

Precision Thick Film Chip Resistors

MCR01 (1005 size : 1 / 16W)

●Features

- 1) Extremely small light
Area ratio is 60% smaller than that of chip 1608, while weight ratio has been cut 75%.
- 2) Highly reliable chip resistor
Ruthenium oxide dielectric offers superior resistance to the elements.
- 3) Electrodes not corroded by soldering
Thick film makes the electrodes very strong.
- 4) Flat surface further facilitates mounting
Mounting can also be automated.
- 5) ROHM resistors have approved ISO9001- / ISO/TS 16949- 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. <div style="text-align: center;"> <p>Fig.1</p> </div>	0.063W (1 / 16W) 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. $E = \sqrt{P \times R}$ E: Rated voltage (V) P: Rated power (W) R: Nominal resistance (Ω)	<table border="1" style="width: 100%;"> <tr> <td>Limiting element voltage</td> <td>50V</td> </tr> </table>	Limiting element voltage	50V
Limiting element voltage	50V			
Nominal resistance	See Table 1.			
Operating temperature		-55°C to +155°C		

Resistors

Table 1

Resistance tolerance	Resistance range (Ω)	Resistance temperature coefficient (ppm / °C)
D ($\pm 0.5\%$)	10 \leq R<91 (E24)	± 100
	100 \leq R \leq 1M (E24)	± 50

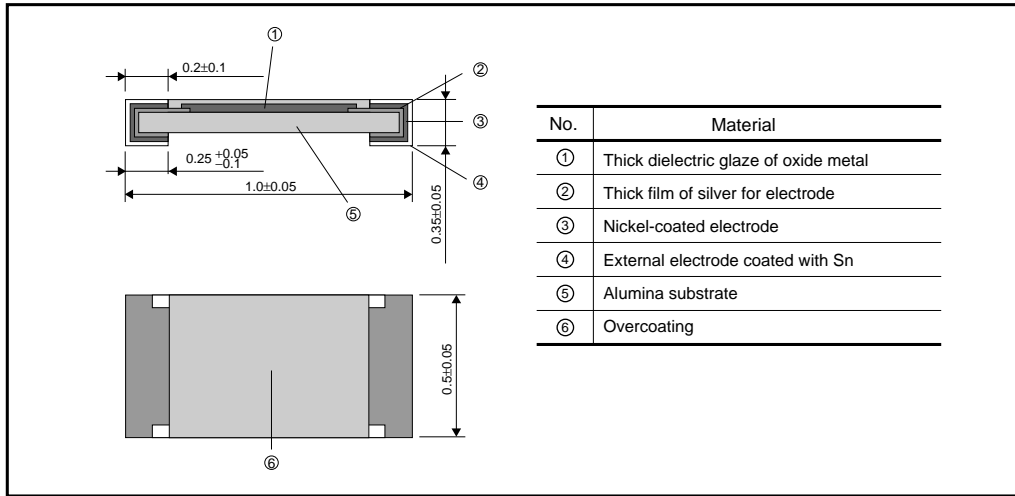
- Before using components in circuits where they will be exposed to transients such as pulse loads (short-duration, high-level loads), be certain to evaluate the component in the mounted state. In addition, the reliability and performance of this component cannot be guaranteed if it is used with a steady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

