

Sulfur Tolerant Chip Resistors

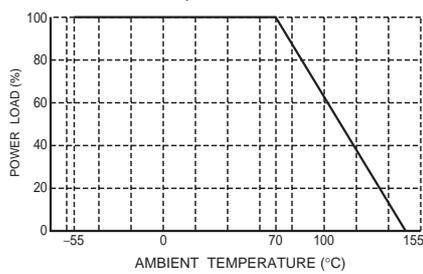
TRR10 (2012size (0805inch))

●Features

- 1) Unique protect materials prevent from silver sulfide occurrence under sulfur environment.
- 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 from other suppliers.
- 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>	0.125W (1 / 8W) 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 150V
Nominal resistance	See Table 1.	
Operating temperature		-55°C to +155°C

Jumper type

Resistance	Max. 50mΩ
Rated current	2A
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)	±400
	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.

www.●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 : +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. Maximum overload voltage : 200V
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 Ω	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 Ω	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 Ω	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 Ω	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 Ω	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 Ω	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 Ω	JIS C 5201-1 4.33

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●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

EIAJ ET-7200B compliant

(Unit : mm)			
A	B	C	D
$\phi 180 \begin{smallmatrix} 0 \\ -1.5 \end{smallmatrix}$	$\phi 60 \begin{smallmatrix} +1 \\ 0 \end{smallmatrix}$	$9 \begin{smallmatrix} +1.0 \\ 0 \end{smallmatrix}$	$\phi 13 \pm 0.2$

Taping

(Unit : mm)				
W	F	E	A ₀	B ₀
8.0 ± 0.3	3.5 ± 0.05	1.75 ± 0.1	$1.65 \begin{smallmatrix} +0.2 \\ -0.1 \end{smallmatrix}$	$2.4 \begin{smallmatrix} +0.2 \\ -0.1 \end{smallmatrix}$
D ₀	P ₀	P ₁	P ₂	T ₂
$\phi 1.5 \begin{smallmatrix} +0.1 \\ 0 \end{smallmatrix}$	4.0 ± 0.1	4.0 ± 0.1	2.0 ± 0.05	Max. 1.1

●Part No. Explanation

T	R	R	1	0	E	Z	P	J																	
Part No.					Resistance tolerance		Nominal resistance																		
					<table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td>F</td> <td>±1%</td> </tr> <tr> <td>J</td> <td>±5%</td> </tr> <tr> <td colspan="2">J is also used for jumper</td> </tr> </table>		F	±1%	J	±5%	J is also used for jumper		<table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td colspan="2">Resistance code, 3 or 4 digits. 000 denotes jumper type.</td> </tr> <tr> <td>Resistance tolerance</td> <td>Resistance code</td> </tr> <tr> <td>F</td> <td>: 4 digits</td> </tr> <tr> <td>J</td> <td>: 3 digits</td> </tr> </table>					Resistance code, 3 or 4 digits. 000 denotes jumper type.		Resistance tolerance	Resistance code	F	: 4 digits	J	: 3 digits
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Packaging Specifications Code

Part No.	Code	Resistance tolerance		Packaging specifications	Reel	Basic ordering unit (pcs)
		J(±5%)	F(±1%)			
TRR10	EZP	⊙	⊙	Paper tape (4mm Pitch)	φ180mm (7inch)	5,000

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

Notes

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