

## Resistors

## Sulfur Tolerant Chip Resistors

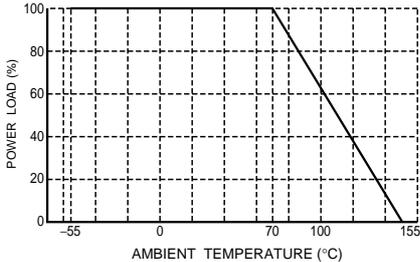
## TRR01 (0402 size)

## ●Features

- 1) Unique protect materials prevent from silver sulfide occurrence under sulfur enviromnet.
- 2) Highly recommended for automotive, industrial and Power supply applications under sulfur environment.
- 3) Realize the good cost performance not like the Au terminal components.
- 4) 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.  <p style="text-align: center;">Fig.1</p>	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)	Limiting element voltage 50V
Nominal resistance	See Table 1.	
Operating temperature		-55°C to +155°C

## Jumper type

Resistance	Max. 50mΩ
Rated current	1A
Operating temperature	-55°C to +155°C

Table 1

Resistance tolerance	Resistance range (Ω)	Resistance temperature coefficient (ppm/°C)
J (±5%)	1.0 to 9.1 (E24)	+500 / -250
	10 to 10M (E24)	±200
F (±1%)	10 to 2.2M (E24)	±100

- 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.

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## ●Characteristics

Item	Guaranteed value		Test conditions (JIS C 5201-1)
	Resistor type	Jumper type	
Resistance	J : $\pm 5\%$ F : $\pm 1\%$	Max. 50m $\Omega$	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 $\Omega$	JIS C 5201-1 4.13 Rated voltage (current) $\times 2.5$ , 2s. Maximum overload voltage : 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 $\pm 5^\circ\text{C}$ Duration of immersion : 2.0 $\pm 0.5\text{s}$ .
Resistance to soldering heat	$\pm (1.0\%+0.05\Omega)$ No remarkable abnormality on the appearance.	Max. 50m $\Omega$	JIS C 5201-1 4.18 Soldering condition : 260 $\pm 5^\circ\text{C}$ Duration of immersion : 10 $\pm 1\text{s}$ .
Rapid change of temperature	$\pm (1.0\%+0.05\Omega)$	Max. 50m $\Omega$	JIS C 5201-1 4.19 Test temp. : -55°C to +125°C 5cyc
Damp heat, steady state	$\pm (3.0\%+0.1\Omega)$	Max. 100m $\Omega$	JIS C 5201-1 4.24 40°C, 93%RH Test time : 1,000h to 1,048h
Endurance at 70°C	$\pm (3.0\%+0.1\Omega)$	Max. 100m $\Omega$	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	$\pm (3.0\%+0.1\Omega)$	Max. 100m $\Omega$	JIS C 5201-1 4.25.3 155°C Test time : 1,000h to 1,048h
Resistance to solvent	$\pm (1.0\%+0.05\Omega)$	Max. 50m $\Omega$	JIS C 5201-1 4.29 23 $\pm 5^\circ\text{C}$ , Immersion cleaning, 5 $\pm 0.5\text{min}$ . Solvent : 2-propanol
Bend strength of the end face plating	$\pm (1.0\%+0.05\Omega)$ Without mechanical damage such as breaks.	Max. 50m $\Omega$	JIS C 5201-1 4.33

Resistors

●Dimensions (Unit : mm)

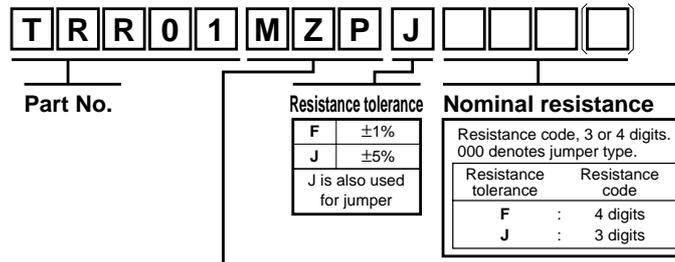
No.	Material
①	Silver thick film electrode
②	Resistive element
③	Over coating
④	Protection electrode
⑤	Silver thick film electrode
⑥	Nickel electrode
⑦	Sn electrode
⑧	Alumina substrate

●Packaging

Reel	Taping																												
<p>EIAJ ET-7200B compliant</p> <p>(Unit : mm)</p> <table border="1"> <thead> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td><math>\phi 180 \begin{smallmatrix} 0 \\ -1.5 \end{smallmatrix}</math></td> <td><math>\phi 60 \begin{smallmatrix} +1 \\ 0 \end{smallmatrix}</math></td> <td><math>9 \begin{smallmatrix} +1.0 \\ 0 \end{smallmatrix}</math></td> <td><math>\phi 13 \pm 0.2</math></td> </tr> </tbody> </table>	A	B	C	D	$\phi 180 \begin{smallmatrix} 0 \\ -1.5 \end{smallmatrix}$	$\phi 60 \begin{smallmatrix} +1 \\ 0 \end{smallmatrix}$	$9 \begin{smallmatrix} +1.0 \\ 0 \end{smallmatrix}$	$\phi 13 \pm 0.2$	<p>Thick paper mount</p> <p>Heat crimp cover tape</p> <p>(Underside paper tape)</p> <p>Chip resistor</p> <p>Square punchout hole</p> <p>(Unit : mm)</p> <table border="1"> <thead> <tr> <th>W</th> <th>F</th> <th>E</th> <th>A<sub>0</sub></th> <th>B<sub>0</sub></th> </tr> </thead> <tbody> <tr> <td><math>8.0 \pm 0.3</math></td> <td><math>3.5 \pm 0.05</math></td> <td><math>1.75 \pm 0.1</math></td> <td><math>0.7 \pm 0.1</math></td> <td><math>1.2 \pm 0.1</math></td> </tr> <tr> <th>D<sub>0</sub></th> <th>P<sub>0</sub></th> <th>P<sub>1</sub></th> <th>P<sub>2</sub></th> <th>T<sub>2</sub></th> </tr> <tr> <td><math>\phi 1.5 \begin{smallmatrix} +0.1 \\ 0 \end{smallmatrix}</math></td> <td><math>4.0 \pm 0.1</math></td> <td><math>2.0 \pm 0.05</math></td> <td><math>2.0 \pm 0.05</math></td> <td>Max. 1.1</td> </tr> </tbody> </table>	W	F	E	A <sub>0</sub>	B <sub>0</sub>	$8.0 \pm 0.3$	$3.5 \pm 0.05$	$1.75 \pm 0.1$	$0.7 \pm 0.1$	$1.2 \pm 0.1$	D <sub>0</sub>	P <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>	T <sub>2</sub>	$\phi 1.5 \begin{smallmatrix} +0.1 \\ 0 \end{smallmatrix}$	$4.0 \pm 0.1$	$2.0 \pm 0.05$	$2.0 \pm 0.05$	Max. 1.1
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●Part No. Explanation



Packaging Specifications Code

Part No.	Code	Resistance tolerance		Packaging specifications	Reel	Basic ordering unit (pcs)
		J(±5%)	FX(±1%)			
TRR01	MZP	◎	◎	Paper tape (2mm Pitch)	φ180mm (7inch)	10,000

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

## Appendix

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### Notes

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