● Characteristics

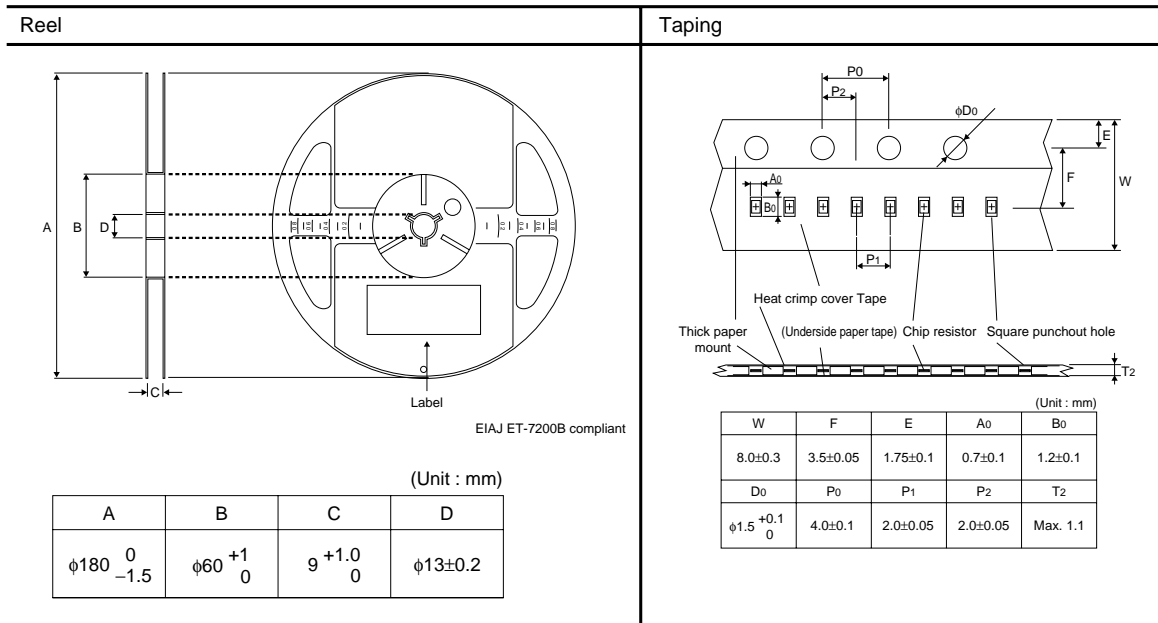
Item	Guaranteed value	Test conditions (JIS C 5201-1)
	Resistor type	
Resistance	D : $\pm 0.5\%$	JIS C 5201-1 4.5
Variation of resistance with temperature	See Table 1	JIS C 5201-1 4.8 Measurement : +25 / +125°C
Overload	$\pm (2.0\%+0.1\Omega)$	JIS C 5201-1 4.13 Rated voltage (current) $\times 2.5$, 2s. Limiting Element Voltage $\times 2$: 100V
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°C Duration of immersion : 2.0 \pm 0.5s.
Resistance to soldering heat	$\pm (1.0\%+0.05\Omega)$ No remarkable abnormality on the appearance.	JIS C 5201-1 4.18 Soldering condition : 260 \pm 5°C Duration of immersion : 10 \pm 1s.
Rapid change of temperature	$\pm (1.0\%+0.05\Omega)$	JIS C 5201-1 4.19 Test temp. : -55°C to +125°C 5cyc
Damp heat, steady state	$\pm (3.0\%+0.1\Omega)$	JIS C 5201-1 4.24 40°C, 93%RH Test time : 1,000h to 1,048h
Endurance at 70°C	$\pm (3.0\%+0.1\Omega)$	JIS C 5201-1 4.25.1 Rated voltage (current), 70°C 1.5h : ON – 0.5h : OFF Test time : 1,000h to 1,048h
Endurance	$\pm (3.0\%+0.1\Omega)$	JIS C 5201-1 4.25.3 125°C Test time : 1,000h to 1,048h
Resistance to solvent	$\pm (1.0\%+0.05\Omega)$	JIS C 5201-1 4.29 23 \pm 5°C, Immersion cleaning, 5 \pm 0.5min. Solvent : 2-propanol
Bend strength of the end face plating	$\pm (1.0\%+0.05\Omega)$ Without mechanical damage such as breaks.	JIS C 5201-1 4.33

Resistors

●Dimensions (Unit : mm)

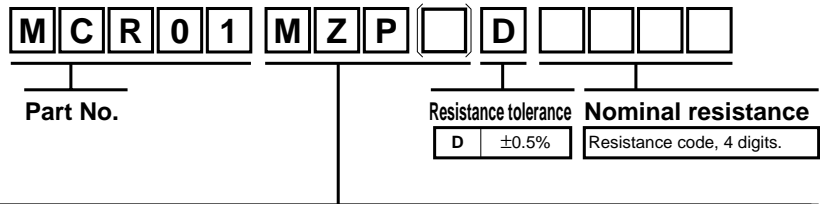


●Packaging



Resistors

●Part No. Explanation



Packaging Specifications Code

Part No.	Code	Resistance tolerance D(±0.5%)	Packaging specifications	Reel	Basic ordering unit (pcs)
MCR01	MZP	◎	Paper tape (2mm Pitch)	φ180mm (7inch)	10,000

Reel (φ180mm) : Compatible with JEITA standard "EIAJ ET-7200B"
 ◎ : Standard product

Notes

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