

Chip Aluminum Electrolytic Capacitors

HT Wide Temperature 宽温品

Elecsound

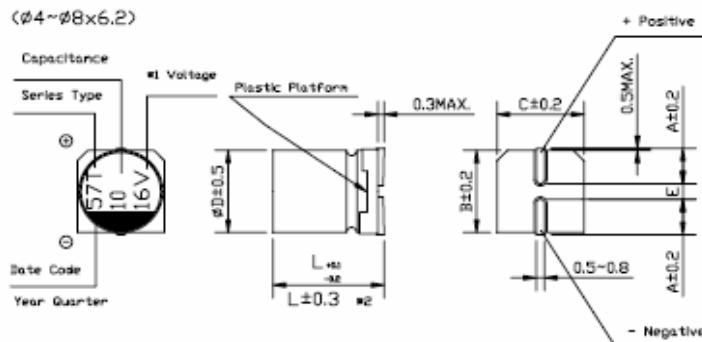


- Temperature up to +105°C with load life of 1000~2000 hours.
- Lead-free reflow soldering is available subject to customers' request.

◆ Specifications 特性

Items 项目	Performance Characteristics 主要特性																																																					
Operating Temperature Range 使用温度范围	-40~+105°C																																																					
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°C																																																					
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°C <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</td> <td>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>0.12</td> </tr> <tr> <td>损耗角正切(max)</td> <td>φ12.5~φ16</td> <td>0.42</td> <td>0.38</td> <td>0.34</td> <td>0.30</td> <td>0.26</td> <td>0.22</td> <td>0.18</td> <td>0.12</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	0.12	损耗角正切(max)	φ12.5~φ16	0.42	0.38	0.34	0.30	0.26	0.22	0.18	0.12																							
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Load Life 高温负载特性	After 2000 hours' (1000 hours' for φ4~φ6.3x5.4) application of rated voltage at 105°C, capacitors meet the characteristics requirements listed at right. 在 105°C 环境中施加额定工作电压 2000 小时 (φ4~φ6.3x5.4 为 1000 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 ±20% of the initial value for capacitors of 10V or more (Within ±30% of the initial value for capacitors of 4V&6.3V.) (≥10V 的产品为初始值的±20%以内, 4V 和 6.3V 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> </table>	Capacitance Change 静电容量变化率	Within ±20% of the initial value for capacitors of 10V or more (Within ±30% of the initial value for capacitors of 4V&6.3V.) (≥10V 的产品为初始值的±20%以内, 4V 和 6.3V 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 105°C for 1000 hours, they meet the specified value for load life characteristics listed above. 在 105°C 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 ±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> </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



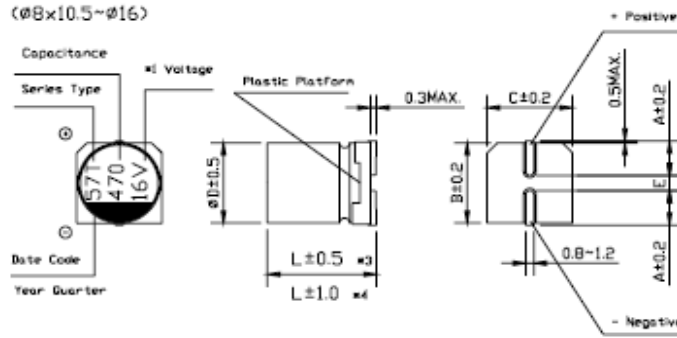
Elecsound Electronics Company Limited

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Main Products : Trimming potentiometers, Capacitors, Varistors, LED and Resistors

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*1 Voltage mark [6V] represents 6.3V for $\phi 4 \sim \phi 10$;

*2 [$L \pm 0.3$] is applicable to $\phi 6.3 \times 7.7$ and $\phi 8 \times 6.2$;

*3 [$L \pm 0.5$] is applicable to $\phi 8 \times 10.5 \sim \phi 10$;

*4 [$L \pm 1.0$] is applicable to $\phi 12.5 \sim \phi 16$.

Re: Date code and series type — 1st digit for Year; 2nd digit for Quarter, 4 quarter codes in one year are 1, 4, 7, 0; 3rd character for Series; HT Series = T.

