



**THE DATASHEET OF
RC1005J270CS**



Thick Film General Chip Resistors



- 0402(01005), 0603(0201), 1005(0402), 1608(0603), 2012(0805), 3216(1206), 3225(1210), 5025(2010), 6432(2512)

■ Features

- Small, thin and lightweight
- High reliability
- Applicable Both flow and reflow soldering.
- Suitable size and package for surface mount assembly
- RoHS Compliant.

■ Part Number System

| RC | |
|---------------|-------------------------------|
| Type (Series) | General purpose chip resistor |

| 0603 | |
|------------------|-------------------|
| Size : mm (inch) | |
| 0402 | 0.4×0.2mm (01005) |
| 0603 | 0.6×0.3mm (0201) |
| 1005 | 1.0×0.5mm (0402) |
| 1608 | 1.6×0.8mm (0603) |
| 2012 | 2.0×1.2mm (0805) |
| 3216 | 3.2×1.6mm (1206) |
| 3225 | 3.2×2.5mm (1210) |
| 5025 | 5.0×2.5mm (2010) |
| 6432 | 6.4×3.2mm (2512) |

| F | |
|-----------|-------|
| Tolerance | |
| D | ±0.5% |
| F | ±1.0% |
| G | ±2.0% |
| J | ±5.0% |

* Jumper : 'J'

| 2552 | |
|-------------------------------------|--|
| Resistance Value | |
| - 3-digit code System (E-24 series) | |
| - 4-digit code System (E-96 series) | |
| - Jumper : '000' | |
| - 2552 : 25.5KΩ | |

■ Structure and Dimensions



[Side View]



[Bottom View]



| Size(mil) | L | W | T | A |
|---------------|-----------|-----------|-----------|-----------|
| RC0402(01005) | 0.40±0.02 | 0.20±0.02 | 0.13±0.02 | 0.10±0.03 |
| RC0603(0201) | 0.60±0.03 | 0.30±0.03 | 0.23±0.03 | 0.10±0.05 |
| RC1005(0402) | 1.00±0.05 | 0.50±0.05 | 0.35±0.05 | 0.20±0.10 |
| RC1608(0603) | 1.60±0.10 | 0.80±0.10 | 0.45±0.10 | 0.30±0.20 |
| RC2012(0805) | 2.00±0.20 | 1.25±0.15 | 0.55±0.10 | 0.40±0.20 |
| RC3216(1206) | 3.20±0.20 | 1.60±0.15 | 0.55±0.10 | 0.45±0.20 |
| RC3225(1210) | 3.20±0.20 | 2.55±0.20 | 0.55±0.10 | 0.45±0.20 |
| RC5025(2010) | 5.00±0.20 | 2.50±0.20 | 0.55±0.10 | 0.60±0.20 |
| RC6432(2512) | 6.30±0.20 | 3.20±0.20 | 0.55±0.10 | 0.60±0.20 |

■ Applications and Ratings

| Type | Size (mil) | Rated Power [W] | Rated Voltage [V] | Max Working Voltage [V] | Tolerance [%] | Resistance Range [Ω] | T.C. [ppm/°C] |
|--------|------------|-----------------|--|-------------------------|---------------------------|----------------------|-------------------------|
| RC0402 | 01005 | 1/32 | $\sqrt{P \times R}$ | 15 | ±1(F) ±5(J) | 1 ~ 1M | 1 ~ 9.9Ω : 10 ~ 1MΩ |
| | | 1/20 | | | | | |
| RC0603 | 0201 | 1/16 | $\sqrt{P \times R}$ | 25 | ±0.5(D) ±1(F) ±5(J) | 1 ~ 10M | 1 ~ 9.9Ω : 10 ~ 10MΩ |
| | | 1/10 | | | | | |
| RC1005 | 0402 | 1/8 | $\sqrt{P \times R}$ P : Rated Power(W) R : Resistance(Ω) | 50 | | 1 ~ 10M | 1 ~ 9.9Ω : 10 ~ 10MΩ |
| RC1608 | 0603 | 1/4 | | 50 | | | |
| RC2012 | 0805 | 1/2 | | 150 | | | |
| RC3216 | 1206 | 1/2 | | 200 | | | |
| RC3225 | 1210 | 1/2 | | 200 | | | |
| RC5025 | 2010 | 2/3 | | 200 | | | |
| RC6432 | 2512 | 1 | | 200 | | | |

