

特点 Features

- 适用于表面贴装。Use for surface munted type.
- 适用于无铅回流焊。The product can support lead free -reflow .
- RoHS指令已对应完毕。Adapted to the RoHS directive.



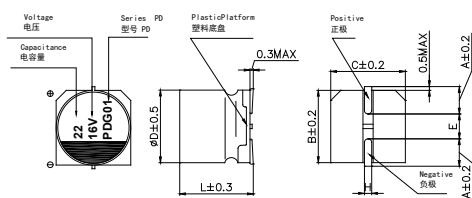
主要技术性能 Specifications

项目 Items	特性 Characteristics											
工作温度范围 Operating Temperature Range	-55~+105°C											
额定电压范围 Rated Voltage Range	2.5~25V											
标称容量范围 Nominal Capacitance Range	22~2700μF											
标称容量允许偏差 Nominal Capacitance Tolerance	±20% (20°C, 120Hz)											
漏电流 Leakage Current	参照规格表 Reference parameter table 2分钟 at 20°C, after 2 minutes											
损耗角正切 (tgδ) Dissipation Factor (Max)	20°C, 120Hz	<table border="1"> <tr> <th>直径</th> <th>Φ5</th> <th>Φ6.3(L≤7)</th> <th>Φ6.3 (L>7)</th> <th>Φ8~Φ10</th> </tr> <tr> <td>tgδ</td> <td>0.10</td> <td>0.10</td> <td>0.08</td> <td>0.08</td> </tr> </table>	直径	Φ5	Φ6.3(L≤7)	Φ6.3 (L>7)	Φ8~Φ10	tgδ	0.10	0.10	0.08	0.08
直径	Φ5	Φ6.3(L≤7)	Φ6.3 (L>7)	Φ8~Φ10								
tgδ	0.10	0.10	0.08	0.08								
等效串联电阻 ESR	参照规格表 Reference parameter table (mΩ at 100k~300kHz 20°C max)											
高低温特性比 Characteristics of impedance ratio at high temp. and low temp	要求在100KHZ 20°C Based the value at 100KHZ. +20°C	<table border="1"> <tr> <td>-55°C</td> <td>Z/Z20°C</td> <td>0.75 to 1.25</td> </tr> <tr> <td>+105°C</td> <td>Z/Z20°C</td> <td>0.75 to 1.25</td> </tr> </table>	-55°C	Z/Z20°C	0.75 to 1.25	+105°C	Z/Z20°C	0.75 to 1.25				
-55°C	Z/Z20°C	0.75 to 1.25										
+105°C	Z/Z20°C	0.75 to 1.25										
耐久性 Load Life	+105°C施加额定电压2000小时后, 待温度恢复到20°C后进行测试, 电容器应满足以下要求: After 2000 hours' application of rated voltage at 105°C, and then being stabilized at +20°C, the capacitors shall meet the following requirement:											
	容量变化率 Capacitance Change	±20%初始值以内 Within ±20% of the initial value (16V: within ±25% of the initial value)										
	损耗角正切 Dissipation Factor	≤150%初始规定值 Not more than 150% of the initial specified value										
	阻抗 Equivalent Series Resistance	≤150%初始规定值 Not more than 150% of the initial specified value										
	漏电流 Leakage Current	≤初始规定值 Not more than the initial specified value										
稳态湿热 Damp heat(Steady state)	60°C, 90~95% RH, 不加电压1000小时 60°C, 90~95% RH, 1000 hours, No-applied voltage.											
	容量变化率 Capacitance Change	±20%初始值以内 Within ±20% of the initial value (16V: within ±25% of the initial value)										
	损耗角正切 Dissipation Factor	≤ 150%初始规定值 Not more than 150% of the initial specified value										
	阻抗 Equivalent Series Resistance	≤ 150%初始规定值 Not more than 150% of the initial specified value										
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value										
耐焊接热 Resistance to Soldering Heat	(VPS) (260°C X 10s)											
	容量变化率 Capacitance Change	±10%初始值以内 Within ±10% of the initial value (16V以上: within ±15% of the initial value)										
	损耗角正切 Dissipation Factor	≤ 初始规定值 Not more than the initial specified value										
	阻抗 Equivalent Series Resistance	≤ 初始规定值 Not more than the initial specified value										
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value										

