

# SS Standard 标准品

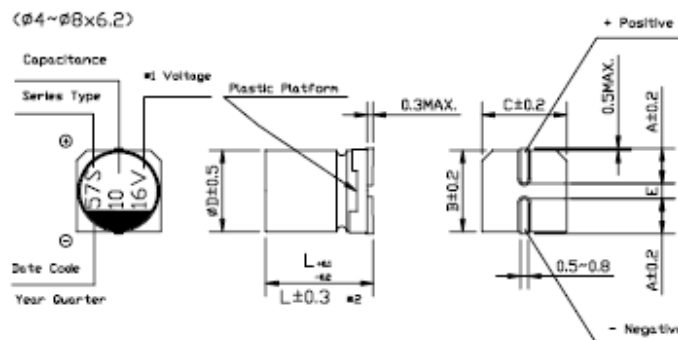
- Designed for surface mounting on density circuit board.
- Emboss carrier tape packing system is available for automatic insertion.
- Lead-free reflow soldering is available subject to customers' request.

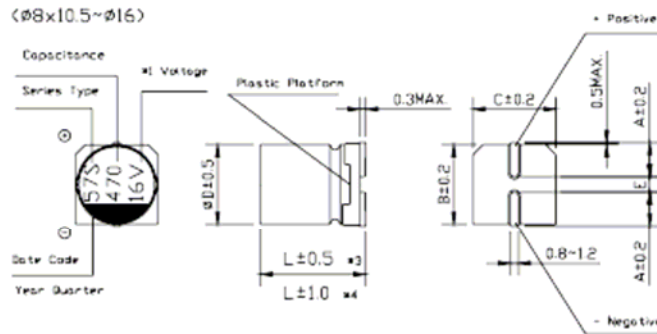


## ◆ Specifications 特性

Items 项目	Performance Characteristics 主要特性																																																	
Operating Temperature Range 使用温度范围	-40~+85℃																																																	
Voltage Range 额定工作电压范围	4~100V																																																	
Capacitance Range 静电容量范围	0.1~10000 μF																																																	
Capacitance Tolerance 静电容量允许范围	±20% at 120 Hz, 20℃																																																	
Leakage Current 漏电流	For φ4~φ10, after 2 minutes' application of rated voltage, leakage current is not more than 0.01CV or 3(μA), whichever is greater. For φ12.5~φ16, after 1 minute's application of rated voltage, leakage current is not more than 0.03CV or 4(μA), whichever is greater. φ4~φ10: 施加额定工作电压 2 分钟, LC≤0.01CV 或 3(μA), 取较大值; φ12.5~φ16: 施加额定工作电压 1 分钟, LC≤0.03CV 或 4(μA), 取较大值。																																																	
Tan δ 损耗角正切	Measurement frequency 测试频率: 120Hz, Temperature 温度: 20℃ <table border="1"> <thead> <tr> <th>Rated voltage (V.DC) 额定工作电压</th> <th>4</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> </tr> </thead> <tbody> <tr> <td>Tan δ φ4~φ10</td> <td>0.35</td> <td>0.26</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.12</td> <td>0.10</td> <td>0.10</td> </tr> <tr> <td>损耗角正切(max) φ12.5~φ16</td> <td>0.42</td> <td>0.36</td> <td>0.34</td> <td>0.30</td> <td>0.26</td> <td>0.22</td> <td>0.18</td> <td>0.14</td> <td>0.10</td> </tr> </tbody> </table>	Rated voltage (V.DC) 额定工作电压	4	6.3	10	16	25	35	50	63	100	Tan δ φ4~φ10	0.35	0.26	0.20	0.16	0.14	0.12	0.12	0.10	0.10	损耗角正切(max) φ12.5~φ16	0.42	0.36	0.34	0.30	0.26	0.22	0.18	0.14	0.10																			
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Stability at Low Temperature 低温特性	Measurement frequency 测试频率: 120Hz <table border="1"> <thead> <tr> <th>Rated voltage (V.DC) 额定工作电压</th> <th>4</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Impedance ratio 阻抗比 Z(-25℃)/Z(20℃)</td> <td>φ4~φ10</td> <td>7</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td rowspan="2">φ12.5~φ16</td> <td>15</td> <td>8</td> <td>6</td> <td>4</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> </tr> <tr> <td rowspan="2">Z(-25℃)/Z(20℃)</td> <td>φ4~φ10</td> <td>7</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td rowspan="2">Z(-40℃)/Z(20℃)</td> <td>φ4~φ10</td> <td>17</td> <td>12</td> <td>10</td> <td>8</td> <td>5</td> <td>4</td> <td>3</td> <td>3</td> </tr> </tbody> </table>	Rated voltage (V.DC) 额定工作电压	4	6.3	10	16	25	35	50	63	100	Impedance ratio 阻抗比 Z(-25℃)/Z(20℃)	φ4~φ10	7	4	3	2	2	2	2	2	φ12.5~φ16	15	8	6	4	4	3	3	3	Z(-25℃)/Z(20℃)	φ4~φ10	7	5	4	3	2	2	2	2	Z(-40℃)/Z(20℃)	φ4~φ10	17	12	10	8	5	4	3	3
