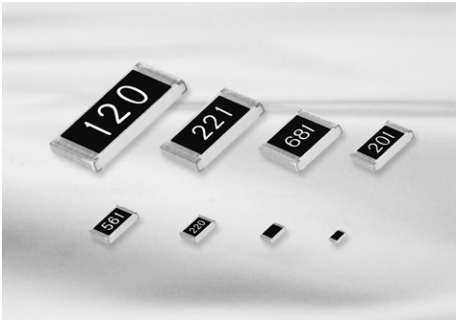


General Purpose



Feature

- Very small, thin, and light weight.
- Both flow and reflow soldering are applicable.
- Owing to the reduced lead inductance, the high frequency characteristic is excellent.
- Suitable size and packaging for surface mount assembly.

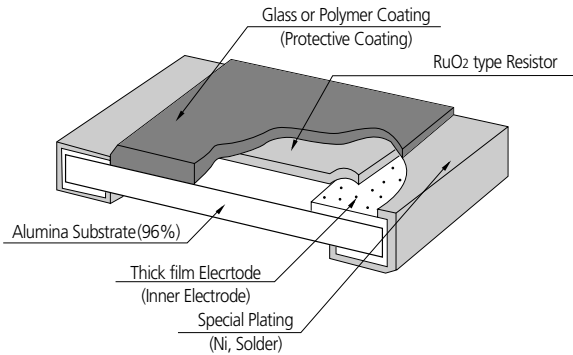
The product of lead-free terminal is RoHS compliant.
PhO(lead oxide) is included in the glass of our product which is prescribed on RoHS appendix as an exception.

Application

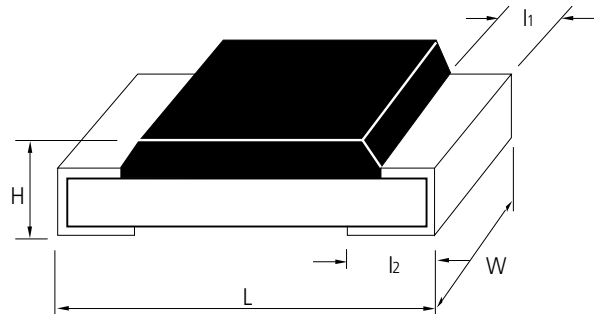
- General purpose
- Home Appliances
(DVD, Digital TV, CAMCODER, VTR, Digital Camera, Audio, Tuner)
- For Computers & Communications
(Notebook, Memory Module, Mobile, Network Equipment, etc)

Structure and Dimensions

• Structure



• Dimensions



(UNIT: mm)

| Type | Inch | Power(W) | L | W | H | l ₁ | l ₂ | Average Weight |
|--------|------|----------|-----------|-----------|-----------|----------------|----------------|----------------|
| RC0603 | 0201 | 1/20 | 0.60±0.03 | 0.30±0.03 | 0.23±0.03 | 0.1±0.05 | 0.15±0.05 | 0.15mg |
| RC1005 | 0402 | 1/16 | 1.00±0.05 | 0.50±0.05 | 0.35±0.05 | 0.20±0.10 | 0.25±0.10 | 0.6mg |
| RC1608 | 0603 | 1/10 | 1.60±0.10 | 0.80±0.15 | 0.45±0.10 | 0.30±0.20 | 0.35±0.10 | 2.1mg |
| RC2012 | 0805 | 1/8 | 2.00±0.20 | 1.25±0.15 | 0.50±0.10 | 0.40±0.20 | 0.35±0.20 | 4.9mg |
| RC3216 | 1206 | 1/4 | 3.20±0.20 | 1.60±0.15 | 0.55±0.10 | 0.45±0.20 | 0.40±0.20 | 9.5mg |
| RC3225 | 1210 | 1/3 | 3.20±0.20 | 2.55±0.20 | 0.55±0.10 | 0.45±0.20 | 0.40±0.20 | 16mg |
| RC5025 | 2010 | 2/3 | 5.00±0.20 | 2.50±0.20 | 0.55±0.10 | 0.60±0.20 | 0.60±0.20 | 26mg |
| RC6432 | 2512 | 1 | 6.30±0.20 | 3.20±0.20 | 0.55±0.10 | 0.60±0.20 | 0.60±0.20 | 41mg |

Parts Numbering System

- The part number system shall be in the following format

| RC | 2012 | J | 100 | CS | |
|-------------------|----------------------------------|---------------|--|------------------------|------------------------|
| Code Designation | Dimension & Size Code | Tolerance | Resistance Value | Packaging Code | |
| RC: Chip Resistor | 0603: 0.6 × 0.3(mm) - 0201(inch) | G : ±2% | 3 or 4 digits coding system (IEC coding system) | GS: Bulk Packaging | |
| | 1005: 1.0 × 0.5(mm) - 0402(inch) | J : ±5% | | CS: Tape Packaging 7" | |
| | 1608: 1.6 × 0.8(mm) - 0603(inch) | K : ±10% | | 3digits (E-24 series) | ES: Tape Packaging 10" |
| | 2012: 2.0 × 1.2(mm) - 0805(inch) | | | 4digits (E-96 series) | FS: Tape Packaging 13" |
| | 3216: 3.2 × 1.6(mm) - 1206(inch) | * Jumper: 'J' | | AS: Tape Packaging 13" | |
| | 3225: 3.2 × 2.5(mm) - 1210(inch) | | | | |
| | 5025: 5.0 × 2.5(mm) - 2010(inch) | | | | |
| | 6432: 6.4 × 3.2(mm) - 2512(inch) | | | | |

