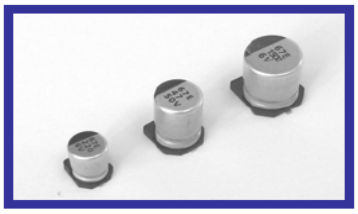
EL Long Life Assurance 宽温长寿命品



- Wide temperature range -55℃ to +105℃ with load life of 2000~3000 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	-55～+105℃
Voltage Range 额定工作电压范围	6.3～50V
Capacitance Range 静电容量范围	0.1～3300μF
Capacitance Tolerance 静电容量允许偏差	±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℃

Rated voltage (V.DC) 额定工作电压		6.3	10	16	25	35	50
Tan δ 损耗角正切(max)	Φ4～Φ10	0.28	0.24	0.20	0.16	0.13	0.12
	Φ12.5～Φ16	0.38	0.34	0.30	0.26	0.22	0.18

Stability at Low Temperature 低温特性

Measurement frequency 测试频率: 120Hz

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)	Φ4～Φ10	Z(-25℃)/Z(20℃)	3	3	2	2	2	2
		Z(-55℃)/Z(20℃)	8	5	4	3	3	3
	Φ12.5～Φ16	Z(-25℃)/Z(20℃)	5	4	3	2	2	2
		Z(-55℃)/Z(20℃)	12	10	8	5	4	3

Load Life 高温负荷特性

After 3000 hours' (2000 hours' for Φ4～Φ6.3 and Φ8×6.2) application of rated voltage at 105℃, capacitors meet the characteristics requirements listed at right.
在 105℃环境中施加额定工作电压 3000 小时 (Φ4～Φ6.3 和Φ8×6.2 为 2000 小时) 后，电容器的特性符合右表的要求。

Capacitance Change 静电容量变化率	Within ±25% of the initial value 初始值的±25%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

Shelf Life 高温储存特性

After leaving capacitors under no load at 105℃ for 1000 hours, they meet the specified value for load life characteristics listed above.
在 105℃环境中无负荷放置 1000 小时后，电容器的特性符合高温负荷特性中所列的规定值。

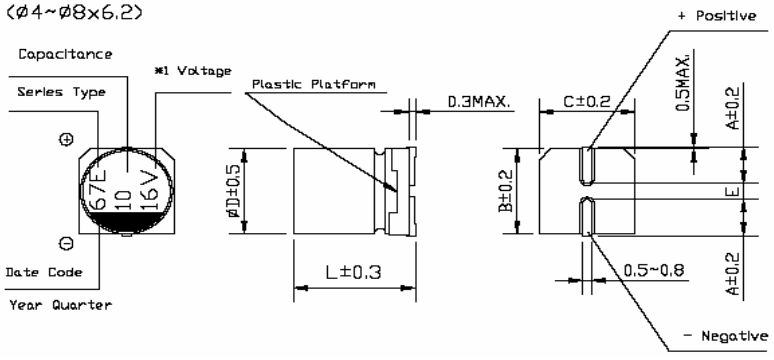
Resistance to Soldering Heat 耐焊接热特性

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。

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

Applicable Standards 适用标准: JIS C-5141 and JIS C-5102

◆ Dimensions & Marking 尺寸及印字



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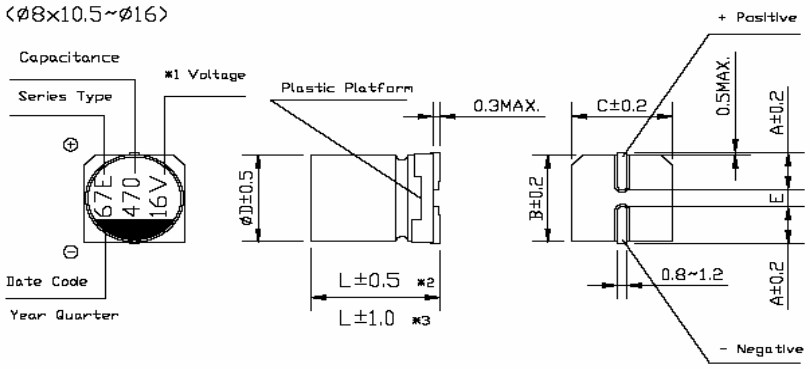
EL Series



*1 Voltage mark [6V] represents 6.3V for Φ4～Φ10; *2 [L±0.5] is applicable to Φ8×10.5～Φ10; *3 [L±1.0] is applicable to Φ12.5～Φ16.
Re: Date code and series type — 1st digit for Year; 2nd digit for Quarter, 4 quarter codes in one year are 1, 4, 7, O; 3rd character for Series; EL Series = E.