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Load Life 高温负载特性		After 2000 hours' application of rated voltage at 85℃, capacitors meet the characteristics requirements listed at right. 在 85℃ 环境中施加额定工作电压 2000 小时后, 电容器的特性符合右表的要求。 <table border="1"> <tbody> <tr> <td>Capacitance Change 静电容量变化率</td> <td>Within ±20% of the initial value 初始值的±20%以内 (Within ±30% of the initial value for 4V) 4V 产品为±30%以内</td> </tr> <tr> <td>Tan δ 损耗角正切</td> <td>200% or less of the initial specified value 不大于规范值的 200%</td> </tr> <tr> <td>Leakage Current 漏电流</td> <td>initial specified value or less 不大于规范值</td> </tr> </tbody> </table>	Capacitance Change 静电容量变化率	Within ±20% of the initial value 初始值的±20%以内 (Within ±30% of the initial value for 4V) 4V 产品为±30%以内	Tan δ 损耗角正切	200% or less of the initial specified value 不大于规范值的 200%	Leakage Current 漏电流	initial specified value or less 不大于规范值																																										
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Shelf Life 高温储存特性	After leaving capacitors under no load at 85℃ for 1000 hours, they meet the specified value for load life characteristics listed above. 在 85℃ 环境中无负载放置 1000 小时后, 电容器的特性符合高温负载特性中所列的规定。																																																	
Resistance to Soldering Heat 耐焊接热特性	After reflow soldering and restored at room temperature, they meet the characteristics requirements listed at right. 经过回流焊并冷却至室温后, 电容器的特性符合右表的要求。 <table border="1"> <tbody> <tr> <td>Capacitance Change 静电容量变化率</td> <td>Within ±10% of the initial value 初始值的±10%以内</td> </tr> <tr> <td>Tan δ 损耗角正切</td> <td>initial specified value or less 不大于规范值</td> </tr> <tr> <td>Leakage Current 漏电流</td> <td>initial specified value or less 不大于规范值</td> </tr> </tbody> </table>	Capacitance Change 静电容量变化率	Within ±10% of the initial value 初始值的±10%以内	Tan δ 损耗角正切	initial specified value or less 不大于规范值	Leakage Current 漏电流	initial specified value or less 不大于规范值																																											
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Applicable Standards 适用标准	JIS C-5141 and JIS C-5102																																																	

## ◆ Dimensions & Marking 尺寸及印字





<sup>1</sup> Voltage mark [6V] represents 6.3V for ø4~ø10; <sup>2</sup> [L±0.3] is applicable to ø6.3x7.7 and ø8x6.2;  
<sup>3</sup> [L±0.5] is applicable to ø8x10.5~ø10; <sup>4</sup> [L±1.0] is applicable to ø12.5~ø16.  
 Re: Date code and series type — 1<sup>st</sup> digit for Year; 2<sup>nd</sup> digit for Quarter, 4 quarter codes in one year are 1, 4, 7, 0; 3<sup>rd</sup> character for Series; SS Series = S.

