

Thick film rectangular

MCR10 (2012 size: 1 / 8W)

●Features

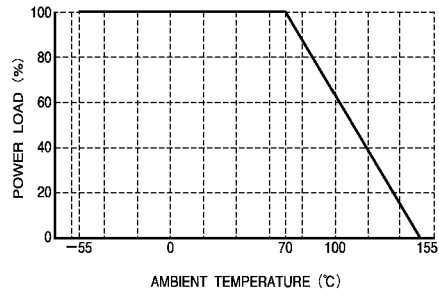
- 1) Power rating of 1 / 8W
- 2) Highly reliable chip resistor
Ruthenium oxide dielectric offers superior resistance to the elements.
- 3) Electrodes not corroded by soldering
Thick film makes the electrodes very strong.
- 4) Leading the world in development and mass production.

Since start of production in 1982 (a world first), this component has established a solid reputation as a general-purpose chip resistor.

- 5) ROHM resistors have approved ISO-9001 certification.

Design and specifications are subject to change without notice. Carefully check the specification sheet before using or ordering it.

●Ratings

Item	Conditions	Specifications	
Rated power	<p>Power must be derated according to the power derating curve in Figure 1 when ambient temperature exceeds 70°C.</p>  <p style="text-align: center;">Fig.1</p>	0.125W (1 / 8W) [0.100W (1 / 10W)] * at 70°C	
Rated voltage	<p>The voltage rating is calculated by the following equation. If the value obtained exceeds the maximum operating voltage, the voltage rating is equal to the maximum operating voltage.</p> $E = \sqrt{P \times R}$ <p style="text-align: center;"> E: Rated voltage (V) P: Rated power (W) R: Nominal resistance (Ω) </p>	Max. operating voltage Max. overload voltage Max. intermittent overload voltage	150V 200V (300V) * 200V (300V) *
Nominal resistance	See Table 1.		
Operating temperature		-55°C to +155°C	

* At power rating of 0.1W, maximum overload voltage and maximum intermittent overload voltage are 300V.

Jumper type

Resistance	Max. 50mΩ
Rated current	2A
Peak current	10A
Operating temperature	-55°C to +155°C

Table 1

Resistance tolerance		Resistance range (Ω)	Resistance temperature coefficient (ppm / °C)
F (±1%)		10 ≤ R ≤ 2.2M (E24,96)	±100
J (±5%)	JB*	0.68 (E6)	500 ± 350
	J	1.0 ≤ R < 2.2 (E24)	
		2.2 ≤ R < 10 (E24)	±500
		10 ≤ R < 10M (E24)	±200

Asterisk (*) indicates special specifications.

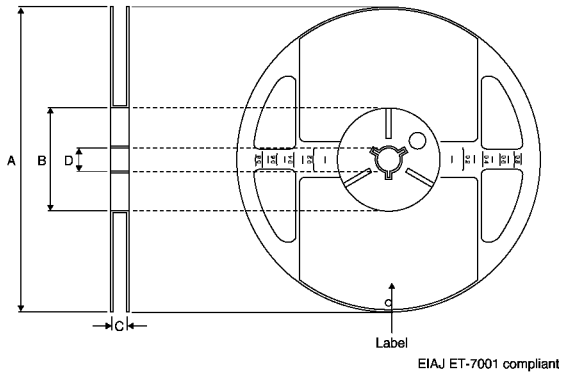
- Before using components in circuits where they will be exposed to transients such as pulse loads (short-duration, high-level loads), be certain to evaluate the component in the mounted state. In addition, the reliability and performance of this component cannot be guaranteed if it is used with a steady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

● External dimensions (Units: mm)

No.	Material
①	Thick dielectric glaze of ruthenium (only silver used for jumper)
②	Thick film of palladium-silver for primary electrode
③	Nickel-coated secondary electrode
④	External electrode coated with tin and lead
⑤	Alumina substrate
⑥	Overcoating

● Packaging

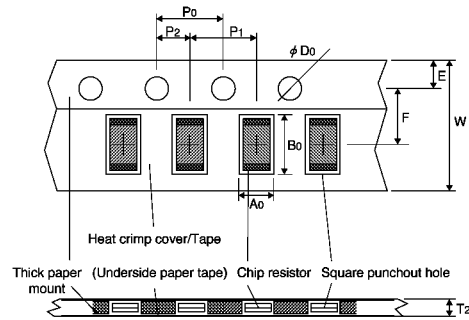
Reel



(Units : mm)

A	B	C	D
$\phi 180 \begin{smallmatrix} 0 \\ -3 \end{smallmatrix}$	$\phi 60 \begin{smallmatrix} +1 \\ 0 \end{smallmatrix}$	9 ± 0.3	$\phi 13 \pm 0.2$
$\phi 268 \pm 1.5$	$\phi 100 \pm 0.8$	9.4 ± 0.5	$\phi 13 \pm 0.3$
$\phi 330 \pm 2$	Min. $\phi 80$	9.5 ± 0.5	$\phi 13 \pm 0.2$

