

# Thick film rectangular Low resistance series

## MCR100 (6432 size (2512 size) : 1W)

### ●Features

- 1) Highly reliable chip resistor  
Ruthenium oxide dielectric offers superior resistance to the elements.
- 2) Electrodes not corroded by soldering  
Suitable for re-flow soldering.
- 3) ROHM resistors have approved ISO-9001 certification. Design and specifications are subject to change without notice.  
Carefully check the specification sheet supplied with the product before using or ordering it.

### ●Ratings

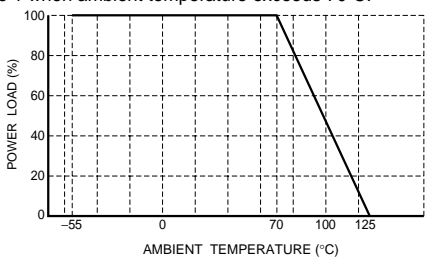
| Item                  | Conditions   | Specifications                      |
|-----------------------|--|-------------------------------------|
| Rated power           | Power must be derated according to the power derating curve in Figure 1 when ambient temperature exceeds 70°C.<br> <p style="text-align: center;">Fig.1</p>  | 1W 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.<br>$E = \sqrt{P \times R}$ E: Rated voltage (V)<br>P: Rated power (W)<br>R: Nominal resistance (Ω) | Limiting element voltage 3.16V(10Ω) |
| Nominal resistance    | See Table 1.   |                                     |
| Operating temperature |  | -55°C to +125°C                     |

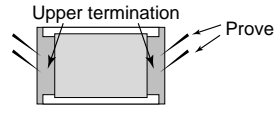
Table 1

| Resistance tolerance | Special code | Resistance range (Ω) | Resistance temperature coefficient (ppm / °C) |
|----------------------|--------------|----------------------|---|
| F (±1%)              | L            | 0.15≤R≤9.1 (E24)     | ±250  |
|                      | L            | 0.1≤R≤0.13 (E24)     | 400±200                                       |
|                      | S            | 0.047≤R≤0.091 (E24)  | 500±300                                       |
| J (±5%)              | L            | 0.15≤R≤0.91 (E24)    | ±250  |
|                      | L            | 0.1≤R<0.13 (E24)     | 400±200                                       |
|                      | S            | 0.047≤R≤0.091 (E24)  | 500±300                                       |

●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.

