

CGS series

- Chip type with 6.3Φ~16Φ, 125°C, 1000 hours~2000 hours, long life product.
- Designed For automobile modules and other high temperature applications.
- RoHS Compliance.
- 6.3Φ~16ΦV-Chip 型, 125°C, 1000小時~2000小時 長壽命產品。
- 專為汽車模塊和其它高溫應用設計。



SPECIFICATIONS

| Items 項目 | Characteristics 特性 | | | | | | | | |
|--|---|---|------|------|------|--------------------|---------------------------------|------|------|
| Capacitance Tolerance 靜電容量誤差 | ± 20%(120Hz,20°C) | | | | | | | | |
| Operating Temperature Range 適用溫度範圍 | -55 ~ +125°C | | | | | | | | |
| Rated Voltage Range 額定電壓範圍 | 6.3 ~ 100VDC | | | | | | | | |
| Capacitance Range 靜電容量範圍 | 1 ~ 4700μF | | | | | | | | |
| Leakage Current 洩漏電流 | I ≤ 0.01CV or 3(μA) · which is greater. (After 3 minutes application of DC rated voltage, at 20°C) | | | | | | | | |
| Dissipation Factor 散逸因素(tan δ) | Measurement Frequency: 120Hz. Temperature: 20°C | | | | | | | | |
| | Rated Voltage(V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 |
| | tan δ(Max) | 0.30 | 0.24 | 0.20 | 0.16 | 0.14 | 0.14 | 0.12 | 0.10 |
| Low Temperature Stability 低溫特性 Impedance Ratio(Max) 阻抗比率(最大值) | Measurement Frequency: 120Hz. | | | | | | | | |
| | Rated Voltage(V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 |
| | Z(-25°C)/Z(20°C) | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 |
| | Z(-40°C)/Z(20°C) | 8 | 6 | 4 | 3 | 3 | 3 | 3 | 3 |
| Load Life 負荷壽命 | 6.3V~50V:2,000hours (ΦD =6.3mm1,000hours);63V~100V:1,500 hours with application of rated voltage at 125°C | | | | | | | | |
| | Capacitance Change | within ±30% of Initial Value | | | | | | | |
| | tan δ | 300% or less of Initial Specified Value | | | | | | | |
| | Leakage Current | Initial Specified Value or less | | | | | | | |
| Shelf Life 放置壽命 | 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 ± 30% of Initial Value | | | | | | | |
| | tan δ | 300% or less of Initial Specified Value | | | | | | | |
| | Leakage Current | Initial Specified Value or less | | | | | | | |
| Resistance to Soldering Heat 焊錫耐熱性 | The capacitors shall be kept on the hot plate maintained at 250°C for 30 seconds. | | | | | Capacitance Change | Within ± 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 | | |
| Standards 參照標準 | IEC 60384-4 (JIS C 5101-4) | | | | | | | | |

Frequency Coefficient of Permissible Ripple Current

| Frequency (Hz) | 100 ≤ F < 1K | 1K ≤ F < 10K | 10K ≤ F < 100K | 100K ≤ F |
|------------------|--------------|--------------|----------------|----------|
| Capacitance (μF) | | | | |
| C ≤ 22 | 0.50 | 0.80 | 0.90 | 1.00 |
| 22 < C ≤ 150 | 0.65 | 0.85 | 0.92 | 1.00 |
| 150 < C | 0.70 | 0.85 | 0.95 | 1.00 |

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DIMENSIONS(mm)

Chip Type

Fig.1 $\Phi D=6.3\sim 10\text{mm}$

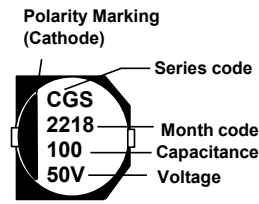
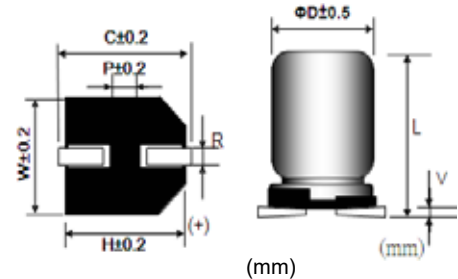
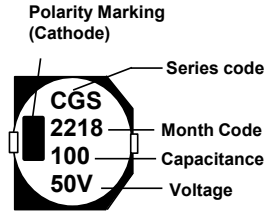


Fig.2 $\Phi D \geq 12.5\text{mm}$



| Size | ΦD | $L \pm 0.5$ | W | H | C | R | P | Vmax |
|-------------|----------|-------------|------|------|------|---------|-----|------|
| 6.3 × 6 | 6.3 | 6.0 ± 0.3 | 6.6 | 6.6 | 7.3 | 0.5~0.8 | 2.1 | 0.3 |
| 6.3 × 7.7 | 6.3 | 7.7 ± 0.3 | 6.6 | 6.6 | 7.3 | 0.5~0.8 | 2.1 | 0.3 |
| 8 × 10 | 8.0 | 10.0 ± 0.5 | 8.3 | 8.3 | 9.0 | 0.7~1.1 | 3.2 | 0.3 |
| 10 × 10 | 10.0 | 10.0 ± 0.5 | 10.3 | 10.3 | 11.0 | 0.7~1.3 | 4.5 | 0.3 |
| 12.5 × 13.5 | 12.5 | 13.5 ± 0.5 | 13.0 | 13.0 | 13.7 | 1.1~1.4 | 4.5 | 0.4 |
| 16 × 16.5 | 16.0 | 16.5 ± 0.5 | 17.0 | 17.0 | 18.0 | 1.7~2.1 | 6.4 | 0.4 |

