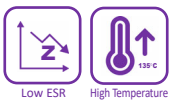
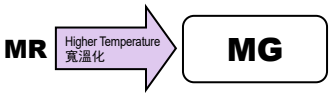
MG Series

CHIP TYPE, 135°C HIGH TEMPERATURE
貼片式，135°C 高溫品



- Operating with wide temperature range -55~+135°C
  適用於-55~+135°C 的寬溫範圍
- High reliability, low ESR, high ripple current
  高可靠，低等效串聯電阻，高紋波電流
- Endurance 2000 hours
  耐久性 2000 小時
- RoHS & REACH compliant, Halogen-free
  符合 RoHS 與 REACH，無鹵



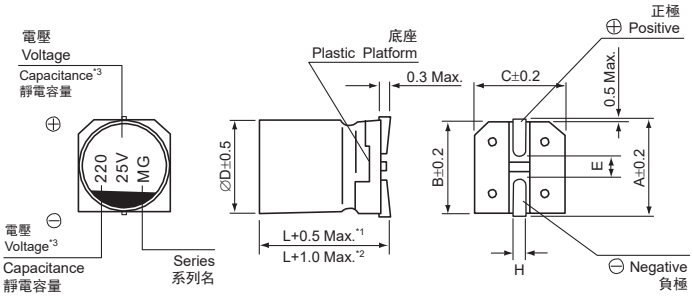


☐ SPECIFICATIONS 特性表

Items 項目	Characteristics 主要特性
Category Temperature Range 工作溫度範圍	-55 ~ +135°C
Voltage Range 額定工作電壓範圍	25 ~ 63V
Capacitance Range 靜電容量範圍	39 ~ 470μF
Capacitance Tolerance 靜電容量允許偏差	±20% at 120Hz, 20°C
Leakage Current 漏電流 (*1)	≤Specified value (after 2 minutes application of rated voltage at 20°C). ≤規範值（在 20°C 環境中施加額定工作電壓 2 分鐘後）。
Dissipation Factor (tan δ) 損耗角正切	≤Specified value at 120Hz, 20°C. ≤規範值（在 20°C 120Hz 環境下）。
ESR 等效串聯電阻 (*2)	≤Specified value at 100KHz, 20°C. ≤規範值（在 20°C 100KHz 環境下）。
Stability at Low Temperature 低溫特性	Measurement frequency 測試頻率: 100KHz Impedance Ratio 阻抗比 ZT/Z20 (max.): Z(-25°C)/Z(+20°C) ≤1.15; Z(-55°C)/Z(+20°C) ≤1.25
Bias Humidity Test 耐濕負荷特性	When the capacitors are restored to 20°C after the rated voltage is applied for 1000 hours at 60°C, 90~95% RH, they meet the characteristics listed below. 在 60°C 和相對濕度 90~95%環境下施加額定工作電壓 1000 小時並恢復至 20°C 後，電容器的特性符合下表要求。 Capacitance Change 靜電容量變化率: Within ±20% of initial value 為初始值的±20%以內 (*3) Dissipation Factor 損耗角正切: 150% or less of initial specified value 不大於規範值的 150% ESR 等效串聯電阻 (*2): 150% or less of initial specified value 不大於規範值的 150% Leakage Current 漏電流: Initial specified value or less 不大於規範值
Endurance 耐久性	When the capacitors are restored to 20°C after 2000 hours application of the rated voltage at 135°C, they meet the characteristics listed below. 在 135°C 環境中施加額定工作電壓 2000 小時後，待電容器恢復至 20°C 時進行測量，電容器的特性符合下表要求。 Capacitance Change 靜電容量變化率: Within ±20% of initial value 為初始值的±20%以內 (*3) Dissipation Factor 損耗角正切: 150% or less of initial specified value 不大於規範值的 150% ESR 等效串聯電阻 (*2): 150% or less of initial specified value 不大於規範值的 150% Leakage Current 漏電流: Initial specified value or less 不大於規範值
Resistance to Soldering Heat 耐焊接熱特性 (Please refer page 25 for soldering conditions) (焊接條件請查閱第 25 頁)	After reflow soldering and restored at room temperature, they meet the characteristics listed below. 經過回流焊並冷卻至室溫後，電容器的特性符合下表要求。 Capacitance Change 靜電容量變化率: Within ±10% of initial value 初始值的±10%以內 (*3) Dissipation Factor 損耗角正切: 130% or less of initial specified value 不大於規範值的 130% ESR 等效串聯電阻 (*2): 130% or less of initial specified value 不大於規範值的 130% Leakage Current 漏電流: Initial specified value or less 不大於規範值
Marking 標識	Red print on the case top. 鋁殼頂部紅色字體印刷。

