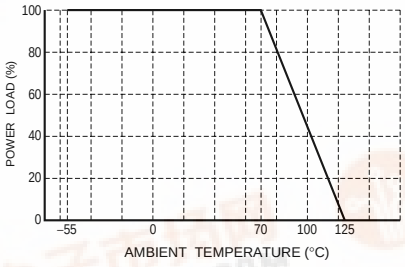
Thick film rectangular

MCR006 (0201 size : 1 / 20W)

●Features

1) Extremely small light
   Area ratio is 60% smaller than that of chip 1005, while weight ratio has been cut 80%.
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
5) ROHM resistors have approved ISO–9001 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	0.05W (1 / 20W) 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 25V
Nominal resistance	See Table 1.	
Operating temperature		–55°C to +125°C

Jumper type

Resistance	Max. 100mΩ
Rated current	0.5A
Operating temperature	–55°C to +125°C

Table 1

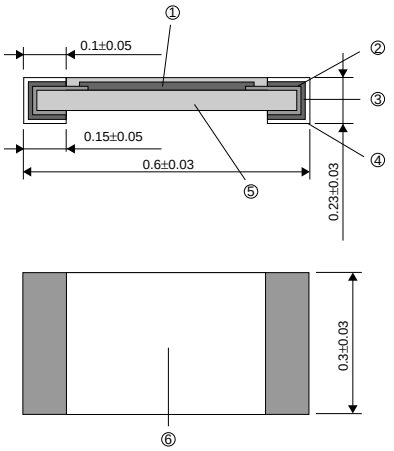
Resistance tolerance	Resistance range (Ω)	Resistance temperature coefficient (ppm / °C)
J (±5%)	10≤R≤10M (E24)	±250
F (±1%)	100≤R≤10M (E24)	±250

●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	Jumper type	
Resistance	J : ±5% F : ±1%	Max. 100mΩ	JIS C 5201-1 4.5
Variation of resistance with temperature	See Table.1	Max. 100mΩ	JIS C 5201-1 4.8 Measurement : +20 / –55 / +20 / +125°C
Overload	± (2.0%+0.1Ω)	Max. 100mΩ	JIS C 5201-1 4.13 Rated voltage (current) ×2.5, 2s. Limiting Element Voltage×2 : 50V
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±5°C Duration of immersion : 2.0±0.5s.
Resistance to soldering heat	± (1.0%+0.05Ω)	Max. 100mΩ No remarkable abnormality on the appearance.	JIS C 5201-1 4.18 Soldering condition : 260±5°C Duration of immersion : 10±1s.
Rapid change of temperature	± (1.0%+0.05Ω)	Max. 100mΩ	JIS C 5201-1 4.19 Test temp. : –55°C~+125°C 100cyc
Damp heat, steady state	± (3.0%+0.1Ω)	Max. 100mΩ	JIS C 5201-1 4.24 40°C, 93%RH Test time : 1,000h~1,048h
Endurance at 70°C	± (3.0%+0.1Ω)	Max. 100mΩ	JIS C 5201-1 4.25.1 Rated voltage (current), 70°C±3°C 1.5h : ON – 0.5h : OFF Test time : 1,000h~1,048h
Endurance	± (3.0%+0.1Ω)	Max. 100mΩ	JIS C 5201-1 4.25.3 125°C Test time : 1,000h~1,048h
Resistance to solvent	± (1.0%+0.05Ω)	Max. 100mΩ	JIS C 5201-1 4.29 23±5°C, Immersion cleaning, 5±0.5min. Solvent : 2-propanol
Bend strength of the end face plating	± (1.0%+0.05Ω)	Max. 100mΩ Without mechanical damage such as breaks.	JIS C 5201-1 4.33

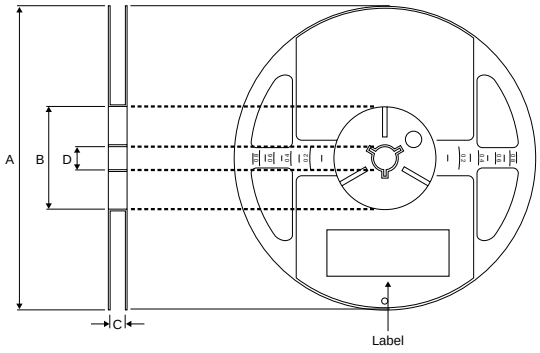
●**External dimensions** (Unit : mm)



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 Sn/Pb or Sn
⑤	Alumina substrate
⑥	Overcoating (resin)

