

HG

Wide temperature Standard

宽温标准品

- Wide range of -55~+125°C, long life product.
- Applicable to SMT process.
- RoHS Compliance.
- 55 ~ +125°C 宽温度、长寿命产品。
- 适用汽车模块及更高温度产品。



■ Specifications 特性表

| Items 项目 | Characteristics 特性 | | | | | | | | | | | | | | |
|--|---|---|------|------|------|--------------------|------------------------------------|------|------|------|--|--|--|--|--|
| Capacitance Tolerance 静电容量误差 | $\pm 20\%$ (120Hz,20°C) | | | | | | | | | | | | | | |
| Operating Temperature Range 适用温度范围 | -55 ~ +125°C | | | | | -40 ~ +125°C | | | | | | | | | |
| Rated Voltage Range 额定电压范围 | 10 ~ 63VDC | | | | | 80 ~ 160VDC | | | | | | | | | |
| Capacitance Range 静电容量范围 | 10 ~ 470μF | | | | | 2.2 ~ 4.7μF | | | | | | | | | |
| Leakage Current 漏电流 | $I \leq 0.01CV$ or $3(\mu A)$, which is greater. (After 2 minutes application of DC rated voltage, at 20°C) | | | | | | | | | | | | | | |
| Dissipation Factor 损失角正切值 (tan δ) | Measurement Frequency: 120Hz. Temperature: 20°C | | | | | | | | | | | | | | |
| Low Temperature Stability 低温特性 | Rated Voltage(V) | 10 | 16 | 25 | 35 | 50 | 63 | 80 | 100 | 160 | | | | | |
| | tan δ(Max) | 0.32 | 0.24 | 0.21 | 0.18 | 0.18 | 0.15 | 0.15 | 0.12 | 0.20 | | | | | |
| | Measurement Frequency: 120Hz. | | | | | | | | | | | | | | |
| | Rated Voltage(V) | 10 | 16 | 25 | 35 | 50 | 63 | 80 | 100 | 160 | | | | | |
| Impedance Ratio(Max) 阻抗比率(最大值) | Z(-25°C)/Z(20°C) | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | - | | | | | |
| | Z(-40°C)/Z(20°C) | - | - | - | - | - | - | 3 | 3 | - | | | | | |
| | Z(-55°C)/Z(20°C) | 6 | 4 | 4 | 3 | 3 | 3 | - | - | - | | | | | |
| Load Life 负荷寿命 | 3000hours, with application of rated voltage at 125°C ($\varnothing D=4\sim6.3\times5.4mm$: 1000hrs; $6.3\times7.7mm$: 2000hrs) | | | | | | | | | | | | | | |
| | Capacitance Change | Within $\pm 30\%$ of Initial Value | | | | | | | | | | | | | |
| | tan δ | 300% or less of Initial Specified Value | | | | | | | | | | | | | |
| | Leakage Current | Initial Specified Value or less | | | | | | | | | | | | | |
| Shelf Life 放置寿命 | The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours 125°C without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to them 4.1 of JIS C5101-4. | | | | | | | | | | | | | | |
| | Capacitance Change | Within $\pm 30\%$ of Initial Value | | | | | | | | | | | | | |
| | tan δ | 300% or less of Initial Specified Value | | | | | | | | | | | | | |
| | Leakage Current | 500% or less of Initial Specified Value | | | | | | | | | | | | | |
| Resistance to Soldering Heat 焊锡耐热性 | The capacitors shall be kept on the hot plate maintained at 250°C for 30 seconds. | | | | | Capacitance Change | Within $\pm 10\%$ of Initial Value | | | | | | | | |
| | After removing from the hot plate and restored at room temperature they meet the characteristics requirements listed at right. | | | | | tan δ | Initial Specified Value | | | | | | | | |
| | | | | | | Leakage Current | Initial Specified Value or less | | | | | | | | |
| | | | | | | | | | | | | | | | |
| Marking 标识 | Black print on the case top | | | | | | | | | | | | | | |