STANDARD RATINGS

D×L(mm) ; R.C.(mA rms) at 125°C 100KHz, ESR(Ω max) at 20°C 100KHz.

| Cap (μF) | V | 6.3 | | | 10 | | | 16 | | | 25 | | |
|--------------------|-----------|-------|------|-----------|-------|------|-----------|-------|------|-----|-----------|------|------|
| | | D x L | R.C. | ESR | DxL | R.C. | ESR | D x L | R.C. | ESR | D x L | R.C. | ESR |
| 33 | | | | | | | | | | | 6.3x6 | 70 | 1.6 |
| 47 | | | | | 6.3x6 | 70 | 1.6 | 6.3x6 | 70 | 1.6 | 6.3x7.7 | 110 | 0.90 |
| 100 | 6.3x6 | 70 | 1.6 | 6.3x7.7 | 110 | 0.90 | 8x10 | 160 | 0.40 | | 6.3x7.7 | 110 | 0.90 |
| | | | | | | | | | | | 8x10 | 160 | 0.40 |
| 220 | 6.3x7.7 | 110 | 0.90 | 6.3x7.7 | 110 | 0.90 | 8x10 | 160 | 0.40 | | 8x10 | 160 | 0.40 |
| | | | | | | | | | | | 10x10 | 220 | 0.30 |
| 330 | 8x10 | 160 | 0.40 | 8x10 | 160 | 0.40 | 10x10 | 220 | 0.30 | | 10x10 | 220 | 0.30 |
| | | | | | | | | | | | 12.5x13.5 | 550 | 0.12 |
| 470 | 8x10 | 160 | 0.40 | 10x10 | 220 | 0.30 | 12.5x13.5 | 550 | 0.12 | | 12.5x13.5 | 550 | 0.12 |
| 680 | 10x10 | 220 | 0.30 | 12.5x13.5 | 550 | 0.12 | 12.5x13.5 | 550 | 0.12 | | 12.5x13.5 | 550 | 0.12 |
| 1000 | 12.5x13.5 | 550 | 0.12 | 12.5x13.5 | 550 | 0.12 | 12.5x13.5 | 550 | 0.12 | | 16x16.5 | 900 | 0.08 |
| 1500 | 12.5x13.5 | 550 | 0.12 | 12.5x13.5 | 550 | 0.12 | 16x16.5 | 900 | 0.08 | | 16x16.5 | 900 | 0.08 |
| 2200 | 12.5x13.5 | 550 | 0.12 | 16x16.5 | 900 | 0.08 | 16x16.5 | 900 | 0.08 | | | | |
| 3300 | 16x16.5 | 900 | 0.08 | 16x16.5 | 900 | 0.08 | | | | | | | |
| 4700 | 16x16.5 | 900 | 0.08 | | | | | | | | | | |

| Cap (μF) | V | 35 | | | 50 | | | 63 | | | 100 | | |
|--------------------|-----------|-------|------|-----------|-------|------|-----------|-------|------|-----|-----------|------|------|
| | | D x L | R.C. | ESR | DxL | R.C. | ESR | D x L | R.C. | ESR | D x L | R.C. | ESR |
| 1 | | | | | 6.3x6 | 45 | 3.5 | | | | | | |
| 2.2 | | | | | 6.3x6 | 45 | 3.5 | | | | | | |
| 3.3 | | | | | 6.3x6 | 45 | 3.5 | | | | | | |
| 4.7 | 6.3x6 | 60 | 2.0 | 6.3x6 | 45 | 3.5 | | | | | | | |
| 10 | 6.3x6 | 70 | 1.6 | 6.3x6 | 50 | 2.8 | | | | | 8x10 | 70 | 1.00 |
| 22 | 6.3x6 | 70 | 1.6 | 6.3x7.7 | 80 | 2.0 | 8x10 | 100 | 1.00 | | 8x10 | 70 | 1.00 |
| 33 | 6.3x7.7 | 110 | 0.90 | 6.3x7.7 | 80 | 2.0 | 8x10 | 100 | 1.00 | | 10x10 | 115 | 0.80 |
| | | | | | 8x10 | 140 | 0.70 | | | | | | |
| 47 | 6.3x7.7 | 110 | 0.90 | 8x10 | 140 | 0.70 | 8x10 | 100 | 1.00 | | 12.5x13.5 | 350 | 0.33 |
| | 8x10 | 160 | 0.40 | 10x10 | 240 | 0.50 | 10x10 | 150 | 0.50 | | | | |
| 100 | 8x10 | 160 | 0.40 | 10x10 | 240 | 0.50 | 10x10 | 150 | 0.50 | | 16x16.5 | 500 | 0.24 |
| | 10x10 | 220 | 0.30 | 12.5x13.5 | 490 | 0.23 | 12.5x13.5 | 350 | 0.25 | | | | |
| 220 | 10x10 | 220 | 0.30 | 12.5x13.5 | 490 | 0.23 | 12.5x13.5 | 350 | 0.25 | | | | |
| | 12.5x13.5 | 550 | 0.12 | | | | 16x16.5 | 500 | 0.18 | | | | |
| 330 | 12.5x13.5 | 550 | 0.12 | 12.5x13.5 | 490 | 0.23 | 16x16.5 | 500 | 0.18 | | | | |
| | | | | 16x16.5 | 800 | 0.15 | | | | | | | |
| 470 | 12.5x13.5 | 550 | 0.12 | 16x16.5 | 800 | 0.15 | 16x16.5 | 500 | 0.18 | | | | |
| | 16x16.5 | 900 | 0.08 | | | | | | | | | | |
| 680 | 16x16.5 | 900 | 0.08 | 16x16.5 | 800 | 0.15 | | | | | | | |
| 1000 | 16x16.5 | 900 | 0.08 | | | | | | | | | | |

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