

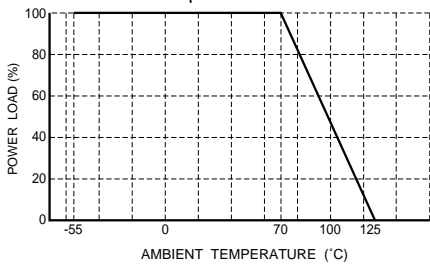
Thick film rectangular

MCR25 (3225 size: 1 / 4W)

●Features

- 1) Made of same material as the general purpose chip resistors (MCR10 / 18).
- 2) Highly reliable chip resistor
Ruthenium oxide resistive material offers superior resistance to the elements.
- 3) Electrodes not corroded by soldering
Suitable for re-flow soldering.
- 4) ROHM resistors have approved ISO-9001 certification.
Design and specifications are subject to change without notice. Carefully check the specification sheet before using or ordering it.

●Ratings

| Item | Conditions | Specifications |
|-----------------------|---|---------------------------|
| Rated power | Power must be derated according to the power derating curve in Figure 1 when ambient temperature exceeds 70°C.  <p style="text-align: center;">Fig.1</p> | 0.25W (1 / 4W) at 70°C |
| Rated voltage | The voltage rating is calculated by the following equation. If the value obtained exceeds the limiting element voltage, the voltage rating is equal to the maximum operating voltage. $E = \sqrt{P \times R}$ <div style="display: flex; justify-content: space-between;"> <div>E: Rated voltage (V)</div> <div>P: Rated power (W)</div> <div>R: Nominal resistance (Ω)</div> </div> | Limiting element voltage |
| Nominal resistance | See Table 1. | 200V |
| Operating temperature | | -55°C to +125°C |

Jumper type

| | |
|-----------------------|-----------------|
| Resistance | Max. 50mΩ |
| Rated current | 2A |
| Operating temperature | -55°C to +125°C |

Table 1

| Resistance tolerance | Resistance range (Ω) | Resistance temperature coefficient (ppm/°C) |
|----------------------|----------------------|---|
| F (±1%) | 0.1 ≤ R < 10 (E24) | ±250 |
| | 10 ≤ R ≤ 1M (E24,96) | ±200 |
| J (±5%) | 0.1 ≤ R < 1 (E24) | ±250 |
| | 1.0 ≤ R < 2.2 (E24) | 500±350 |
| | 2.2 ≤ R < 5.6 (E24) | ±500 |
| | 5.6 ≤ R ≤ 3.3M (E24) | ±200 |

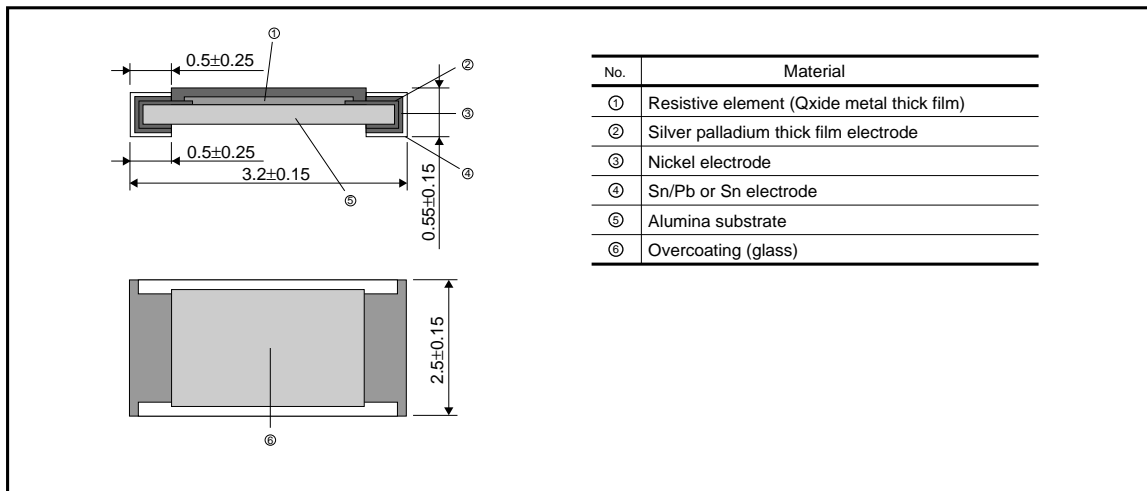
●Before using components in circuits where they will be exposed to transients such as pulse loads (short-duration, high-level loads), be certain to evaluate the component in the mounted state. In addition, the reliability and performance of this component cannot be guaranteed if it is used with a steady state voltage that is greater than its rated voltage.