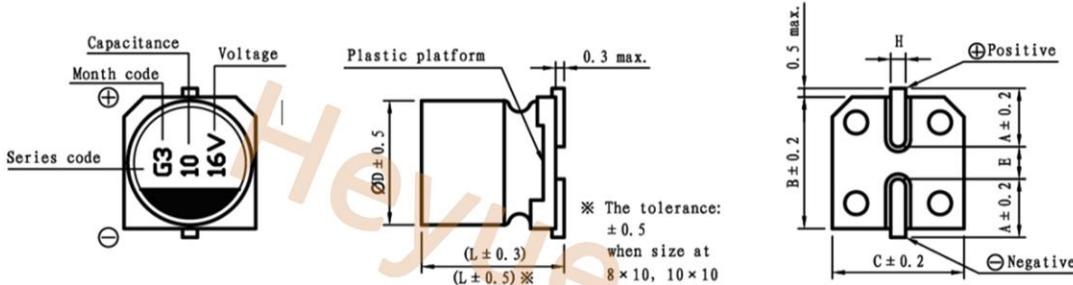
Frequency Coefficient of Permissible Ripple Current

| Frequency (Hz) | 50 | 60 | 120 | 1K | $\geq 10K$ |
|----------------|------|------|------|------|------------|
| Coefficient | 0.64 | 0.64 | 1.00 | 1.36 | 1.50 |

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.

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。

■ DIMENSIONS(mm) 外形图



| $\phi D \times L$ | 6.3x5.4 | 6.3x7.7 | 8x10 | 10x10 | (mm) |
|-------------------|---------|---------|---------|---------|------|
| A | 2.4 | 2.4 | 2.9 | 3.2 | |
| B | 6.6 | 6.6 | 8.3 | 10.3 | |
| C | 6.6 | 6.6 | 8.3 | 10.3 | |
| E | 2.2 | 2.2 | 3.1 | 4.5 | |
| L | 5.4 | 7.7 | 10 | 10 | |
| H | 0.5~0.8 | 0.5~0.8 | 0.8~1.1 | 0.8~1.1 | |

■ Standard ratings 标准品一览表

D×L(mm); R.C.(mA rms) at 125°C 120Hz.

| Cap (μF) | V | 10 | | 16 | | 25 | | 35 | | 50 | |
|--------------------|---|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|
| | | Item | D × L | R.C. | D × L |
| 10 | | | | | | | | 6.3x5.4 | 46 | 6.3x7.7 | 34 |
| 22 | | | | | | | | 6.3x5.4 | 46 | 6.3x7.7 | 55 |
| 33 | | | | | | 6.3x5.4 | 46 | 6.3x7.7 | 73 | 8x10 | 106 |
| 47 | | | | 6.3x5.4 | 40 | 6.3x7.7 | 73 | 6.3x7.7 | 73 | 8x10 | 106 |
| | | | | | | | | | | 10x10 | 164 |
| 100 | | 6.3x7.7 | 58 | 6.3x7.7 | 73 | 6.3x7.7 | 73 | 8x10 | 131 | 10x10 | 164 |
| | | | | | | 8x10 | 131 | 10x10 | 164 | | |
| 220 | | 6.3x7.7 | 58 | 8x10 | 131 | 8x10 | 131 | | | | |
| | | | | 10x10 | 164 | 10x10 | 164 | 10x10 | 164 | | |
| 330 | | 8x10 | 90 | 10x10 | 164 | 10x10 | 164 | | | | |
| | | | 10x10 | 112 | | | | | | | |
| 470 | | 10x10 | 130 | | | | | | | | |

| Cap (μF) | V | 63 | | 80 | | 100 | | 160 | | |
|--------------------|---|---------|-------|-------|-------|-------|-------|-------|-------|------|
| | | Item | D × L | R.C. | D × L | R.C. | D × L | R.C. | D × L | R.C. |
| 2.2 | | | | | | | | 8x10 | 22 | |
| 3.3 | | | | | | | | 8x10 | 22 | |
| 4.7 | | | | | | | | 10x10 | 70 | |
| 10 | | 6.3x7.7 | 40 | 8x10 | 46 | 8x10 | 46 | | | |
| 22 | | 8x10 | 66 | 8x10 | 46 | 8x10 | 46 | | | |
| | | | | 10x10 | 76 | 10x10 | 76 | | | |
| 33 | | 8x10 | 66 | 8x10 | 46 | | | | | |
| | | 10x10 | 113 | 10x10 | 76 | 10x10 | 76 | | | |
| 47 | | 8x10 | 66 | | | | | | | |
| | | 10x10 | 113 | | | | | | | |

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