(mm)

D×L	Φ4×5.8	Φ5×5.8	Φ6.3×5.8	Φ6.3×7.7	Φ8×6.2	Φ8×10.5	Φ10×10.5	Φ10×13.5	Φ12.5×13.5	Φ12.5×16	Φ16×16.5
A	1.8	2.1	2.4	2.4	3.3	2.9	3.2	3.2	4.7	4.7	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
C	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3	13.0	13.0	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
L	5.8	5.8	5.8	7.7	6.2	10.5	10.5	13.5	13.5	16.0	16.5

◆ 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)		6.3		10		16		25		35		50	
		0J		1A		1C		1E		1V		1H	
0.1	0R1											4×5.8	1
0.22	R22											4×5.8	2
0.33	R33											4×5.8	3
0.47	R47											4×5.8	5
1	010											4×5.8	10
2.2	2R2											4×5.8	16
3.3	3R3											4×5.8	16
4.7	4R7							4×5.8	13	4×5.8	14	5×5.8	23
10	100					4×5.8	18	5×5.8	20	5×5.8	21	6.3×5.8	35
22	220	4×5.8	22	5×5.8	25	5×5.8	27	6.3×5.8	36	6.3×5.8	38	6.3×7.7 (8×6.2)	70
33	330	5×5.8	27	5×5.8	30	6.3×5.8	40	6.3×5.8	60	6.3×7.7 (8×6.2)	84	8×10.5	90
47	470	5×5.8	33	6.3×5.8	41	6.3×5.8	48	6.3×7.7 (8×6.2)	90 (91)	8×10.5	98	8×10.5	90
100	101	6.3×5.8	50	6.3×5.8 (8×6.2)	53 (110)	6.3×5.8	60	8×10.5	130	8×10.5	130	10×10.5	100
150	151	6.3×5.8	55	6.3×7.7	105	6.3×7.7	95	8×10.5	140	10×10.5	315	10×10.5	100
220	221	6.3×7.7	100	8×10.5	210	8×10.5	210	10×10.5	190	10×10.5	315	10×13.5 (10×10.5)	250 (100)
330	331	8×10.5	210	8×10.5	210	8×10.5	210	10×10.5	315	10×10.5	315	12.5×13.5	400
470	471	8×10.5	210	10×10.5	315	10×10.5	315	10×10.5	315	12.5×13.5 (10×13.5)	500 (360)	16×16.5 (12.5×16)	650 (500)
680	681	8×10.5	210	10×10.5	315	10×10.5	315	10×13.5	380	12.5×13.5	500		
1000	102	10×10.5	315	10×13.5 (10×10.5)	360 (315)	12.5×13.5 (10×13.5) (10×10.5)	450 (350) (315)	12.5×13.5	550	16×16.5 (12.5×16)	700 (550)		
1500	152	10×13.5 (10×10.5)	450 (315)	12.5×13.5	500	12.5×13.5	500	12.5×16	800				
2200	222	12.5×13.5	620	12.5×16 (12.5×13.5)	650 (600)	16×16.5	900	16×16.5	1000			Case Size	Ripple Current
3300	332	12.5×16	750	16×16.5	950								

Ripple Current (mA rms) at 105℃ 120Hz

EL Series

◆ 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	0.1～100	0.70	1.00	1.17	1.36	1.50
	150～1500	0.85	1.00	1.08	1.20	1.30
Φ12.5～Φ16	～470	0.75	1.00	1.35	1.57	2.00
	680～3300	0.85	1.00	1.23	1.34	1.50