●**Packaging**

Reel

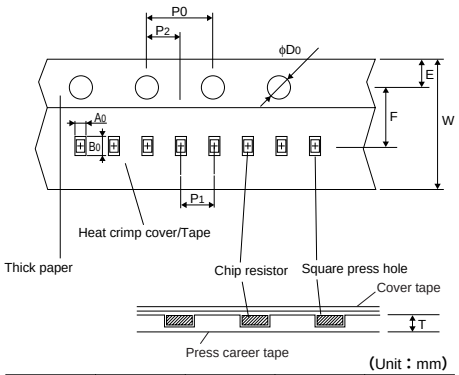


EIAJ ET-7200A compliant

(Unit : mm)

A	B	C	D
$\phi180\ ^{0}_{-15}$	$\phi60\ ^{+1}_{0}$	$9\ ^{+1.0}_{0}$	$\phi13\pm0.2$

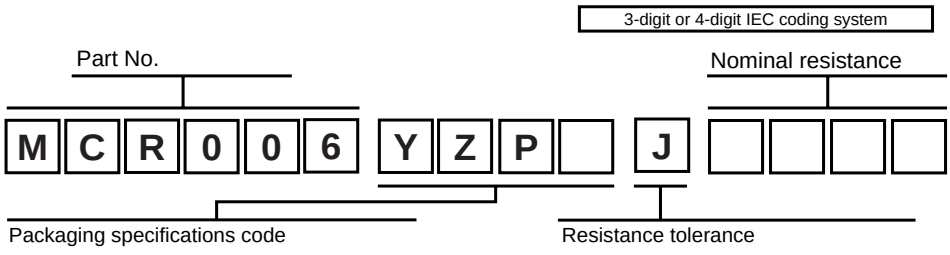
Taping



(Unit : mm)

W	F	E	A_0	B_0
8.0±0.2	3.5±0.05	1.75±0.1	0.38±0.03	0.68±0.03
D_0	P_0	P_1	P_2	T
$\phi1.5\ ^{+0.1}_{0}$	4.0±0.1	2.0±0.05	2.0±0.05	Max. 0.50

●Part designation



Part No.	Code	Packaging style	Standard ordering unit (pcs)
MCR006	YZP	Paper tape	15,000

F	±1%	J	±5%
Specify "J" for jumper also.			

●Dimensions

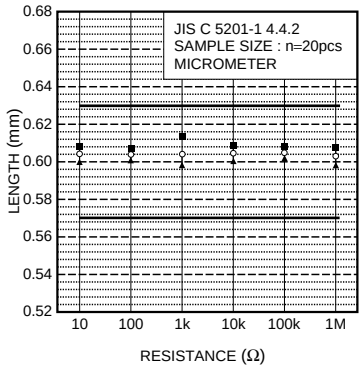


Fig.2 Dimensions (length)

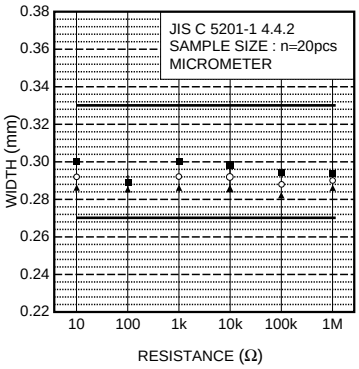


Fig.3 Dimensions (width)

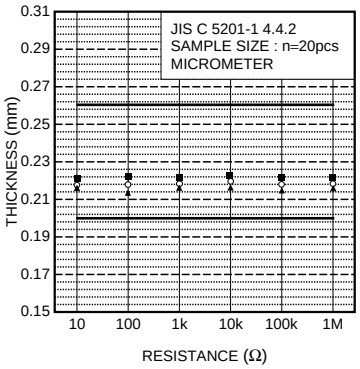


Fig.4 Dimensions (thickness)