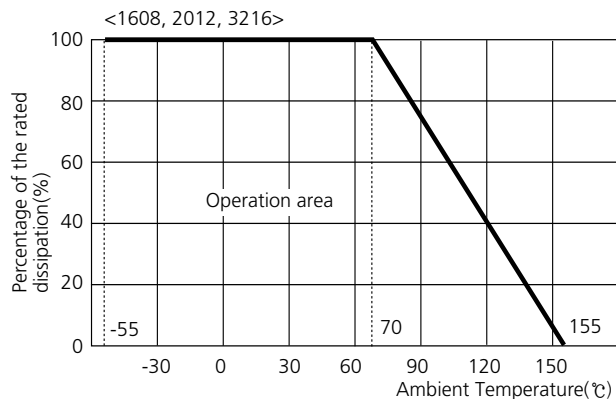
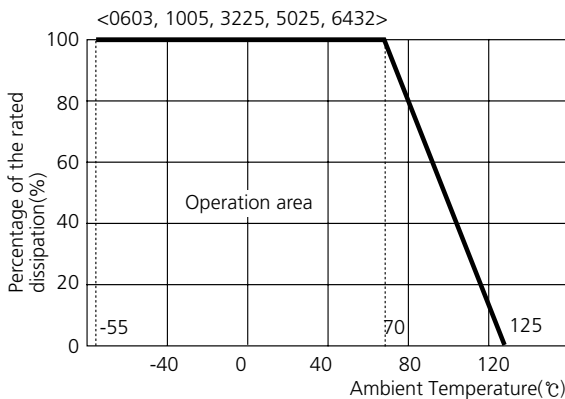
Specification

| Type | Power Rating (W) | Working Voltage (MAX) | Overload Voltage (MAX) | TCR (ppm/°C) | Resistance Range (Ω) | | | Rated Ambient Temperature | Rated Working Temperature |
|---------|------------------|-----------------------|------------------------|---|----------------------|----------------|-----------------|---------------------------|---------------------------|
| | | | | | G(±2%) E-48 | J(±5%) E-24 | K(±10%) E-12 | | |
| RC 0603 | 1/20 | 25(V) | 50(V) | 1 Ω ≤ R < 10 Ω +300/-200ppm | 1 Ω ~ 1M Ω | 1 Ω ~ 10M Ω | 1 Ω ~ 10M Ω | 70 °C | -55 °C ~ +125 °C |
| RC 1005 | 1/16 | 50(V) | 100(V) | | | | | | |
| RC 1608 | 1/10 | 150(V) | 300(V) | 10 Ω ≤ R ≤ 1M Ω ± 100ppm (0603: ± 250ppm) | 1 Ω ~ 1M Ω | 1 Ω ~ 10M Ω | 1 Ω ~ 10M Ω | 70 °C | -55 °C ~ +155 °C |
| RC 2012 | 1/8 | | | | | | | | |
| RC 3216 | 1/4 | 200(V) | 400(V) | 1M Ω < R ≤ 10M Ω ± 300ppm | 1 Ω ~ 1M Ω | 1 Ω ~ 10M Ω | 1 Ω ~ 10M Ω | 70 °C | -55 °C ~ +125 °C |
| RC 3225 | 1/3 | | | | | | | | |
| RC 5025 | 2/3 | | | | | | | | |
| RC 6432 | 1 | | | | | | | | |

- Rated voltage (V) = $\sqrt{\text{Rated power(W)} \times \text{Normal resistance value (R)}}$
Rated voltage should be lower than (MAX) working voltage.

Power Derating Curve

The rated power is the maximum continuous loading power at 70 °C ambient temperature.
For ambient temperature above 70 °C, the loading power follows the below power derating curve.
(The load current shall be derated according to derating curve in case of the 'Jumper')



Jumper Resistors

| Type | Resistance | Current Rating | Rated Ambient Temperature | Rated Working Temperature |
|---------|--------------|----------------|---------------------------|---------------------------|
| RC 0603 | 50mΩ Max. | 0.5(A) | 70 °C | -55 °C ~ +125 °C |
| RC 1005 | | 1.0(A) | | |
| RC 1608 | | | | |
| RC 2012 | | 2.0(A) | | |
| RC 3216 | | | | |
| RC 3225 | | | | |
| RC 5025 | | | | |
| RC 6432 | | | | |

Marking

3 digits indication (E-24 series)

- Left 2 digits represent significant figures.
- Last 1 digit represent exponential number of 10.
- Example: **103**
Left 2 digits: 10
Last 1 digit: 3
 $103 = 10 \times 10^3 \Omega$
 $= 10000 \Omega = 10k\Omega$



- Jumper chip is printed as 000
- Resistance below 10 Ω is expressed using "R"
ex) 7R5=7.5 Ω
- 0603, 1005 type: No marking.

Operation Notes

Example of Land Pattern Design

Recommended Soldering Conditions

General Purpose

Precision

Low Ohms

Array

Attenuator

Characteristics Performance

Packaging

Standard Resistance Value