Resistors

●Characteristics

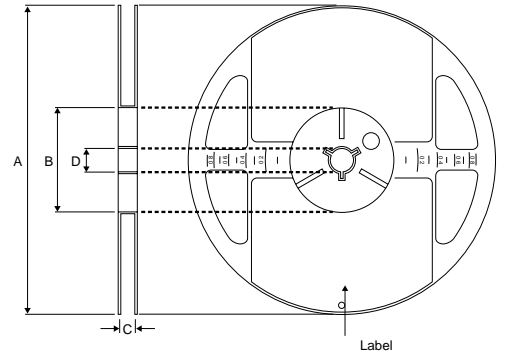
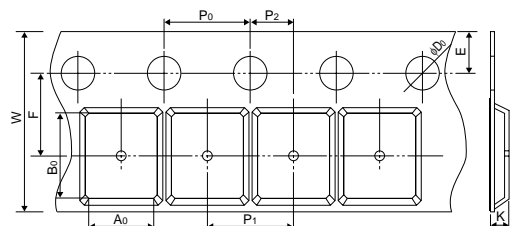
| Item | Guaranteed value | | Test conditions (JIS C 5201-1) |
|--|--|--------------------|---|
| | Resistor type | Jumper type | |
| Resistance | J : $\pm 5\%$ F : $\pm 1\%$ | Max. 50m Ω | JIS C 5201-1 4.5 |
| Variation of resistance with temperature | See Table.1 | | JIS C 5201-1 4.8 Measurement : -55 / +25 / +125°C |
| Overload | $\pm (2.0\%+0.1\Omega)$ | Max. 50m Ω | JIS C 5201-1 4.13 Rated voltage (current) $\times 2.5$, 2s. Limiting Element Voltage $\times 2$: 400V |
| Solderability | A new uniform coating of minimum of 95% of the surface being immersed and no soldering damage. | | JIS C 5201-1 4.17 Rosin-Ethanol (25%WT) Soldering condition : 235 $\pm 5^\circ\text{C}$ Duration of immersion : 2.0 ± 0.5 s. |
| Resistance to soldering heat | $\pm (1.0\%+0.05\Omega)$ No remarkable abnormality on the appearance. | Max. 50m Ω | JIS C 5201-1 4.18 Soldering condition : 260 $\pm 5^\circ\text{C}$ Duration of immersion : 10 ± 1 s. |
| Rapid change of temperature | $\pm (1.0\%+0.05\Omega)$ | Max. 50m Ω | JIS C 5201-1 4.19 Test temp. : -55°C~+125°C 5cyc |
| Damp heat, steady state | $\pm (3.0\%+0.1\Omega)$ | Max. 100m Ω | JIS C 5201-1 4.24 40°C, 93%RH Test time : 1,000h~1,048h |
| Endurance at 70°C | $\pm (3.0\%+0.1\Omega)$ | Max. 100m Ω | JIS C 5201-1 4.25.1 Rated voltage (current), 70°C 1.5h : ON - 0.5h : OFF Test time : 1,000h~1,048h |
| Endurance | $\pm (3.0\%+0.1\Omega)$ | Max. 100m Ω | JIS C 5201-1 4.25.3 125°C Test time : 1,000h~1,048h |
| Resistance to solvent | $\pm (1.0\%+0.05\Omega)$ | Max. 50m Ω | JIS C 5201-1 4.29 23 $\pm 5^\circ\text{C}$, Immersion cleaning, 5 ± 0.5 min. Solvent : 2-propanol |
| Bend strength of the end face plating | $\pm (1.0\%+0.05\Omega)$ Without mechanical damage such as breaks. | Max. 50m Ω | JIS C 5201-1 4.33 |

●External dimensions (Units : mm)