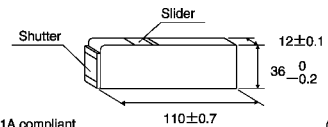
Taping



(Units : 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

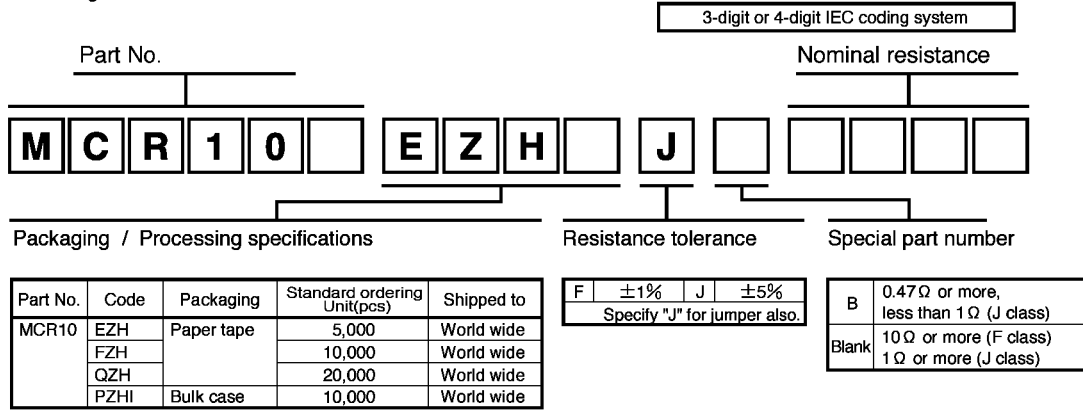
Bulk case



EIAJ ET-7201A compliant

(Units : mm)

●Part designation



●Dimensions

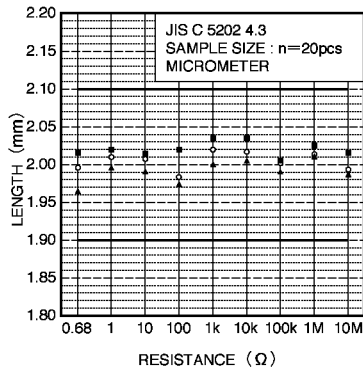


Fig.2 Dimensions (length)

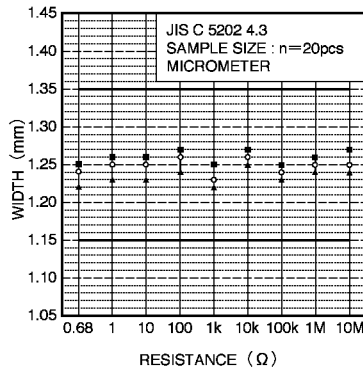


Fig.3 Dimensions (width)

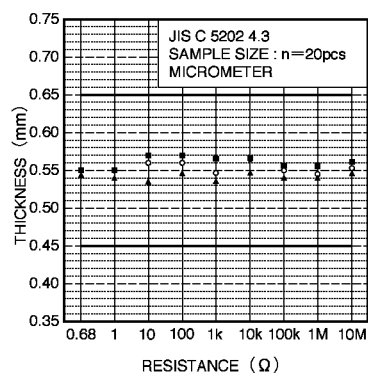


Fig.4 Dimensions (thickness)

●Electrical characteristics

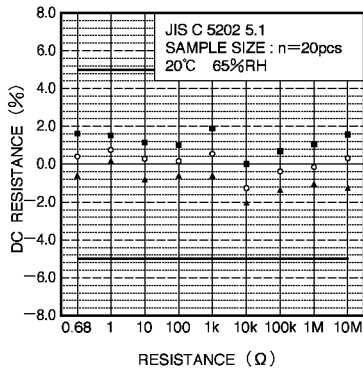


Fig.5 DC resistance

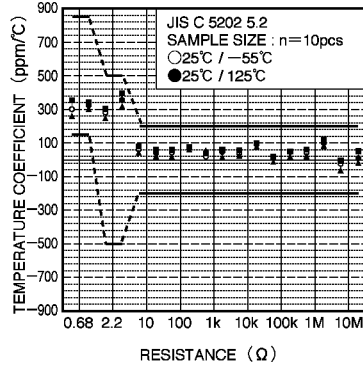


Fig.6 Resistance temperature characteristics

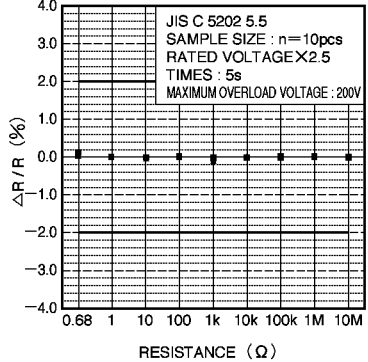


Fig.7 Short time overload