

EC series

- Low ESR at high frequency range.
- Rated voltage :2.5~16V.
- Endurance:2,000hours at 105°C
- Applications:LCD Monitor,LCD-TV,D/A Inverter,SPS,D/D Converter.etc.
- ROHS compliant
- Halogen Free compliant



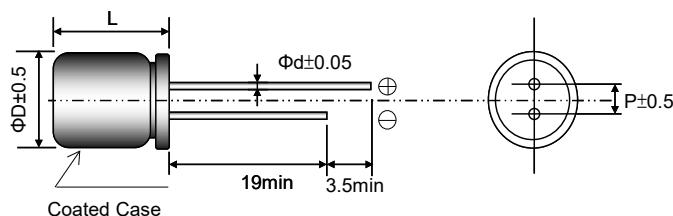
SPECIFICATIONS

Items	Conditions	Characteristics	
Category Temperature Range	—	-55 to +105°C	
Rated Voltage Range	—	2.5 ~ 16V	
Capacitance Tolerance	at 20°C,120HZ	$\pm 20\%$ (M)	
Surge Voltage	at 105°C	Rated voltage $\times 1.15V$	
Leakage Current	at 20°C after 2 minutes	I $\leq 0.2CV$ or 300(μ A) Whichever is greater measured,after 2 minutes application of rated working voltage at +20°C. Please see the attached characteristics list	
Dissipation Factor (tan δ)	at 20°C,120Hz	Please see the attached characteristics list	
Low Temperature Characteristics (Max. Impedance Ratio)	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 2,000 hours at 105°C.	Appearance	No significant damage.
		Capacitance change	$\leq \pm 20\%$ of the initial value.
		DF (tan δ)	$\leq 150\%$ of the initial specified value.
		ESR	$\leq 150\%$ of the initial specified value.
		Leakage current	\leq The initial specified value.
Damp Heat (Steady State)	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjecting them to subjecting them to store at 60°C, 90 to 95% RH for 1,000 hours ,without DC applied.	Appearance	No significant damage.
		Capacitance change	$\leq \pm 20\%$ of the initial value.
		DF (tan δ)	$\leq 150\%$ of the initial specified value.
		ESR	$\leq 150\%$ of the initial specified value.
		Leakage current	\leq 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 a protective resistor ($R=1k\Omega$) and discharge for 5 minutes 30seconds	Appearance	No significant damage.
		Capacitance change	$\leq \pm 20\%$ of the initial value.
		DF (tan δ)	$\leq 150\%$ of the initial specified value.
		ESR	$\leq 150\%$ of the initial specified value.
		Leakage current	\leq 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



(Unit:mm)

Size	5x6	5x8	6.3x6	6.3x8	6.3x10.5	8x8	8x11.5	8x16	8x20	10x11.5	10x16	10x20
ΦD	5	5	6.3	6.3	6.3	8	8	8	8	10	10	10
L	L+1.0 max	L+1.0 max	L+1.0 max	L+1.5 max	L+1.5 max	L+1.5 max	L+1.5 max	L+1.0 max	L+1.5 max	L+1.5 max	L+1.0 max	L+1.5 max
Φd	0.45	0.45	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6
P	2.0	2.0	2.5	2.5	2.5	3.5	3.5	3.5	3.5	5.0	5.0	5.0

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STANDARD RATINGS

Rated Voltage (S.V.)	Cap (μF)	Size Code DxL	Leakage current (μA) max.	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)	560	6.3×8	300	8	5080	0.12
	560	8×8	300	7	5580	0.12
	820	6.3×8	410	8	5080	0.12
	1200	8×8	600	7	5580	0.12
	1500	8×11.5	750	7	5820	0.12
	2,700	10×11.5	1350	7	6100	0.12
4 (4.6)	560	6.3×8	448	8	5080	0.12
	560	8×8	448	7	5580	0.12
	680	8×8	544	7	5580	0.12
	820	8×11.5	656	7	5820	0.12
	2200	10×11.5	1760	7	6100	0.12
6.3 (7.2)	100	5×6	300	30	1500	0.12
	270	5×8	340	15	2400	0.12
	470	6.3×8	592	10	4500	0.12
	560	6.3×8	706	10	5080	0.12
	560	8×8	706	10	5580	0.12
	680	6.3×8	857	10	5080	0.12
	820	6.3×10.5	1033	8	5080	0.12
	820	8×8	1033	8	5580	0.12
	1,000	8×11.5	1260	8	5820	0.12
	1,200	8×11.5	1260	8	6200	0.12
	1,500	10×11.5	1890	7	6200	0.12
	2,200	10×11.5	2772	7	6200	0.12
10 (11.5)	220	6.3×8	440	10	2820	0.12
	470	6.3×8	940	10	5080	0.12
	470	8×8	940	10	5080	0.12
	560	8×8	1120	8	5580	0.12
	680	8×8	1360	9	5580	0.12
	820	8×11.5	1640	9	5820	0.12
	1,000	10×11.5	2000	8	6100	0.12
	1500	8x20	3000	8	6100	0.12
	1500	10×11.5	3000	8	6100	0.12

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STANDARD RATINGS

Rated Voltage (S.V.)	Cap (μF)	Size Code 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
16 (18.4)	100	6.3×6	320	30	2200	0.12
	220	6.3×8	704	15	3500	0.12
	270	6.3×8	864	15	3500	0.12
	330	8×8	1056	15	4500	0.12
	470	8×8	1504	13	4500	0.12
	470	8×11.5	1504	13	5400	0.12
	560	8×11.5	1792	16	5400	0.12
	820	10×11.5	2624	10	6100	0.12
	1000	8×16	3200	10	6100	0.12
	1000	10×11.5	3200	10	6100	0.12
	1500	8×20	4800	8	6100	0.12
	1500	10×16	4800	8	6500	0.12
	1800	10×20	5760	8	6800	0.12
	2200	10×20	7040	8	6800	0.12

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	1.0