

E4 SERIES

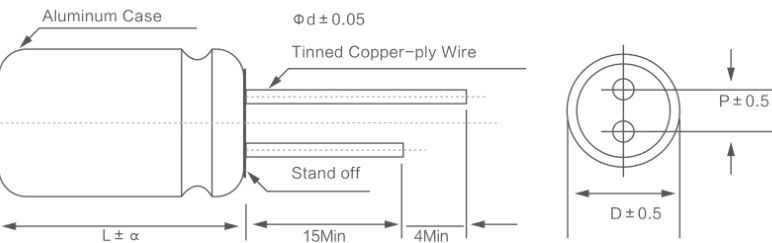
Low ESR, high ripple current, high temperature
Load life of 2000 hours at 125°C



規格表 Specifications

項目 Items	特性參數 Characteristics										
使用溫度範圍 Category Temperture Range	-55 ~ +125℃										
額定工作電壓範圍 Rated Voltage Range	2.5 ~ 25V										
靜電容量允許偏差 Capacitance tolerance	± 20%(M) (at 20℃,120Hz)										
漏電流 Leakage Current	施加額定工作電壓 2 分鐘後讀數, 小於或等於規格值 (at 20℃) I≤0.2CV 或 500 μ A(取大值) Less than or equal to the specified value. After 2 minutes application of rated Voltage at 20℃										
損耗角正切值 tan δ Dissipation Factor	2.5	4	6.3	6.8	7.5	10	12	16	20	25	(at 20℃,120Hz)
	0.08					0.12					
溫度特性 Low Temperture Characteristics (Max.Impedance Ratio)	Z(-25℃)/Z(+20℃) ≤ 1.25										(100KHz)
	Z(-55℃)/Z(+20℃) ≤ 1.25										
耐久性 Endurance	125℃施加額定工作電壓 2000 小時, 恢復到 20℃後, 產品性能應滿足以下要求 The specifications listed below shall be satisfied when the capacitors are restored to 20℃ after application of rated voltage for 2000 hours at 125℃.										
	Appearance					No significant damage					
	Capacitance change					≤ ± 20% of the initial value					
	D.F.(tan δ)					≤ 150% of the specified value					
	ESR					≤ 150% of the specified value					
	Leakage current					≤ The specified value					
耐濕負荷特性 Damp Heat (Steady State)	在 60℃ 溫度, 濕度 90%~95%RH 的環境中, 施加額定電壓 1000 小時後, 恢復到 20℃後, 產品性能應滿足以下要求 The specifications listed below shall be satisfied when the capacitors are restored to 20℃after application of rated voltage for 1000 hours at 60℃,90% ~ 95% RH.										
	Appearance					No significant damage					
	Capacitance change					≤ ± 20% of the initial value					
	D.F.(tan δ)					≤ 150% of the specified value					
	ESR					≤ 150% of the specified value					
	Leakage current					≤ The specified value					
浪涌電壓特性 (Surge Voltage)	浪涌電壓 = 額定電壓 × 1.15(V) Surge Voltage=Rated voltage × 1.15(V) 在 125℃環境中, 按充電 30 秒; 放電 5 分 30 秒, 連續施加浪涌電壓 1000 次 (Rc=1kΩ), 待恢復後測試, 應滿足以下要求 The capacitors shall be subjected to 1000 cycles each consisting of charge with the surge voltages specified at 125℃ for 30 seconds through a protective resistor (Rc=1k Ω) and discharge for 5 minutes 30 seconds										
	Appearance					No significant damage					
	Capacitance change					≤ ± 20% of the initial value					
	D.F.(tan δ)					≤ 150% of the specified value					
	ESR					≤ 150% of the specified value					
	Leakage current					≤ The specified value					

外形圖Dimensions (mm)



ΦD	5	6.3	8	10
P	2.0	2.5	3.5	5.0
Φd	0.5	0.6	0.6	0.6

α	(L < 16)1.0
	(16 ≤ L < 22)1.5
	(L ≥ 22)2.0

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紋波電流補正系數 Rated Ripple Current Coefficient

頻率Frequency(Hz)	120Hz $\leq f < 1$ kHz	1kHz $\leq f < 10$ kHz	10kHz $\leq f < 100$ kHz	100kHz $\leq f < 500$ kHz
系數Coefficient	0.05	0.30	0.70	1.00

尺寸與個技術參數一覽表Standard Ratings

Rated voltage (V)	Rated capacitance (uF)	Case size $\Phi D \times L$ (mm)	ESR(m Ω) at 20°C, 100 KHz	Leakage Current (μ A)	Rated ripple current (mA _{rms} /105°C/100kHz)
2.5	560	6.3*8	10	500	1700
	680	6.3*8	10	500	1700
	820	8*9	10	500	1929
	1000	8*9	10	500	1929
	1000	8*12	10	500	1929
	1500	8*12	10	750	1929
	2200	10*12.5	9	1100	2100
4	560	6.3*8	12	500	1700
	560	8*9	10	500	1929
	680	6.3*8	12	544	1700
	680	8*9	10	544	1929
	820	8*9	10	656	1929
	1000	8*9	10	800	1929
	1000	8*12	10	800	1929
	1500	10*12.5	9	1200	2100
6.3	220	5*8	18	500	1500
	220	6.3*8	15	500	1700
	330	6.3*8	15	500	1700
	470	6.3*8	15	592	1700
	470	8*9	12	592	1929
	560	6.3*8	15	706	1700
	560	8*9	12	706	1929
	680	8*9	12	857	1929
	820	8*9	12	1033	1929
	1000	8*9	12	1260	1929
	1000	8*12	10	1260	1929
	1000	10*12.5	9	1260	2100
	1500	8*12	10	1890	1929
	1500	10*12.5	9	1890	2100
	2200	10*12.5	9	2772	2100
7.5	220	6.3*8	15	500	1700
	330	6.3*8	15	500	1700
	470	6.3*8	15	705	1700
	560	6.3*8	15	840	1700

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尺寸與個技術參數一覽表Standard Ratings

Rated voltage (V)	Rated capacitance (μ F)	Case size Φ D $\times$ L(mm)	ESR(m Ω) at 20 $^{\circ}$ C, 100 KHz	Leakage Current (μ A)	Rated ripple current (mA _{rms} /105 $^{\circ}$ C/100kHz)
7.5	820	8*9	12	1230	1929
	820	8*12	10	1230	1929
	1000	8*12	10	1500	1929
	1000	10*12.5	9	1500	2100
	1500	10*12.5	9	2250	2100
10	220	6.3*8	16	500	1700
	330	6.3*8	16	660	1700
	470	8*9	14	940	1929
	560	8*9	14	1120	1929
	560	8*12	12	1120	1929
	680	8*12	12	1360	1929
	820	8*12	12	1640	1929
	820	10*12.5	10	1640	2100
	1000	10*12.5	10	2000	2100
16	100	6.3*8	18	500	920
	220	6.3*8	16	704	1500
	220	8*9	14	704	1770
	330	8*12	14	1056	1770
	330	10*12.5	12	1056	1929
	470	8*12	14	1504	1770
	470	10*12.5	12	1504	1929
	560	10*12.5	12	1792	1929
25	22	5*7	50	500	950
	100	6.3*8	40	500	1100
	220	6.3*12	35	1100	1310
	220	8*12	25	1100	1450
	330	8*12	25	1650	1450
	330	10*12.5	20	1650	1800
	470	10*12.5	20	2350	1800
	560	10*12.5	20	2800	1800
	680	10*12.5	20	3400	1800