●Electrical characteristics

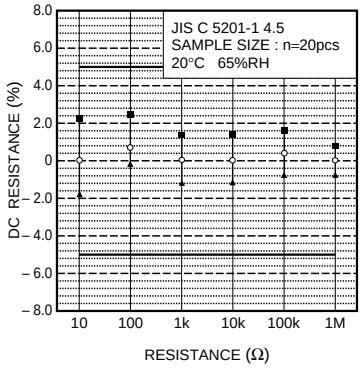


Fig.5 Resistance

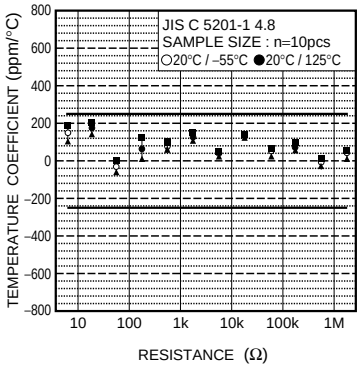


Fig.6 Variation of resistance with temperature

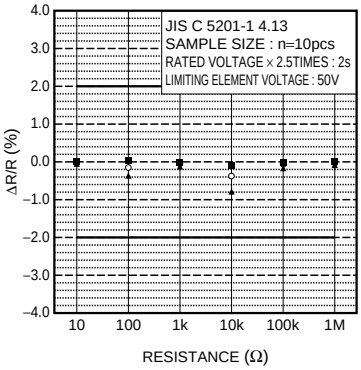


Fig.7 Overload

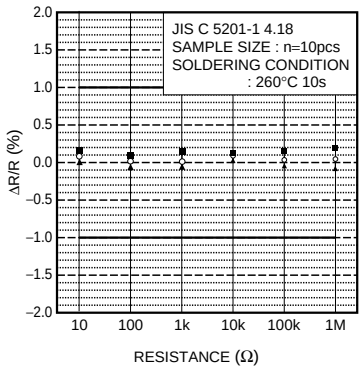


Fig.8 Resistance to soldering heat

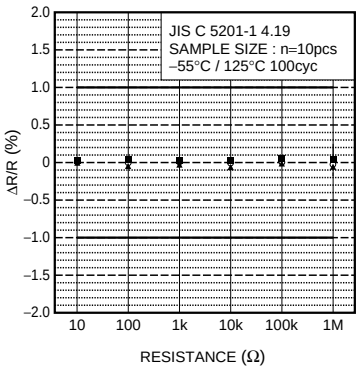


Fig.9 Rapid change of temperature

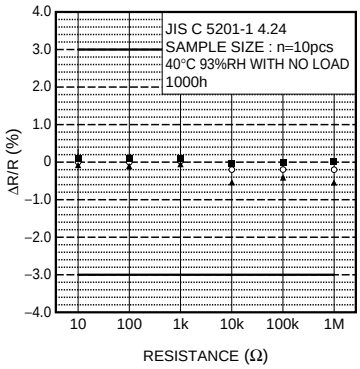


Fig.10 Damp heat, steady state

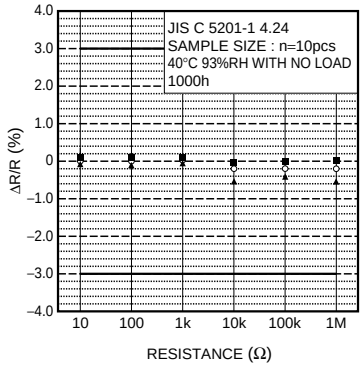


Fig.11 Endurance at 70°C

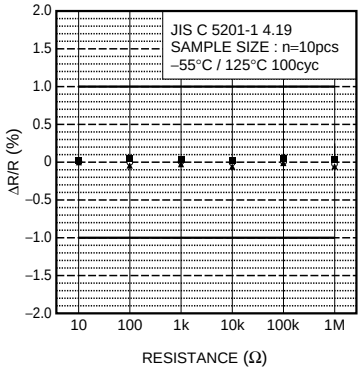


Fig.12 Endurance

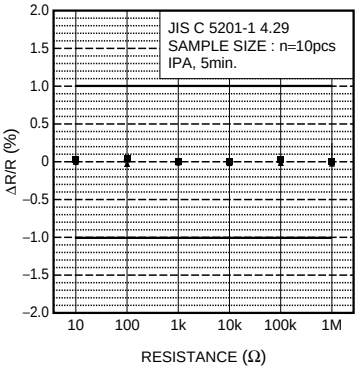


Fig.13 Resistance to solvents

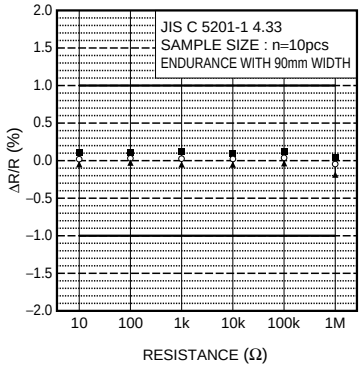


Fig.14 Bend strength of the end face plating