• Please contact our sales representatives or engineers for other specifications

■ Power Derating Curve



■ Jumper Ratings

| Type | Rated Current [A] | Max Over Current |
|-----------------------|-------------------|------------------|
| 0402, 0603 | 0.5 | 1 |
| 1005, 1608 | 1 | 2 |
| 2012 and bigger sizes | 2 | 4 |

■ Rated Voltage

$$V = \sqrt{P \times R}$$

E : Rated Voltage
P : Rated Power
R : Resistance

■ Standard Soldering Pad Dimensions



| Size (mil) | Reflow Soldering | | |
|---------------|------------------|------|--------|
| | A | B | 2A + B |
| RC0402(01005) | 0.17 | 0.20 | 0.54 |
| RC0603(0201) | 0.37 | 0.28 | 1.02 |
| RC1005(0402) | 0.60 | 0.50 | 1.70 |
| RC1608(0603) | 0.80 | 0.80 | 2.40 |
| RC2012(0805) | 0.90 | 1.40 | 3.20 |
| RC3216(1206) | 1.30 | 1.80 | 4.40 |
| RC3225(1210) | 1.30 | 1.80 | 4.40 |
| RC5025(2010) | 1.40 | 3.30 | 6.10 |
| RC6432(2512) | 1.40 | 4.60 | 7.40 |

■ Performance Characteristics

| ITEM | Requirements Specification | Test (JIS) |
|----------------------------|----------------------------------|--|
| Resistance | Within the specified tolerance | JIS C 5201-1 4.5 |
| Temperature Characteristic | Within the specified T.C.R | JIS C 5201-1 4.8 +20°C → -55°C / +20 |
| Short time Overload | $\Delta R < \pm 1\% + 0.1\Omega$ | JIS C 5201-1 4.13 Rated Voltage $\times 2.5$, 1 |
| Solderability | Immersed over 95% | JIS C 5201-1 4.17 Rosin Ethanol (25%V 245+5/-0°C, 2 \pm 0.5 se |
| Resistance to Solder Heat | $\Delta R < \pm 1\% + 0.1\Omega$ | JIS C 5201-1 4.18 260 \pm 5°C, 10 \pm 1 sec |
| Temperature Cycle | $\Delta R < \pm 1\% + 0.1\Omega$ | JIS C 5201-1 4.19 -55°C ↔ +125°C, 10 |
| Moisture Resistance | $\Delta R < \pm 3\% + 0.1\Omega$ | JIS C 5201-1 4.24 40 \pm 2°C, 90~95%RH, 90mins ON, 30mins |
| Load Life | $\Delta R < \pm 3\% + 0.1\Omega$ | JIS C 5201-1 4.25 Rated Voltage, 70 \pm 2 90mins ON, 30mins |
| High Temp. Exposure | $\Delta R < \pm 3\% + 0.1\Omega$ | JIS C 5201-1 4.25.3 155 \pm 2°C, 1,000 ⁺⁴⁸ ho |

※ The reliability test condition can be replaced by the corresponding accelerated test condition.

Thick Film Chip Resistors (RC General)

-  Product specifications included in the specifications are effective as of March 01, 2015.
- Please be advised that they are standard product specifications for reference only.
- We may change, modify or discontinue the product specifications without notice at any time.
- So, you need to approve the product specifications before placing an order.
- Should you have any question regarding the product specifications,
please contact our sales personnel or application engineers.
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