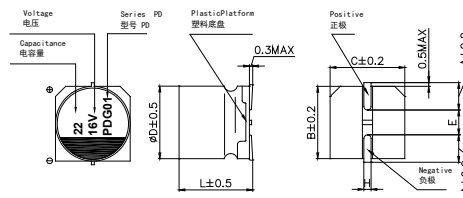
※ 当产生疑问的时候, 用以下电压处理后测定。
电压处理: 125°C下, 连续加载 120 分钟电压。加载电压为额定电压。
When in doubt, apply the following voltage treatment and measure.
Voltage processing: under the condition of 125 °C ambient temperature, continuous load voltage of 120 minutes. Load voltage is rated voltage.

尺寸图 Dimensions

Φ5 ~ Φ6.3



Φ8 ~ Φ10



单位 Unit: mm

	5 × 5.8	6.3 × 5.8	6.3 × 7.7	8 × 10.5	8 × 12.5	10 × 10.5	10 × 12.5
A	2.1	2.4	2.4	2.9	2.9	3.2	3.2
B	5.3	6.6	6.6	8.3	8.3	10.3	10.3
C	5.3	6.6	6.6	8.3	8.3	10.3	10.3
E	1.3	2.2	2.2	3.1	3.1	4.5	4.5
L	5.8	5.8	7.7	10.5	12.5	10.5	12.5
H	0.5~0.8			0.8~1.1			

标称容量、额定电压、额定纹波电流与尺寸对应表
Nominal Capacitance, Rated Voltage, Rated Ripple Current and Case Size Table

Rated Volt. (V)	Capacitance (uF)	Size ΦD×L(mm)	Tanδ (120HZ,20°C)	LC (μA)	ESR (mΩ/at 100k~300kHz 20°C max)	Rated R. C. (mA/rms at 100kHz, 105°C)
2.5	180	5×5.8	0.1	300	20	2800
	220	6.3×5.8	0.1	300	18	3200
	270	6.3×5.8	0.1	300	18	3200
	330	6.3×5.8	0.1	300	18	3300
	390	6.3×5.8	0.1	300	18	3300
	470	6.3×7.7	0.1	300	15	4200
	560	6.3×7.7	0.1	300	15	4200
	680	8×10.5	0.08	340	13	4700
	820	8×10.5	0.08	410	13	4700
	1000	8×10.5	0.08	500	13	4700
	1200	8×12.5	0.08	600	10	5100
	1500	8×12.5	0.08	750	10	5100
4	2200	10×10.5	0.08	1100	10	5600
	2700	10×12.5	0.08	1350	10	5600
	100	5×5.8	0.1	300	20	2600
	150	5×5.8	0.1	300	20	2600
	220	6.3×5.8	0.1	300	18	3100
	270	6.3×5.8	0.1	300	18	3100
	330	6.3×5.8	0.1	300	18	3200
	390	6.3×5.8	0.1	312	18	3200
	470	6.3×7.7	0.1	376	15	4100
	560	6.3×7.7	0.1	448	15	4100
	680	8×10.5	0.08	544	13	4600
	820	8×10.5	0.08	656	13	4600
6.3	1000	8×10.5	0.08	800	13	4600
	1200	8×12.5	0.08	960	13	5100
	1500	8×12.5	0.08	1200	13	5100
	2200	10×10.5	0.08	1760	10	5600
	2700	10×12.5	0.08	2160	10	5600
	100	5×5.8	0.1	300	20	2400
	100	6.3×5.8	0.1	300	18	3100
	120	5×5.8	0.1	300	20	2400
	120	6.3×7.7	0.1	300	15	3900
	150	6.3×5.8	0.1	300	18	3100
	220	6.3×5.8	0.1	300	18	3100
	220	6.3×7.7	0.1	300	15	3900
330	6.3×7.7	0.1	415	15	3900	
470	6.3×7.7	0.1	592	15	2600	
680	8×10.5	0.08	856	13	4100	
820	8×10.5	0.08	1033	13	4100	
1000	8×10.5	0.08	1260	13	4100	
1200	8×12.5	0.08	1512	13	4700	

