)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> </tr> <tr> <td>Z-40°C / Z+20°C</td> <td>8</td> <td>6</td> <td>6</td> <td>4</td> <td>3</td> </tr> </table>	$U_r$ (V)	6.3	10	16	25	35	Z-40°C / Z+20°C	8	6	6	4	3
	$U_r$ (V)	6.3	10	16	25	35							
Z-40°C / Z+20°C	8	6	6	4	3								
+105°C 施加含额定纹波电流的额定电压2000小时, 恢复16小时后: After applying rated voltage with specified ripple current for 2000 hours at +105°C and then resumed for 16 hours: 电容量变化率 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 ≤Initial specified value 损耗角正切值 Dissipation factor : ≤2倍初始规定值 ≤2 times of the initial specified value													
耐久性 Load Life													
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: 电容量变化率 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 ≤2 times of the initial specified value 损耗角正切值 Dissipation factor : ≤2倍初始规定值 ≤2 times of the initial specified value												

## 外形图及尺寸表 Case Size Table



## 频率修正系数 Frequency Coefficient

Freq.(Hz)	CAP(μF)			
	120	1K	10K	100K
220~2200	0.50	0.80	0.90	1.00

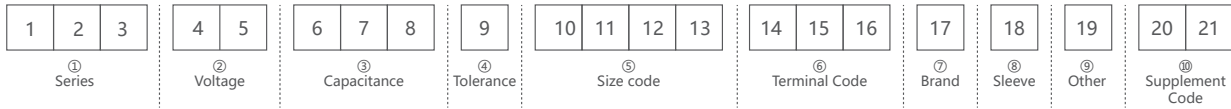
## 尺寸 Dimensions

CAP(μF)	WV	6.3V(0J)			10V(1A)			16V(1C)		
		Size	ESR	Ripple	Size	ESR	Ripple	Size	ESR	Ripple
220	221							6.3×9	0.095	558
270	271							6.3×9	0.092	561
470	471				6.3×9	0.065	640	6.3×11	0.056	920
560	561	6.3×9	0.06	665	6.3×9	0.06	665	6.3×11	0.054	925
680	681	6.3×9	0.058	670	6.3×11	0.05	880	8×9	0.049	1285
1000	102	6.3×11	0.05	895	8×9	0.045	1005	8×14	0.030	1545
2200	222	10×12.5	0.035	1800	10×12.5	0.033	1805	10×16	0.024	1905

CAP(μF)	WV	25V(1E)			35V(1V)		
		Size	ESR	Ripple	Size	ESR	Ripple
220	221	6.3×9	0.061	885	8×9	0.055	915
270	271	6.3×11	0.059	971	8×11.5	0.048	1052
330	331	8×9	0.056	980	8×11.5	0.042	1056
470	471	8×11.5	0.048	1185	10×12.5	0.029	1757
560	561	10×12.5	0.030	1775	10×12.5	0.027	1773
680	681	10×12.5	0.030	1780			

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  $\mu\text{F}$  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( $\mu\text{F}$ )	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:

$\Phi$ D	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 $\mu\text{F}$  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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