

# EL series

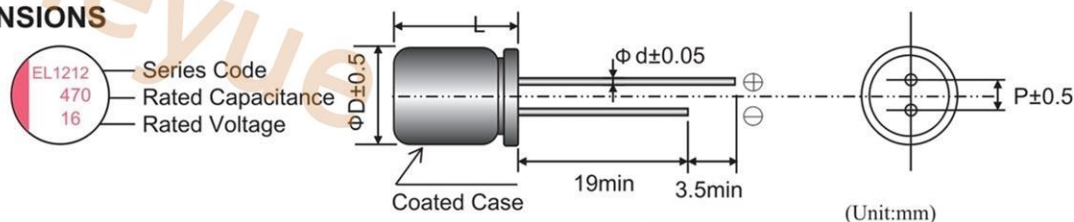
- Super low ESR, High ripple current capability
- Rated voltage : 2.5~50V
- Endurance : 5,000 hours at 105°C
- Applications : Servers, LCD-TV power, Inverter, etc.
- RoHS Compliance.
- Halogen Free compliant

## SPECIFICATIONS

Items	Conditions	Characteristics
Category Temperature Range	—	-55 to +105°C
Rated Voltage Range	—	2.5 ~ 50V
Capacitance Tolerance	at 20°C, 120 Hz	±20% ( M )
Surge Voltage	at 105°C	Rated voltage x 1.15v
Leakage Current	at 20°C after 2 minutes	I ≤ 0.2CV or 300(μA) Whichever is greater measured,after 2minutes application of rated working voltage at +20°C. Please see the attached characteristics list
Dissipation Factor ( tan δ)	at 20°C, 120 Hz	Please see the attached characteristics list
Characteristics of Impedance at low, high temperature	at -55°C,100kHz	Z(-55°C) / Z(+20°C) ≤ 1.25
	at -25°C,100kHz	Z(-25°C)/Z(+20°C) ≤ 1.15
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 5,000 hours at 105°C.	Appearance NO significant damage.
		Capacitance change ≤ ±20% of the initial value.
		DF ( tan δ) ≤ 150% of the initial specified value.
		ESR ≤ 150% of the initial specified value.
		Leakage current ≤ The initial specified value.
Damp Heag (Steady State)	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjecting them to store 60°C, 90 to 95% RH for 1,000 hours, without DC applied.	Appearance NO significant damage.
		Capacitance change ≤ ±20% of the initial value.
		DF ( tan δ) ≤ 150% of the initial specified value.
		ESR ≤ 150% of the initial specified value.
		Leakage current ≤ The initial specified value.
Surge Voltage	The capacitors shall be subjected to 1,000 cycles each consisting of charge with the surge voltages specified at 105°C for 30 seconds through aprotective resistor (R = 1 kΩ) and discharge for 5 minutes 30 seconds.	Appearance NO significant damage.
		Capacitance change ≤ ±20% of the initial value.
		DF ( tan δ) ≤ 150% of the initial specified value.
		ESR ≤ 150% of the initial specified value.
		Leakage current ≤ The initial specified value.

※ Note : If any doubt arises, measure the leakage current after following voltage treatment.  
Voltage treatment : DC rated voltage are applied to the capacitors for 120 minutes at 105°C.

## MARKING AND DIMENSIONS



Size	6.3×6	6.3×8	8×8	8×12	10×10	10×12
φD	6.3	6.3	8	8	10	10
L	L+1.0 max	L+1.5 max	L+1.0 max	L+1.0 max	L+1.0 max	L+1.0 max
φd	0.45	0.5	0.6	0.6	0.6	0.6
P	2.5	2.5	3.5	3.5	5.0	5.0

注：以上所提供的设计及特性参数仅供参考，任何修改不作预先通知，如有使用上任何疑问，请在采购前与我们联系，以便提供技术上的协助。

**EL SERIES STANDARD CHARACTERISTICS LIST**

Rated Voltage (S.V.)	Cap (μF)	Size DxL	Leakage current (μA) max. $\times 2$	ESR (mΩ) max. 100k to 300kHz / 20°C	Rated Ripple Current (mA rms) 100kHz / 105°C	D.F. (tanδ) max. 120Hz / 20°C
2.5 (2.9)	220	6.3x6	300	24	2,400	0.12
	560	6.3x8	300	15	3,200	0.12
	1,000	8x8	500	15	3,640	0.12
	1,200	8x12	600	10	5,200	0.12
	1,800	10x12	900	10	5,200	0.12
	2,200	10x12	1,100	10	5,500	0.12
6.3 (7.2)	100	6.3x6	300	24	2,400	0.12
	180	6.3x6	300	24	2,400	0.12
	470	6.3x8	592	15	3,500	0.12
	560	6.3x8	706	15	3,500	0.12
	560	8x8	706	15	4,100	0.12
	680	8x8	856	15	4,300	0.12
	1,000	8x12	1,260	12	5,000	0.12
	1,200	10x10	1,512	15	5,200	0.12
10 (11.5)	120	6.3x6	300	24	2,400	0.12
	330	6.3x8	660	15	3,500	0.12
	560	8x8	1,120	15	4,000	0.12
	680	8x12	1,360	15	4,800	0.12
	1,000	10x10	2,000	15	4,800	0.12
	1,200	10x12	2,400	12	5,500	0.12
16 (18.4)	82	6.3x6	300	24	2,400	0.12
	100	6.3x8	320	15	3,500	0.12
	220	6.3x8	704	15	3,500	0.12
	330	8x8	1,056	15	4,200	0.12
	470	8x12	1,504	12	4,500	0.12
	470	10x12	1,504	10	5,100	0.12
	680	10x10	2,176	15	5,100	0.12
	820	10x12	2,624	15	5,400	0.12
	1,000	10x12	3,200	15	5,400	0.12
25 (28.8)	47	6.3x6	300	40	1,500	0.12
	100	6.3x9	500	30	2,500	0.12
	180	8x8	900	30	3,260	0.12
	220	8x12	1,100	30	3,520	0.12
	330	10x10	1,650	20	3,850	0.12
	470	10x12	2,350	25	4,020	0.12
35 (40.3)	22	6.3x6	300	70	1,450	0.12
	68	6.3x8	476	60	1,520	0.12
	120	8x8	840	30	2,100	0.12
	150	8x12	1,050	26	2,800	0.12
	220	10x10	1,540	30	3,050	0.12
	270	10x12	1,890	26	3,650	0.12

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Rated Voltage (S.V.)	Cap (μF)	Size DxL	Leakage current (μA) max. ※2	ESR (mΩ) max. 100k to 300kHz / 20°C	Rated Ripple Current (mA rms) 100kHz / 105°C	D.F. (tanδ) max. 120Hz / 20°C
50 (57.5)	10	6.3x6	300	90	900	0.12
	33	6.3x8	330	60	1,500	0.12
	47	8x8	470	32	2,000	0.12
	68	8x12	680	28	2,200	0.12
	100	10x10	1,000	32	2,350	0.12
	100	10x12	1,000	28	2,550	0.12

※ 1. Capacitance tolerance : ±20% (M)

※ 2. After 2 minutes

**FREQUENCY COEFFICIENT FOR RIPPLE CURRENT**

Frequency	120Hz ≤ f < 1kHz	1kHz ≤ f < 10kHz	10kHz ≤ f < 100kHz	100kHz ≤ f < 500kHz
Coefficient	0.05	0.3	0.7	1

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