High Voltage Resistance Chip Resistors

KTR03 (0603 size : 1 / 10W)

●Features

1) Power rating of 1 / 10W
2) Limiting element voltage of KTR series is 7 times compared with that of MCR series.
3) Highly reliable chip resistor
   Ruthenium oxide dielectric offers superior resistance to the elements.
4) ROHM resistors have approved ISO9001- / ISO/TS 16949- certification.
   Design and specifications are subject to change without notice. Carefully check the specification sheet before using or ordering it.

●Ratings

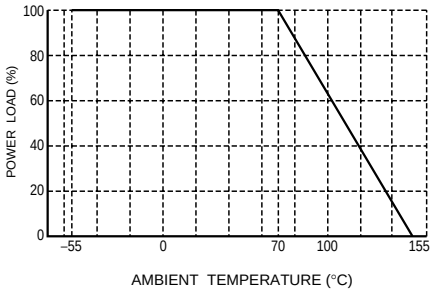
Item	Conditions	Specifications	
Rated power	Power must be derated according to the power derating curve in Figure 1 when ambient temperature exceeds 70°C.  Fig.1	0.10W (1 / 10W) at 70°C	
Rated voltage	The voltage rating is calculated by the following equation. If the value obtained exceeds the limiting 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	350V
Nominal resistance	See Table 1.		
Operating temperature		–55°C to + 155°C	

Table 1

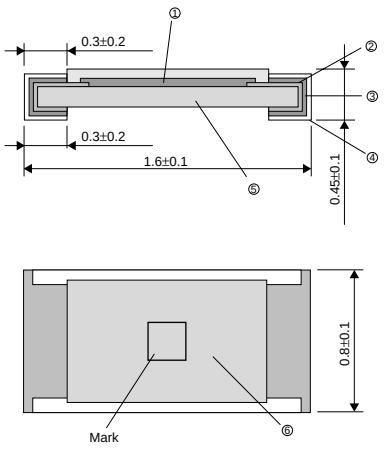
Resistance tolerance	Resistance range (Ω)	Resistance temperature coefficient (ppm/°C)
F (±1%)	10 ≤ R ≤ 10M (E24)	±100
J (±5%)	10 ≤ R ≤ 10M (E24)	±200

●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.

●Characteristics

Item	Guaranteed value Resistor type	Test conditions (JIS C 5201-1)
Resistance	J : ±5% F : ±1%	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	± (2.0%+0.1Ω)	JIS C 5201-1 4.13 Rated voltage (current) ×2.5, 2s. Maximum overload voltage : 500V
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) 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)	JIS C 5201-1 4.19 Test temp. : –55°C to +125°C 5cyc
Damp heat, steady state	± (3.0%+0.1Ω)	JIS C 5201-1 4.24 40°C, 93%RH Test time : 1,000h to 1,048h
Endurance at 70°C	± (3.0%+0.1Ω)	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	± (3.0%+0.1Ω)	JIS C 5201-1 4.25.3 155°C Test time : 1,000h to 1,048h
Resistance to solvent	± (1.0%+0.05Ω)	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) Without mechanical damage such as breaks.	JIS C 5201-1 4.33

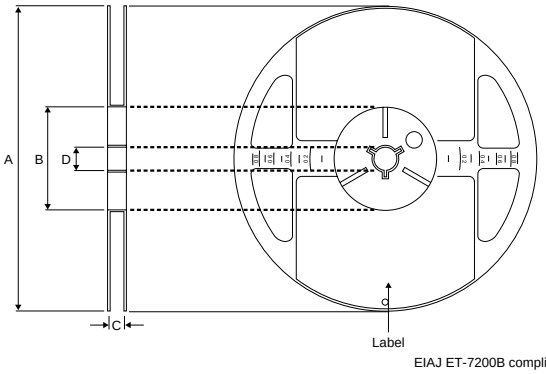
●Dimensions (Unit : mm)



No.	Material
①	Thick film resistive element
②	Silver thick film electrode
③	Nickel electrode
④	Sn electrode
⑤	Alumina substrate
⑥	Overcoating

●Packaging

Reel

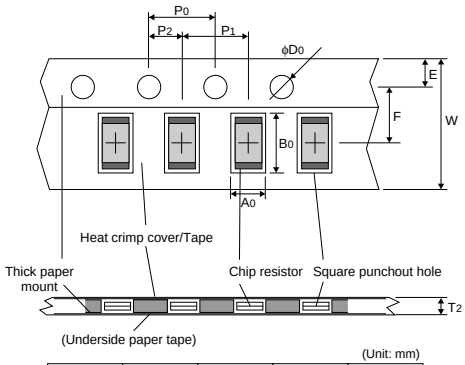


EIAJ ET-7200B compliant

(Unit: mm)

A	B	C	D
$\phi 180^{\ 0}_{-1.5}$	$\phi 60^{+1}_{\ 0}$	$9^{+1.0}_{\ 0}$	$\phi 13 \pm 0.2$

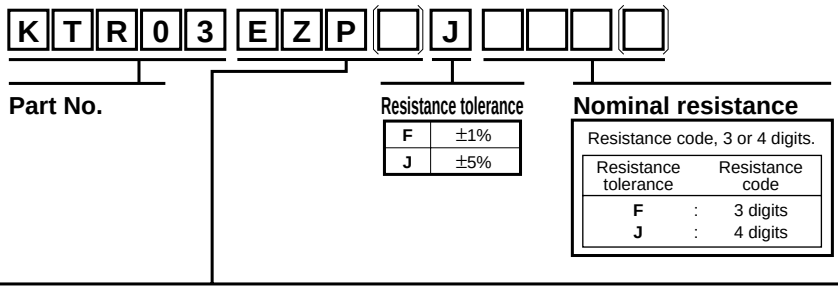
Taping



(Unit: mm)

W	F	E	A0	B0
8.0±0.3	3.5±0.05	1.75±0.1	1.1±0.1	1.9±0.1
D0	P0	P1	P2	T2
$\phi 1.5^{+0.1}_{\ 0}$	4.0±0.1	4.0±0.1	2.0±0.05	Max. 1.1

●Part No. Explanation



Packaging Specifications Code

Part No.	Code	Resistance tolerance		Packaging specifications	Reel	Basic ordering unit(pcs)
		J(±5%)	F(±1%)			
KTR03	EZP	◎	◎	Paper tape (4mm Pitch)	φ180mm (7inch)	5,000

Reel (φ180mm) : Compatible with JEITA standard "EIAJ ET-7200B"
◎ : Standard product

Notes

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www.rohm.com **Contact us** : webmaster@rohm.co.jp

ROHM CO., LTD. 21, Saiin Mizosaki-cho, Ukyo-ku, Kyoto 615-8585, Japan
TEL : +81-75-311-2121
FAX : +81-75-315-0172