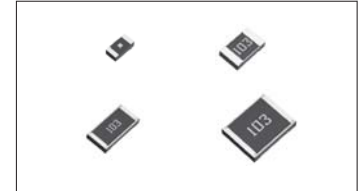


# High Voltage Resistance Chip Resistors

## KTR Series

### ●Features

- 1) Twice the rated voltage of conventional products..
- 2) Perfect for use in high voltage circuit. (Camera Flash circuit, etc)
- 3) ROHM resistors have obtained ISO9001 / ISO / TS16949 certification.
- 4) Corresponds to AEC-Q200. (KTR18)



### ●Products List

Part No.	Size		Rated Power (70°C) (W)	Limiting Element Voltage (V)	Maximum Overload Voltage (V)	Temperature Coefficient (ppm / °C)	Resistance Tolerance (%)	Resistance Range	Series	Operating Temperature Range (°C)
	(mm)	(inch)								
KTR03	1608	0603	0.1	350	500	±200	J(±5%)	1Ω to 10MΩ	E24	-55 to +155
						±100	F(±1%)			
KTR10	2012	0805	0.125	400	800	±200	J(±5%)	1Ω to 10MΩ	E24	-55 to +155
						±100	F(±1%)			
KTR18	3216	1206	0.25	500	1000	±200	J(±5%)	1Ω to 10MΩ	E24	-55 to +155
						±100	F(±1%)			
KTR25	3225	1210	0.33	600	1200	±200	J(±5%)	1Ω to 10MΩ	E24	-55 to +155
						±100	F(±1%)			

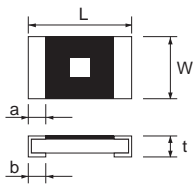
\*Design and specifications are subject to change without notice.  
Carefully check the specification sheet supplied with the product before using or ordering it.

### ●Part Number Description

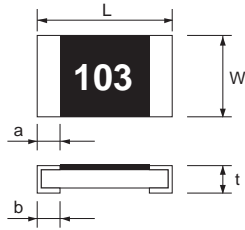
<b>K</b> <b>T</b> <b>R</b>	<b>1</b> <b>0</b>	<b>E</b> <b>Z</b> <b>P</b>	<b>J</b>	<b>1</b> <b>0</b> <b>0</b>																																											
<table border="1" style="width: 100%;"> <tr><th>Part No.</th></tr> <tr><td><b>KTR</b> (High Voltage Resistance Chip Resistors)</td></tr> </table>	Part No.	<b>KTR</b> (High Voltage Resistance Chip Resistors)	<table border="1" style="width: 100%;"> <tr><th>Size (mm [inch])</th></tr> <tr><td>03 (1608 [0603]) 10 (2012 [0805]) 18 (3216 [1206]) 25 (3225 [1210])</td></tr> </table>	Size (mm [inch])	03 (1608 [0603]) 10 (2012 [0805]) 18 (3216 [1206]) 25 (3225 [1210])	<table border="1" style="width: 100%;"> <tr><th colspan="4">Packaging Specifications Code</th></tr> <tr><th>Part No.</th><th>Code</th><th>Packaging specifications</th><th>Quantity / Reel</th></tr> <tr><td><b>KTR03</b></td><td>EZP</td><td>Paper tape (4mm Pitch)</td><td>5,000</td></tr> <tr><td><b>KTR10</b></td><td>EZP</td><td>Paper tape (4mm Pitch)</td><td>5,000</td></tr> <tr><td><b>KTR18</b></td><td>EZP</td><td>Paper tape (4mm Pitch)</td><td>5,000</td></tr> <tr><td><b>KTR25</b></td><td>JZP</td><td>Embossed tape (4mm Pitch)</td><td>4,000</td></tr> </table>	Packaging Specifications Code				Part No.	Code	Packaging specifications	Quantity / Reel	<b>KTR03</b>	EZP	Paper tape (4mm Pitch)	5,000	<b>KTR10</b>	EZP	Paper tape (4mm Pitch)	5,000	<b>KTR18</b>	EZP	Paper tape (4mm Pitch)	5,000	<b>KTR25</b>	JZP	Embossed tape (4mm Pitch)	4,000	<table border="1" style="width: 100%;"> <tr><th>Resistance Tolerance</th></tr> <tr><td>F ( ±1% ) J ( ±5% )</td></tr> </table>	Resistance Tolerance	F ( ±1% ) J ( ±5% )	<table border="1" style="width: 100%;"> <tr><th>Nominal Resistance</th></tr> <tr><td>Resistance code, 3 or 4 digits. 000 denotes jumper type.</td></tr> <tr><td style="text-align: center;"> <table border="1" style="width: 100%;"> <tr><th>Resistance tolerance</th><th>Resistance code</th></tr> <tr><td><b>F</b></td><td>: 4 digits</td></tr> <tr><td><b>J</b></td><td>: 3 digits</td></tr> </table> </td></tr> <tr><td>Ex.)</td></tr> <tr><td style="padding-left: 20px;">1Ω = 1R00 ( ±1% )           1R0 ( ±5% )</td></tr> <tr><td style="padding-left: 20px;">10Ω = 10R0 ( ±1% )           100 ( ±5% )</td></tr> <tr><td style="padding-left: 20px;">1MΩ = 1004 ( ±1% )           105 ( ±5% )</td></tr> </table>	Nominal Resistance	Resistance code, 3 or 4 digits. 000 denotes jumper type.	<table border="1" style="width: 100%;"> <tr><th>Resistance tolerance</th><th>Resistance code</th></tr> <tr><td><b>F</b></td><td>: 4 digits</td></tr> <tr><td><b>J</b></td><td>: 3 digits</td></tr> </table>	Resistance tolerance	Resistance code	<b>F</b>	: 4 digits	<b>J</b>	: 3 digits	Ex.)	1Ω = 1R00 ( ±1% ) 1R0 ( ±5% )	10Ω = 10R0 ( ±1% ) 100 ( ±5% )	1MΩ = 1004 ( ±1% ) 105 ( ±5% )
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●Chip Resistor Dimensions and Markings

