

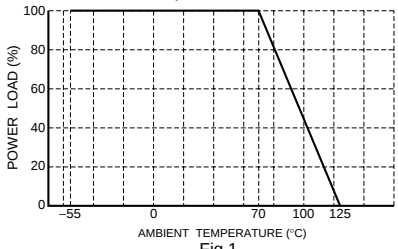
Thick Film Chip Resistors

MCR100 (2512 size : 1W)

●Features

- 1) Made of same material as the general purpose chip resistors (MCR10 / 18).
- 2) Highly reliable chip resistor
Ruthenium oxide dielectric offers superior resistance to the elements.
- 3) Electrodes not corroded by soldering
Suitable for re-flow soldering.
- 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.  Fig.1	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. $E = \sqrt{P \times R}$ E: Rated voltage (V) P: Rated power (W) R: Nominal resistance (Ω)	<table><tr><td>Limiting element voltage</td><td>200V</td></tr></table>	Limiting element voltage	200V
Limiting element voltage	200V			
Nominal resistance	See <u>Table 1</u> .			
Operating temperature		-55°C to +125°C		

Jumper type

Resistance	Max. 50mΩ
Rated current	4A
Operating temperature	-55°C to +125°C

Table 1

Resistance tolerance	Resistance range (Ω)	Resistance temperature coefficient (ppm / °C)
F (±1%)	10≤R≤82k (E24,96)	±100
J (±5%)	1.0≤R<2.0 (E24)	500±350
	2.2≤R<9.1 (E24)	±500
	10≤R<22 (E24)	±350
	24≤R≤100k (E24)	±200

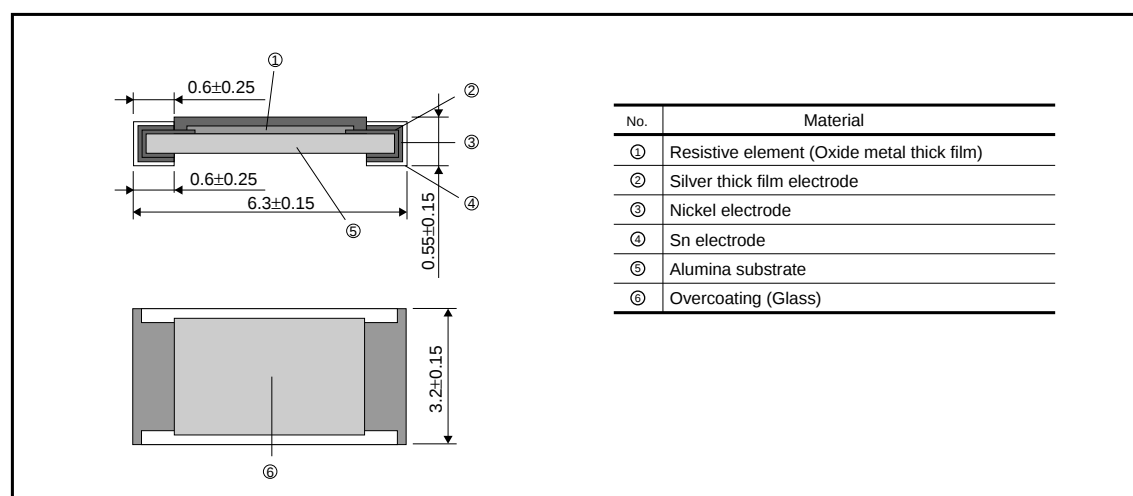
●Before using components in circuits where they will be exposed to transients such as pulse loads (short-duration, high-level loads), be certain to evaluate the component in the mounted state. In addition, the reliability and performance of this component cannot be guaranteed if it is used with a steady 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 : $-55 / +25 / +125^{\circ}\text{C}$
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 : 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 : $2.0\pm 0.5\text{s}$.
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 $+125^{\circ}\text{C}$ 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 4.25.3 125°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

●Dimensions (Unit : mm)



Resistors

●Packaging

Reel

Diagram of a reel showing dimensions A, B, D, C, and a label. The reel is EIAJ ET-7200B compliant.

EIAJ ET-7200B compliant

(Unit : mm)

A	B	C	D
$\phi 180^{+0}_{-1.5}$	$\phi 60^{+1}_{0}$	$13^{+1.0}_{-0}$	$\phi 13 \pm 0.2$

Taping

Diagram of a resistor tape showing dimensions W, L, B0, A0, P0, P1, P2, D0, K, and w.

(Unit : mm)

W	F	E	A0	B0
12.0 ± 0.3	5.5 ± 0.05	1.75 ± 0.1	3.5 ± 0.2	6.7 ± 0.2
D0	P0	P1	P2	K
$\phi 1.5^{+0.1}_{0}$	4.0 ± 0.1	4.0 ± 0.1	2.0 ± 0.05	Max. 1.1

●Part No. Explanation

M	C	R	1	0	0	J	Z	H	J				
Part No.						Resistance tolerance		Nominal resistance					
						F	$\pm 1\%$	Resistance code, 3 or 4 digits. 000 denotes jumper type.					
						J	$\pm 5\%$						
						J is also used for jumper		Resistance tolerance Resistance code					
								F : 4 digits					
								J : 3 digits					

Packaging Specifications Code

Part No.	Code	Resistance tolerance		Packaging specifications	Reel	Basic ordering unit (pcs)
		J($\pm 5\%$)	F($\pm 1\%$)			
MCR100	JZH	◎	◎	Embossed tape (4mm Pitch)	$\phi 180\text{mm}$ (7in.)	4,000

Reel ($\phi 180$) : JEITA ET-7200B

◎ : Standard product

Notes

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