

# Chip Aluminum Electrolytic Capacitors

Elecsound

## SC Low Leakage Current 低漏电流品

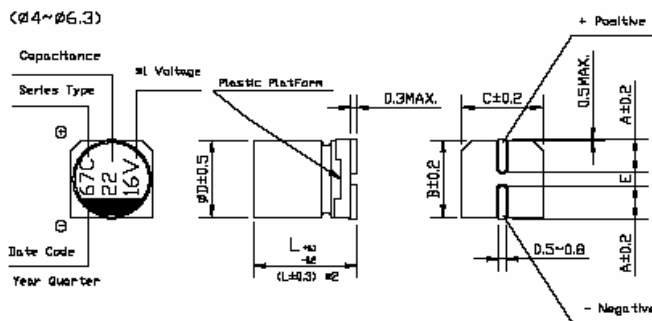
- Low Leakage current (0.5  $\mu$  A to 3.3  $\mu$  A max.)
- Low cost for replacement of some tantalum applications
- Lead-free reflow soldering is available subject to customers' request



### ◆ Specifications 特性

Items 项目	Performance Characteristics 主要特性																					
Operating Temperature Range 使用温度范围	-40~+85 $^{\circ}$ C																					
Voltage Range 额定工作电压范围	6.3~50V																					
Capacitance Range 静电容量范围	0.1~220 $\mu$ F																					
Capacitance Tolerance 静电容量允许偏差	$\pm$ 20% at 120 Hz, 20 $^{\circ}$ C																					
Leakage Current 漏电流	After 2 minutes' application of rated voltage, leakage current is not more than 0.002CV or 0.5 ( $\mu$ A), whichever is greater. 施加额定工作电压 2 分钟, LC < 0.002CV 或 0.5 ( $\mu$ A), 取较大值。																					
Surge Voltage & Tan $\delta$ (Max.) 浪涌电压 & 最大损耗角正切	Measurement frequency 测试频率: 120Hz, Temperature 温度: 20 $^{\circ}$ C <table border="1"> <tr> <td>Rated voltage (V.DC) 额定工作电压</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <td>Surge voltage (V.DC) 浪涌电压</td> <td>8.0</td> <td>13</td> <td>20</td> <td>32</td> <td>44</td> <td>63</td> </tr> <tr> <td>Tan <math>\delta</math> (max) 最大损耗角正切</td> <td>0.24</td> <td>0.20</td> <td>0.18</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> </tr> </table>	Rated voltage (V.DC) 额定工作电压	6.3	10	16	25	35	50	Surge voltage (V.DC) 浪涌电压	8.0	13	20	32	44	63	Tan $\delta$ (max) 最大损耗角正切	0.24	0.20	0.18	0.14	0.12	0.10
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Stability at Low Temperature 低温特性	Measurement frequency 测试频率: 120Hz <table border="1"> <tr> <td>Rated voltage (V.DC) 额定工作电压</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <td rowspan="2">Impedance ratio 阻抗比 ZT/Z20 (max)</td> <td>Z-25<math>^{\circ}</math>C/Z+20<math>^{\circ}</math>C</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z-40<math>^{\circ}</math>C/Z+20<math>^{\circ}</math>C</td> <td>8</td> <td>6</td> <td>4</td> <td>4</td> <td>3</td> </tr> </table>	Rated voltage (V.DC) 额定工作电压	6.3	10	16	25	35	50	Impedance ratio 阻抗比 ZT/Z20 (max)	Z-25 $^{\circ}$ C/Z+20 $^{\circ}$ C	4	3	2	2	2	Z-40 $^{\circ}$ C/Z+20 $^{\circ}$ C	8	6	4	4	3	
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Load Life 高温负荷特性	After 2000 hours' application of rated voltage at 85 $^{\circ}$ C, capacitors meet the characteristics requirements listed at right. 在 85 $^{\circ}$ C 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"> <tr> <td>Capacitance Change 静电容量变化率</td> <td>Within <math>\pm</math>25% of the initial value 初始值的<math>\pm</math>25%以内</td> </tr> <tr> <td>Tan <math>\delta</math> 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> </table>	Capacitance Change 静电容量变化率	Within $\pm$ 25% of the initial value 初始值的 $\pm$ 25%以内	Tan $\delta$ 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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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"> <tr> <td>Capacitance Change 静电容量变化率</td> <td>Within <math>\pm</math>10% of the initial value 初始值的<math>\pm</math>10%以内</td> </tr> <tr> <td>Tan <math>\delta</math> 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> </table>	Capacitance Change 静电容量变化率	Within $\pm$ 10% of the initial value 初始值的 $\pm$ 10%以内	Tan $\delta$ 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



	(mm)			
D×L	$\phi$ 4×5.4	$\phi$ 5×5.4	$\phi$ 6.3×5.4	$\phi$ 6.3×7.7
A	1.8	2.1	2.4	2.4
B	4.3	5.3	6.6	6.6
C	4.3	5.3	6.6	6.6
E $\pm$ 0.2	1.0	1.3	2.2	2.2
L	5.4	6.4	5.4	7.7

1\* Voltage mark for 6.3V is [8V]

2\* Applicable to 6.3×7.7

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; SC Series = C.

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◆ **Standard size & Maximum E.S.R & Maximum permissible ripple current**

规格壳号及最大等效串联电阻及最大允许纹波电流值

WV 电压 容量 Cap. (μF)		6.3			10			16		
		0J			1A			1C		
10	100							4×5.4	34.5	25
22	220	4×5.4	23.5	31	5×5.4	19.8	35	5×5.4	15.7	39
33	330	5×5.4	15.7	39	5×5.4	13.1	43	6.3×5.4	10.5	57
47	470	5×5.4	11.0	47	6.3×5.4	9.2	59	6.3×5.4	7.3	68
100	101	6.3×5.4	5.2	75	6.3×5.4	4.3	76	6.3×7.7	3.5	96
220	221	6.3×7.7	2.4	85				Case Size	ESR (max)	Ripple Current

Max. E.S.R. (Ω) at 20°C 120Hz, Ripple Current (mA rms) at 85°C 120Hz

WV 电压 容量 Cap. (μF)		25			35			50		
		1E			1V			1H		
0.1	0R1							4×5.4	2158	1.0
0.22	R22							4×5.4	980	2.3
0.33	R33							4×5.4	653	3.5
0.47	R47							4×5.4	459	5
1	010							4×5.4	218	10
2.2	2R2							4×5.4	98	15
3.3	3R3							4×5.4	65	18
4.7	4R7	4×5.4	64.2	19	4×5.4	55.1	20	5×5.4	46	23
10	100	5×5.4	30.2	28	5×5.4	25.9	30	6.3×5.4	22	34
22	220	6.3×5.4	13.7	52	6.3×5.4	11.8	54	6.3×7.7	9.8	85
33	330	6.3×5.4	9.1	63	6.3×7.7	7.8	105	Case Size	ESR (max)	Ripple Current
47	470	6.3×7.7	6.4	100	6.3×7.7	5.5	110			

Max. E.S.R. (Ω) at 20°C 120Hz, Ripple Current (mA rms) at 85°C 120Hz

◆ **Frequency Coefficient Factor of Rated Ripple Current** 纹波电流频率补偿系数

Frequency	~50Hz	120Hz	300Hz	1kHz	10kHz~
Coefficient	0.7	1	1.17	1.36	1.50