

M6 SERIES

Low ESR, High ripple, miniaturized

SMD type: lead free reflow soldering condition at 260°C peak correspondence



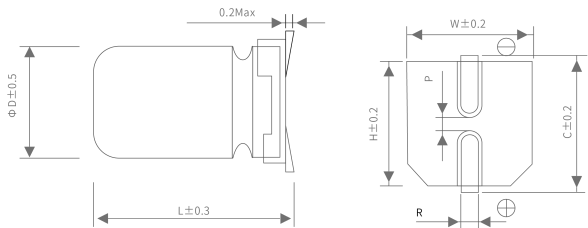
◆ 規格表 Specifications

項目Items	特性參數Characteristics		
使用溫度範圍 Category Temperture Range	-55 ~ +105° C		
額定工作電壓範圍 Rated Voltage Range	10~50V		
靜電容量允許偏差 Capacitance tolerance	± 20%(M) (at20,120Hz)		
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≤0.03CV 或 18 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 Leakage Current	Rated voltage (V)	10~50	(at 20℃,120Hz)
	tan δ (Max.)	0.16	
溫度特性 Low Temperture Characteristics (Max.Impedance Ratio)	Z(-25℃)/Z(+20℃)	≒0.75 to 2.0	(100KHz)
	Z(-55℃)/Z(+20℃)	≒0.75 to 2.0	
耐久性 Endurance	105℃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 105℃.		
	Appearance	No significant damage	
	Capacitance change	≒ ± 30% of the initial value	
	D.F.(tan δ)	≒200% of the specified value	
	ESR	≒200% 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	≒ ± 30% of the initial value	
	D.F.(tan δ)	≒200% of the specified value	
	ESR	≒200% 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 × 1.25(V) Surge Voltage=Rated voltage × 1.25(V) 在 105℃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=1k Ω), 待恢復測試, 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 105℃ for 30 seconds through a protective resistor (Rc=1k Ω) and discharge for 5 minutes 30 seconds.		
	Appearance	No significant damage	
	Capacitance change	≒ ± 30% of the initial value	
	D.F.(tan δ)	≒200% of the specified value	
	ESR	≒200% of the specified value	
	Leakage current	≒The specified value	
焊接耐熱性 Resistance to soldering heat	按回流焊試驗後, 應滿足以下要求 Measurement for solder temperature profile shall be made at the capacitor top and the terminal.		
	Capacitance change	≒ ± 10% of the initial value	
	D.F.(tan δ)	≒130% of the specified value	
	ESR	≒130% of the specified value	
	Leakage current	≒The specified value	

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SMK®

外形圖Dimensions (mm)



ΦD	W	H	C	R	P
5	5.5	5.5	5.9	0.5~0.8	1.4
6.3	6.5	6.5	7.2	0.5~0.8	2.2
8	8.3	8.3	9.0	0.7~1.1	3.1
10	10.3	10.3	11.0	0.7~1.1	4.5

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紋波電流補正係數 Rated Ripple Current Coefficient

頻率Frequency(Hz)	$120\text{Hz} \leq f < 1\text{kHz}$	$1\text{kHz} \leq f < 10\text{kHz}$	$10\text{kHz} \leq f < 100\text{kHz}$	$100\text{kHz} \leq f < 500\text{kHz}$
係數 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 $\Phi D \times L(\text{mm})$	ESR(m Ω) at 20°C, 100 KHz	Leakage Current (u A)	Rated ripple current (mA _{RMS} /105°C/100kHz)
10	100	6.3*9	40	30	2000
	220	8*9.8	25	66	2490
	470	8*12.6	25	141	2500
	1000	10*12.6	15	300	3100
16	100	6.3*9	40	48	1500
	270	8*9.8	25	130	2000
	470	8*12.6	25	226	2250
	1000	10*12.6	18	480	2900
25	56	6.3*9	50	42	1400
	100	8*9.8	30	75	1900
	220	8*12.6	30	165	2100
	330	10*12.6	16	248	2900
35	47	6.3*9	60	49	1300
	100	8*9.8	30	105	1800
	150	8*12.6	30	158	2100
	220	10*12.6	20	231	2830
50	15	6.3*9	80	23	1200
	33	8*9.8	35	50	1670
	100	8*12.6	35	150	1800
	220	10*12.6	25	330	2650