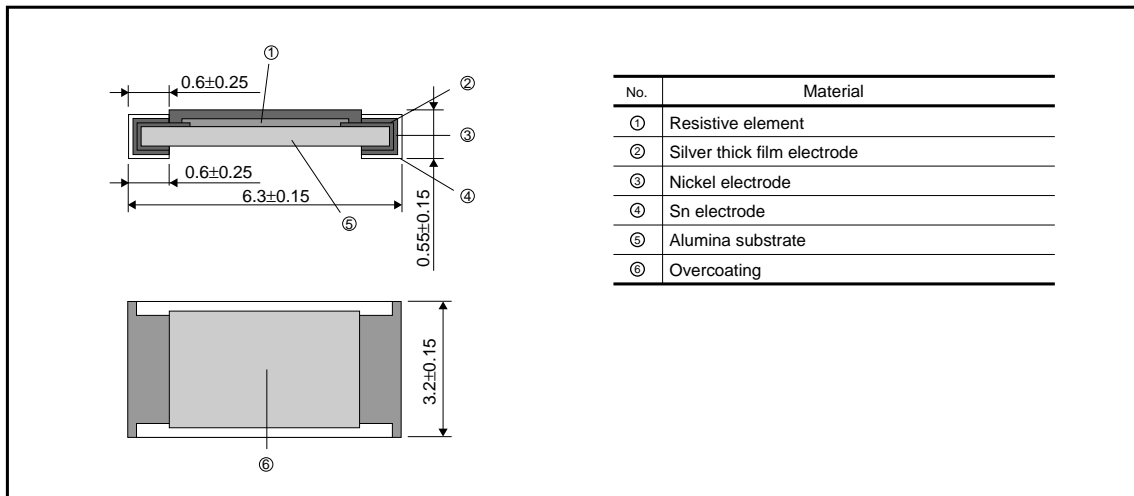
## Resistors

## ●Characteristics

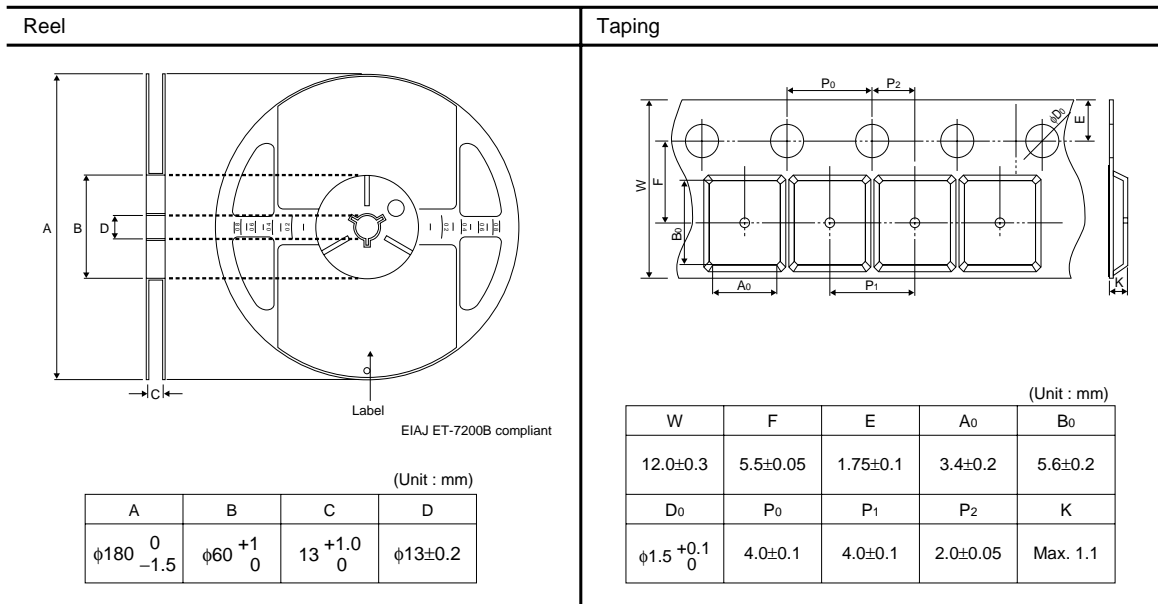
| Item                                     | Guaranteed value   | Test conditions (JIS C 5201-1)   |
|--|--|--|
|  | Resistor type  |  |
| Resistance                               | J : $\pm 5\%$<br>F : $\pm 1\%$   | JIS C 5201-1 4.5<br>Load voltage : A<br>Measuring method : measure upper termination by 4 probes.<br> |
| Variation of resistance with temperature | See Table.1  | JIS C 5201-1 4.8<br>Measurement : $+25 / -55 / +25 / +125^{\circ}\text{C}$   |
| Overload                                 | $\pm (2.0\%+0.005\Omega)$  | JIS C 5201-1 4.13<br>Rated voltage (current) $\times 2.5$ , 2s.  |
| Solderability                            | A new uniform coating of minimum of 95% of the surface being immersed and no soldering damage. | JIS C 5201-1 4.17<br>Rosin-Ethanol (25%WT)<br>Soldering condition : $235\pm 5^{\circ}\text{C}$<br>Duration of immersion : $2.0\pm 0.5\text{s}$ .   |
| Resistance to soldering heat             | $\pm (1.0\%+0.005\Omega)$<br>No remarkable abnormality on the appearance.                      | JIS C 5201-1 4.18<br>Soldering condition : $260\pm 5^{\circ}\text{C}$<br>Duration of immersion : $10\pm 1\text{s}$ .   |
| Rapid change of temperature              | $\pm (1.0\%+0.005\Omega)$  | JIS C 5201-1 4.19<br>Test temp. : $-55^{\circ}\text{C}$ to $+125^{\circ}\text{C}$ 5cyc   |
| Damp heat, steady state                  | $\pm (3.0\%+0.005\Omega)$  | JIS C 5201-1 4.24<br>$40^{\circ}\text{C}$ , 93%RH<br>Test time : 56days  |
| Endurance at $70^{\circ}\text{C}$        | $\pm (3.0\%+0.005\Omega)$  | JIS C 5201-1 4.25.1<br>$70^{\circ}\text{C}$ , Rated voltage<br>1.5h : ON – 0.5h : OFF<br>Test time : 1,000h  |
| Endurance                                | $\pm (3.0\%+0.005\Omega)$  | JIS C 5201-1 4.25.3<br>$125^{\circ}\text{C}$<br>Test time : 1,000h to 1,048h   |
| Component solvent resistance             | $\pm (0.5\%+0.005\Omega)$  | JIS C 5201-1 4.29<br>$23^{\circ}\text{C}\pm 5^{\circ}\text{C}$<br>Solvent : 2-propanol   |
| Bend strength of the end face plating    | Without open.  | JIS C 5201-1 4.33  |

Resistors

●Dimensions (Unit: mm)

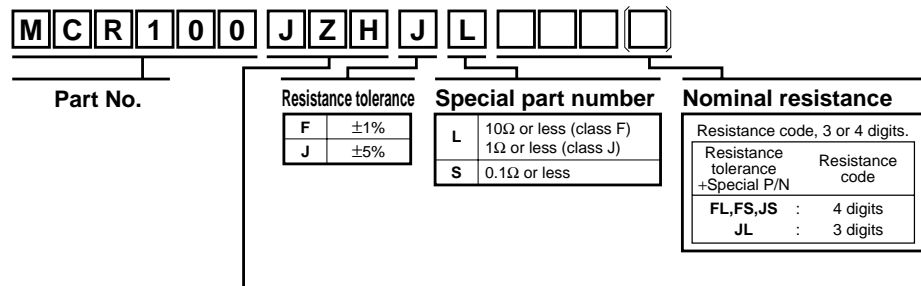


●Packaging



Resistors

●Part No. Explanation



**Packaging Specifications Code**

| Part No. | Code | Resistance tolerance |        | Packaging specifications  | Reel          | Basic ordering unit(pcs) |
|----------|------|----------------------|--------|---------------------------|---------------|--------------------------|
|          |      | J(±5%)               | F(±1%) |                           |               |                          |
| MCR100   | JZH  | ◎                    | ◎      | Embossed tape (4mm Pitch) | φ180mm (7in.) | 4,000                    |

Reel (φ180) : JEITA ET-7200B  
 ◎ : Standard product

### Notes

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