Rated Volt. (V)	Capacitance (uF)	Size ΦD×L(mm)	Tanδ (120HZ,20°C)	LC (μA)	ESR (mΩ/at 100k~300kHz 20°C max)	Rated R. C. (mA/rms at 100kHz, 105°C)
6.3	1500	8×12.5	0.08	1890	13	4700
	2200	10×10.5	0.08	2772	10	5400
	2700	10×12.5	0.08	3400	10	5400
10	47	5×5.8	0.1	300	35	2300
	56	5×5.8	0.1	300	35	2300
	56	6.3×5.8	0.1	300	25	2700
	68	6.3×5.8	0.1	300	25	2700
	120	6.3×5.8	0.1	300	25	2700
	150	6.3×7.7	0.1	300	20	3100
	220	6.3×7.7	0.1	440	20	3100
	270	6.3×7.7	0.1	540	20	3100
	470	8×10.5	0.08	940	18	3900
	560	8×10.5	0.08	1120	18	3900
	680	8×10.5	0.08	1360	18	3900
	820	8×12.5	0.08	1640	17	4500
	1000	8×12.5	0.08	2000	17	4500
	1200	10×10.5	0.08	2400	13	5300
	1500	10×12.5	0.08	3000	13	5300
16	22	5×5.8	0.1	300	40	2200
	33	5×5.8	0.1	300	40	2200
	39	5×5.8	0.1	300	40	2200
	39	6.3×5.8	0.1	300	35	2700
	47	6.3×5.8	0.1	300	35	2700
	68	6.3×5.8	0.1	300	35	2700
	82	6.3×5.8	0.1	300	35	2700
	100	6.3×5.8	0.1	320	35	2700
	100	6.3×7.7	0.1	320	25	3100
	150	6.3×7.7	0.1	480	25	3100
	330	8×10.5	0.08	1056	20	3900
	470	8×10.5	0.08	1504	20	3900
	560	8×10.5	0.08	1792	20	3900
	680	8×12.5	0.08	2176	18	4300
	820	10×10.5	0.08	2624	15	5200
1000	10×12.5	0.08	3200	15	5200	
20	22	6.3×5.8	0.1	300	45	2100
	47	6.3×5.8	0.1	300	45	2700
	56	6.3×5.8	0.1	300	45	2700
	100	6.3×7.7	0.1	400	40	3100
	120	6.3×7.7	0.1	480	40	3100
	220	8×10.5	0.08	880	25	3700
	270	8×10.5	0.08	1080	25	3700
	330	8×10.5	0.08	1320	25	3700
	390	8×10.5	0.08	1560	25	3700
	470	8×12.5	0.08	1880	20	4100
	680	10×10.5	0.08	2720	18	4700
820	10×12.5	0.08	3280	18	4700	
25	47	6.3×5.8	0.1	300	50	2100
	56	6.3×5.8	0.1	300	50	2100
	56	6.3×7.7	0.1	300	45	2400
	82	6.3×7.7	0.1	410	45	2400
	150	8×10.5	0.08	750	30	3500
	220	8×10.5	0.08	1100	30	3500
	270	8×12.5	0.08	1350	25	3700
	330	10×10.5	0.08	1650	20	4100
470	10×12.5	0.08	2350	20	4100	

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:

Φ 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 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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