Resistors

●Packaging

| Reel | Taping | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|----------------|-------------------|----------------|--|---|--------|-------------------|---|---|---|---|----------------|----------------|---------|----------|----------|---------|---------|----------------|----------------|----------------|----------------|---|--|---------|---------|----------|----------|
|  <p style="text-align: center;">Label EIAJ ET-7200A compliant</p> <p style="text-align: center;">(Units: mm)</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>A</td> <td>B</td> <td>C</td> <td>D</td> </tr> <tr> <td>$\phi 180 \begin{smallmatrix} 0 \\ -3 \end{smallmatrix}$</td> <td>$\phi 60 \begin{smallmatrix} +1 \\ 0 \end{smallmatrix}$</td> <td>13±0.3</td> <td>$\phi 13 \pm 0.2$</td> </tr> </table> | A | B | C | D | $\phi 180 \begin{smallmatrix} 0 \\ -3 \end{smallmatrix}$ | $\phi 60 \begin{smallmatrix} +1 \\ 0 \end{smallmatrix}$ | 13±0.3 | $\phi 13 \pm 0.2$ |  <p style="text-align: right;">(Units: mm)</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>W</td> <td>F</td> <td>E</td> <td>A₀</td> <td>B₀</td> </tr> <tr> <td>8.0±0.3</td> <td>3.5±0.05</td> <td>1.75±0.1</td> <td>3.0±0.1</td> <td>3.5±0.1</td> </tr> <tr> <td>D₀</td> <td>P₀</td> <td>P₁</td> <td>P₂</td> <td>K</td> </tr> <tr> <td>$\phi 1.5 \begin{smallmatrix} +0.1 \\ 0 \end{smallmatrix}$</td> <td>4.0±0.1</td> <td>4.0±0.1</td> <td>2.0±0.05</td> <td>Max. 1.1</td> </tr> </table> | W | F | E | A ₀ | B ₀ | 8.0±0.3 | 3.5±0.05 | 1.75±0.1 | 3.0±0.1 | 3.5±0.1 | D ₀ | P ₀ | P ₁ | P ₂ | K | $\phi 1.5 \begin{smallmatrix} +0.1 \\ 0 \end{smallmatrix}$ | 4.0±0.1 | 4.0±0.1 | 2.0±0.05 | Max. 1.1 |
| A | B | C | D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $\phi 180 \begin{smallmatrix} 0 \\ -3 \end{smallmatrix}$ | $\phi 60 \begin{smallmatrix} +1 \\ 0 \end{smallmatrix}$ | 13±0.3 | $\phi 13 \pm 0.2$ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W | F | E | A ₀ | B ₀ | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8.0±0.3 | 3.5±0.05 | 1.75±0.1 | 3.0±0.1 | 3.5±0.1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| D ₀ | P ₀ | P ₁ | P ₂ | K | | | | | | | | | | | | | | | | | | | | | | | | | |
| $\phi 1.5 \begin{smallmatrix} +0.1 \\ 0 \end{smallmatrix}$ | 4.0±0.1 | 4.0±0.1 | 2.0±0.05 | Max. 1.1 | | | | | | | | | | | | | | | | | | | | | | | | | |

●Makeup of the part number

Part No.

M C R 2 5 **J Z H** **J**

3-digit or 4-digit IEC coding system

Nominal resistance

Packaging / Processing specifications

| Part No. | Code | Packaging | Standard ordering unit(pcs) |
|----------|------|------------|-----------------------------|
| MCR25 | JZH | Paper tape | 4,000 |

Resistance tolerance

| | | | |
|------------------------------|-----|---|-----|
| F | ±1% | J | ±5% |
| Specify "J" for jumper also. | | | |

special part number

| | |
|-------|---|
| Blank | 10Ω or more (F class) 1Ω or more (J class) |
| L | Up to 10Ω (F class) Up to 1Ω (J class) |

●Dimensions

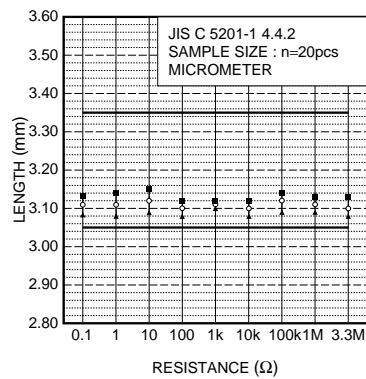


Fig.2 Dimensions (length)

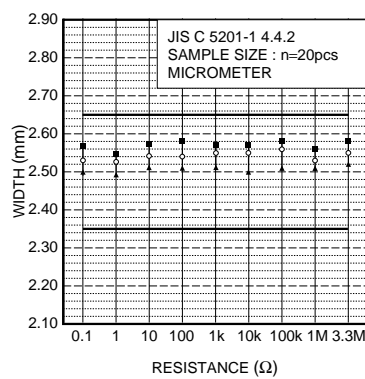


Fig.3 Dimensions (width)

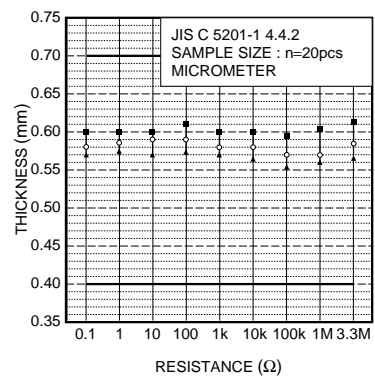


Fig.4 Dimensions (thickness)