(mm)												
DxL	ø4x5.4	ø5x5.4	ø6.3x5.4	ø6.3x7.7	ø8x6.2	ø8x10.5	ø10x10.5	ø10x13.5	ø12.5x13.5	ø12.5x16	ø16x16.5	ø16x21.5
A	1.8	2.1	2.4	2.4	3.3	2.9	3.2	3.2	4.7	4.7	5.5	5.5
B	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3	13.0	13.0	17.0	17.0
C	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3	13.0	13.0	17.0	17.0
E±0.2	1.0	1.3	2.2	2.2	2.2	3.1	4.4	4.4	4.4	4.4	6.7	6.7
L	5.4	5.4	5.4	7.7	6.2	10.5	10.5	13.5	13.5	16.0	16.5	21.5

◆ Standard size & Maximum permissible ripple current 规格壳号及最大允许纹波电流

WV 电压		4		6.3		10		16		25	
容量 Cap.(μF)		0G		0J		1A		1C		1E	
4.7	4R7									4x5.4	19
10	100							4x5.4	25	5x5.4 (4x5.4)	28 (20)
15	150							4x5.4	28	5x5.4	34
22	220			4x5.4	31	5x5.4 (4x5.4)	36 (28)	5x5.4 (4x5.4)	39 (28)	6.3x5.4 (5x5.4)	52 (35)
33	330	4x5.4	28	5x5.4 (4x5.4)	39 (31)	5x5.4 (4x5.4)	43 (32)	6.3x5.4 (5x5.4)	57 (40)	6.3x5.4 (5x5.4)	63 (42)
47	470	4x5.4	34	5x5.4 (4x5.4)	47 (36)	6.3x5.4 (5x5.4)	59 (43)	6.3x5.4 (5x5.4)	68 (44)	6.3x5.4	68
56	560	4x5.4	39	5x5.4	46	6.3x5.4	57	6.3x5.4	74	6.3x5.4	82
68	680	5x5.4	45	6.3x5.4 (5x5.4)	62 (52)	6.3x5.4	72	6.3x5.4	80	6.3x5.4	94
100	101	5x5.4	61	6.3x5.4 (5x5.4)	71 (55)	6.3x5.4	76	6.3x5.4 (8x6.2)	86 (200)	6.3x7.7 (8x6.2)	130 (91)
150	151	6.3x5.4	74	6.3x5.4	78	6.3x5.4	88	6.3x7.7	136	8x10.5 (6.3x7.7)	200 (130)
220	221	6.3x5.4	82	6.3x5.4	96	6.3x7.7 (8x6.2)	150 (250)	8x10.5 (6.3x7.7)	215 (150)	8x10.5	260
330	331	6.3x7.7	150	6.3x7.7 (8x6.2)	150 (300)	8x10.5	280	8x10.5	280	10x10.5 (8x10.5)	340 (310)
470	471	6.3x7.7	150	8x10.5 (6.3x7.7)	300 (150)	10x10.5 (8x10.5)	320 (300)	10x10.5 (8x10.5)	420 (330)	10x10.5	400
680	681	8x10.5	300	8x10.5	300	10x10.5	380	10x10.5	450	10x13.5	550
1000	102	8x10.5	330	10x10.5 (8x10.5)	430 (330)	10x10.5	450	12.5x13.5 10x13.5 (10x10.5)	710 550 (490)	12.5x13.5	820
1500	152	10x10.5	450	10x13.5 (10x10.5)	650 (450)	10x13.5	650	12.5x13.5	750	12.5x16	1000
2200	222	10x13.5 (10x10.5)	620 (480)	12.5x13.5 (10x13.5)	890 (720)	12.5x13.5	960	16x16.5 (12.5x16)	1150 (1000)	16x21.5 (16x16.5)	1450 (1250)
3300	332	10x13.5	700	12.5x16 (12.5x13.5)	1000 (900)	16x16.5 (12.5x16)	1300 (1050)	16x21.5 (16x16.5)	1450 (1350)	16x21.5	1650
4700	472	12.5x13.5	850	16x21.5 (16x16.5)	1650 (1400)	16x21.5 (16x16.5)	1550 (1450)	16x21.5	1650		
6800	682	16x16.5 (12.5x16)	1350 (900)	16x21.5	1750	16x21.5	1850			Case Size	Ripple Current
10000	103	16x21.5	1750	16x21.5	1800						

Ripple Current (mA rms) at 85°C 120Hz