		(mm)										
D×L	$\phi 4 \times 5.4$	$\phi 5 \times 5.4$	$\phi 6.3 \times 5.4$	$\phi 6.3 \times 7.7$	$\phi 8 \times 6.2$	$\phi 8 \times 10.5$	$\phi 10 \times 10.5$	$\phi 10 \times 13.5$	$\phi 12.5 \times 13.5$	$\phi 12.5 \times 16$	$\phi 16 \times 16.5$	$\phi 16 \times 21.5$
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 容量 Cap. (μF)		4		6.3		10		16		25	
		0G		0J		1A		1C		1E	
4.7	4R7									4×5.4	13
10	100							4×5.4	18	5×5.4 (4×5.4)	20 (14)
22	220			4×5.4	22	5×5.4 (4×5.4)	25 (20)	5×5.4 (4×5.4)	27 (20)	6.3×5.4 (5×5.4)	36 (25)
33	330	5×5.4 (4×5.4)	30 (18)	5×5.4 (4×5.4)	27 (22)	5×5.4 (4×5.4)	30 (22)	6.3×5.4 (5×5.4)	40 (28)	6.3×5.4 (5×5.4)	44 (29)
47	470	5×5.4 (4×5.4)	36 (24)	5×5.4 (4×5.4)	33 (25)	6.3×5.4 (5×5.4)	41 (30)	6.3×5.4 (5×5.4)	48 (31)	6.3×5.4 (8×6.2)	48 (91)
100	101	6.3×5.4 (5×5.4)	60 (43)	6.3×5.4 (5×5.4)	50 (39)	6.3×5.4 (8×6.2)	53 (110)	6.3×5.4	60	6.3×7.7	91
150	151	6.3×5.4	52	6.3×5.4	55	6.3×5.4	62	6.3×7.7	95	8×10.5 (6.3×7.7)	140 (100)
220	221	6.3×5.4	57	6.3×7.7 (6.3×5.4)	105 (67)	6.3×7.7	105	8×10.5 (6.3×7.7)	150 (105)	8×10.5	175
330	331	6.3×7.7	100	6.3×7.7	105	8×10.5	196	8×10.5	195	10×10.5 (8×10.5)	240 (220)
470	471	6.3×7.7	105	8×10.5 (6.3×7.7)	210 (120)	10×10.5 (8×10.5)	260 (210)	10×10.5 (8×10.5)	295 (230)	10×10.5	280
680	681	8×10.5	210	8×10.5	210	10×10.5	270	10×10.5	315	10×13.5	400
1000	102	8×10.5	230	10×10.5 (8×10.5)	300 (230)	10×10.5	315	12.5×13.5 10×13.5 (10×10.5)	500 390 (340)	12.5×13.5	580
1500	152	10×10.5	315	10×13.5 (10×10.5)	450 (315)	10×13.5	460	12.5×13.5	550	12.5×16	850
2200	222	10×13.5 (10×10.5)	440 (340)	12.5×13.5 (10×13.5)	620 (500)	12.5×13.5	680	16×16.5 (12.5×16)	960 (750)	16×21.5 (16×16.5)	1250 (1050)
3300	332	10×13.5	490	12.5×16 (12.5×13.5)	700 (660)	16×16.5	1000	16×21.5 (16×16.5)	1200 (1000)	16×21.5	1400
4700	472	12.5×13.5	600	16×21.5 (16×16.5)	1200 (1000)	16×21.5	1300	16×21.5	1350		
6800	682	16×16.5 (12.5×16)	950 (650)	16×21.5	1250					Case Size	Ripple Current
10000	103	16×21.5	1250								

Ripple Current (mA rms) at 105°C 120Hz

HT Series

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

容量 Cap. (μF)		WV 电压		35		50		63		100	
				1V		1H		1J		2A	
0.1	DR1					4×5.4	0.7	4×5.4	0.7		
0.22	R22					4×5.4	1.8	4×5.4	1.8		
0.33	R33					4×5.4	2.6	4×5.4	2.5		
0.47	R47					4×5.4	3.6	4×5.4	3.5		
1	D10					4×5.4	7	4×5.4	7	4×5.4	7
2.2	2R2					4×5.4	11	4×5.4	11	6.3×5.4	14
3.3	3R3	4×5.4	13	4×5.4	13	4×5.4	13	5×5.4	13	6.3×7.7 (6.3×5.4) (8×6.2)	32 (20) (30)
4.7	4R7	4×5.4	14	5×5.4 (4×5.4)	16 (13)	5×5.4	16	5×5.4	16	6.3×7.7 (6.3×5.4)	35 (21)
10	100	5×5.4 (4×5.4)	21 (14)	6.3×5.4	24	6.3×5.4	24	6.3×7.7 (6.3×5.4) (8×6.2)	39 (24) (26)	8×10.5 (6.3×7.7)	77 (35)
22	220	6.3×5.4	38	6.3×7.7 (6.3×5.4) (8×6.2)	51 (42) (70)	6.3×7.7	51	8×10.5 (6.3×7.7)	98 (49)	10×10.5 (8×10.5)	126 (84)
33	330	6.3×5.4 (8×6.2)	42 (84)	6.3×7.7	80	6.3×7.7	80	8×10.5	112	10×10.5	133
47	470	6.3×7.7 (6.3×5.4)	70 (50)	8×10.5 (6.3×7.7)	120 (83)	8×10.5	120	10×10.5 (8×10.5)	160 (119)	12.5×13.5 (10×13.5) (10×10.5)	250 (180) (140)
68	680									12.5×13.5 (10×13.5)	300 (180)
100	101	8×10.5 (6.3×7.7)	120 (84)	10×10.5 (8×10.5)	170 (140)	10×10.5	170	12.5×13.5 (10×13.5) (10×10.5)	270 (210) (196)	16×16.5 (12.5×13.5)	450 (380)
150	151	8×10.5	156	10×10.5	170	10×10.5	170	10×13.5	226		
220	221	10×10.5 (8×10.5)	220 (190)	10×13.5 (10×10.5)	280 (220)	10×13.5	280	16×16.5 (12.5×13.5) (10×13.5)	560 (470) (236)	16×16.5	550
330	331	10×10.5	246	16×16.5 (12.5×13.5) (10×13.5)	600 (420) (285)	16×16.5	600	16×16.5 (12.5×16)	700 (510)		
470	471	12.5×13.5 (10×13.5) (10×10.5)	520 (375) (280)	16×16.5 (12.5×16)	700 (520)	16×16.5	700	16×16.5	750		
680	681	12.5×13.5 (10×13.5)	530 (395)	16×16.5	750	16×16.5	750				
1000	102	16×16.5 (12.5×16)	750 (600)							Case Size	Ripple Current

Ripple Current (mA rms) at 105°C 120Hz

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

Capacitance (μF)		Frequency				
		50Hz	120Hz	300Hz	1kHz	10kHz~
Φ4~Φ10	0.1~68	0.70	1.00	1.17	1.36	1.50
	100~3300	0.85	1.00	1.08	1.20	1.30
Φ12.5~Φ16	~68	0.75	1.00	1.35	1.57	2.00
	100~680	0.80	1.00	1.23	1.34	1.50
	1000~6800	0.85	1.00	1.10	1.13	1.15