(*1) If any doubt arises, measure the leakage current after the voltage treatment of applying DC rated voltage continuously to the capacitor for 120 minutes at 105°C.
如未能確定，在 105°C 環境下連續施加額定工作電壓 120 分鐘後測量漏電流。
(*2) Should be measured at both of the terminal ends closest where the terminals protrude through the plastic platform.
測試應為靠近突出底座的兩個端子的末端。
(*3) The value before test of examination of resistance to soldering.
焊接測試前的值。

☐ DRAWING 外形圖 (Unit: mm)



*1. Applicable to ∅5~∅8 | 適用於∅5~∅8
*2. Applicable to ∅10 and above | 適用於∅10 和∅10 以上
*3. Capacitance ≥1000μF | 容量≥1000μF

Dimension table in next page.
尺寸表見下一頁。

Note: All design and specifications are for reference only and is subject to change without prior notice. If any doubt about safety for your application, please contact us immediately for technical assistance before purchase.
注：以上所提供的設計及特性參數僅供參考，任何修改不作預先通知。如果在使用上有疑問，請在採購前與我們聯繫，以便提供技術上的協助。

MG Series

☐ DIMENSIONS 尺寸表 (Unit: mm)

ØD × L	8 × 10	8 × 12.5	10 × 10.5	10 × 12.8
A	9.0	9.0	11.0	11.0
B	8.3	8.3	10.3	10.3
C	8.3	8.3	10.3	10.3
E	3.2	3.2	4.6	4.6
L	10.0	12.5	10.5	12.8
H	0.8~1.2	0.8~1.2	0.8~1.2	0.8~1.2

☐ DIMENSIONS & STANDARD RATINGS 規格尺寸及標準參數

WV (V) / Parameter 參數 / Cap. 容量 (μF)		25 (1E)					35 (1V)				
		Case size ØD×L (mm) 尺寸	Dissipation factor (tan δ) 損耗角正切	Leakage current (μA) 漏電流	ESR (mΩ) max. 20°C, 100K~300KHz 等效串聯電阻	Ripple current (mA rms) 135°C, 100KHz 紋波電流	Case size ØD×L (mm) 尺寸	Dissipation factor (tan δ) 損耗角正切	Leakage current (μA) 漏電流	ESR (mΩ) max. 20°C, 100K~300KHz 等效串聯電阻	Ripple current (mA rms) 135°C, 100KHz 紋波電流
150	151						8 × 10	0.12	1050	22	2200
220	221	8 × 10	0.12	1100	20	2300	8 × 12.5	0.12	1540	20	2400
270	271	8 × 12.5	0.12	1350	18	2400	10 × 10.5	0.12	1890	20	2200
330	331	10 × 10.5	0.12	1650	20	2200	10 × 12.8	0.12	2310	17	2700
470	471	10 × 12.8	0.12	2350	15	2900					

WV (V) / Parameter 參數 / Cap. 容量 (μF)		50 (1H)					63 (1J)				
		Case size ØD×L (mm) 尺寸	Dissipation factor (tan δ) 損耗角正切	Leakage current (μA) 漏電流	ESR (mΩ) max. 20°C, 100K~300KHz 等效串聯電阻	Ripple current (mA rms) 135°C, 100KHz 紋波電流	Case size ØD×L (mm) 尺寸	Dissipation factor (tan δ) 損耗角正切	Leakage current (μA) 漏電流	ESR (mΩ) max. 20°C, 100K~300KHz 等效串聯電阻	Ripple current (mA rms) 135°C, 100KHz 紋波電流
39	390						8 × 10	0.12	491	28	1900
56	560						8 × 12.5	0.12	705	26	2200
68	680						10 × 10.5	0.12	856	28	2000
82	820	8 × 10	0.12	820	26	2100					
100	101						10 × 12.8	0.12	1260	24	2100
120	121	8 × 12.5 (10 × 12.8)	0.12 (0.12)	1200 (1200)	24 (25)	2300 (2100)					
180	181	10 × 12.8	0.12	1800	18	2600					

☐ FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT 紋波電流頻率補償系數

Frequency 頻率	120Hz ≤ f ≤ 1KHz	1KHz ≤ f ≤ 10KHz	10KHz ≤ f ≤ 100KHz	100KHz ≤ f ≤ 300KHz
Coefficient 系數	0.50	0.30	0.70	1.00

- Taping specifications are given in page 19. 編帶標準請查閱第 19 頁。
- Soldering conditions and recommended land size are given in page 25. 焊接條件及推薦安裝尺寸請查閱第 25 頁。
- Please refer to page 20 for the minimum package quantity. 最小包裝數量請查閱第 20 頁。
- Please refer to page 16 for the Part Number System. 產品編碼規則請查閱第 16 頁。

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