Resistors

●Electrical characteristics

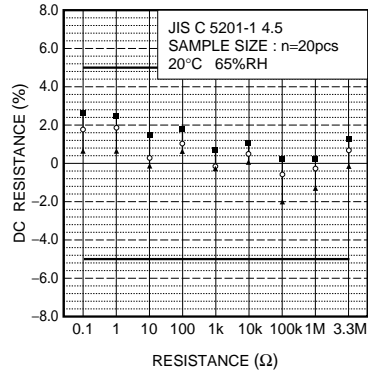


Fig.5 Resistance

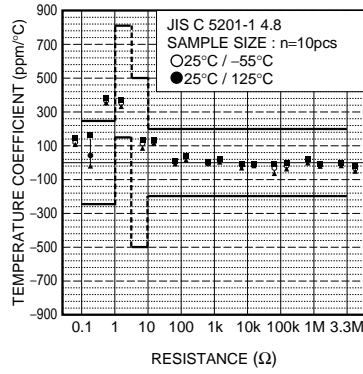


Fig.6 Variation resistance with temperature

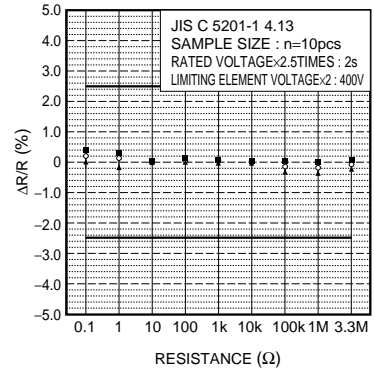


Fig.7 Overload

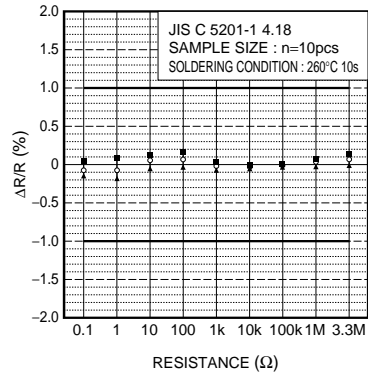


Fig.8 Resistance to soldering heat

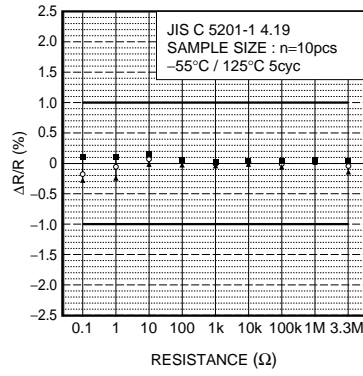


Fig.9 Rapid change of temperature

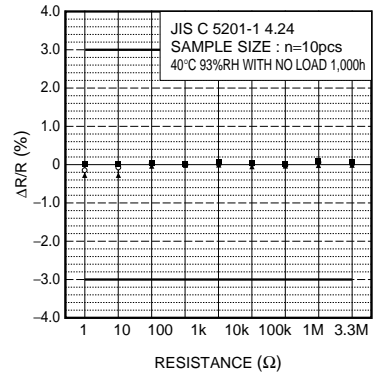


Fig.10 Damp heat, steady state

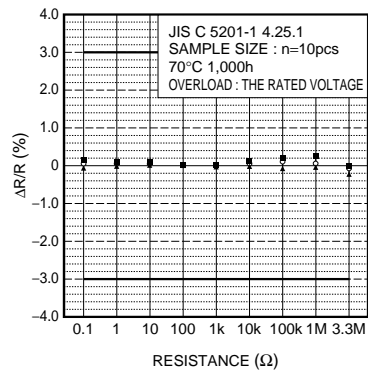


Fig.11 Endurance at 70°C

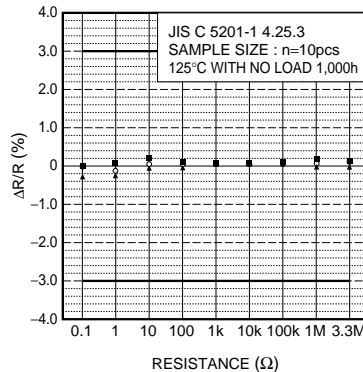


Fig.12 Endurance

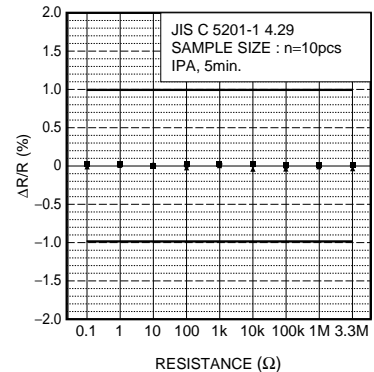


Fig.13 Resistance to solvents

Resistors

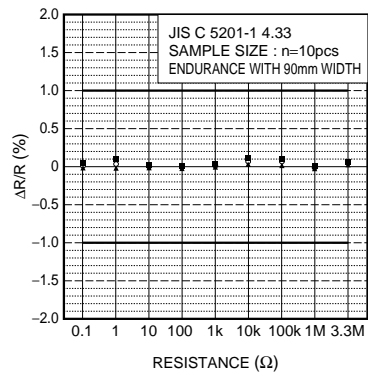


Fig.14 Bend strength of the end face plating