■ KTR03



■ KTR10 / 18 / 25



<Marking method>

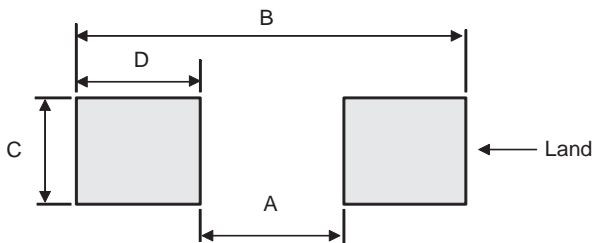
There are three or four digits used for the calculation number according to IEC code and "R" is used for the decimal point.

(Unit : mm)

Part No.	(mm)	(inch)	L	W	t	a	b	Marking existence
KTR03	1608	0603	1.6±0.1	0.8±0.1	0.45±0.1	0.3±0.2	0.3±0.2	No *
KTR10	2012	0805	2.0±0.1	1.25±0.1	0.55±0.1	0.3±0.2	0.4±0.2	Yes
KTR18	3216	1206	3.2±0.15	1.6±0.15	0.55±0.1	0.3±0.25	0.5±0.25	Yes
KTR25	3225	1210	3.2±0.15	2.5±0.15	0.55±0.15	0.3±0.25	0.5±0.25	Yes

\*Only with square mark

●Land pattern Example



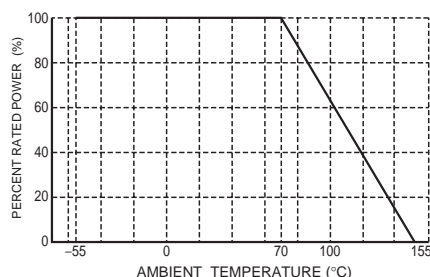
(Unit : mm)

Dimensions Part No.	A	B	C	D
KTR03	1.0	2.0	0.8	0.5
KTR10	1.2	2.6	1.15	0.7
KTR18	2.2	4.0	1.5	0.9
KTR25	2.2	4.0	2.3	0.9

### ●Derating Curve

When the ambient temperature exceeds 70°C, power dissipation must be adjusted according to the derating curves below.

#### ■ KTR03 / 10 / 18 / 25



### ●Characteristics

Test Items	Guaranteed Value	Test Conditions
	Resistor Type	
Resistance	See P.1	20°C
Variation of resistance with temperature	See P.1	Measurement : +20 / -55 / +20 / +125°C
Overload	$\pm (2.0\%+0.1\Omega)$	Rated voltage (current) $\times 2.5$ , 2s Maximum overload voltage
Solderability	A new uniform coating of minimum of 95% of the surface being immersed and no soldering damage.	Rosin-Ethanol : 25% (Weight) 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.	Soldering condition : $260\pm 5^\circ\text{C}$ Duration of immersion : $10\pm 1\text{s}$
Rapid change of temperature	$\pm (1.0\%+0.05\Omega)$	Test temp. : $-55^\circ\text{C}$ to $+125^\circ\text{C}$ 5cycle
Damp heat, steady state	$\pm (3.0\%+0.1\Omega)$	$40^\circ\text{C}$ , 93%RH (Relative Humidity) Test time : 1,000h to 1,048h
Endurance at 70°C	$\pm (3.0\%+0.1\Omega)$	$70^\circ\text{C}$ Rated voltage (current) 1.5h : ON – 0.5h : OFF Test time : 1,000h to 1,048h
Endurance	$\pm (3.0\%+0.1\Omega)$	$155^\circ\text{C}$ Test time : 1,000h to 1,048h
Resistance to solvent	$\pm (1.0\%+0.05\Omega)$	$23\pm 5^\circ\text{C}$ , 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.	—

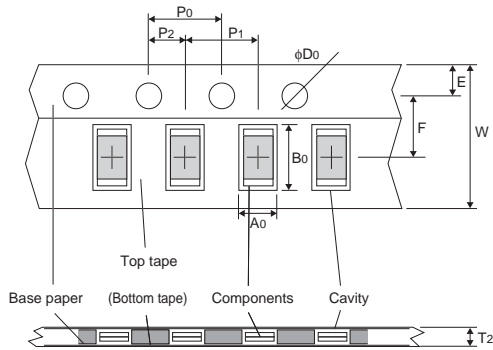
Compliance Standard(s) : IEC60115-8  
JISC 5201-8

### ●Chip weight (typical value)

Parameter	Unit	KTR03	KTR10	KTR18	KTR25
Weight	mg/pc	2.18	5.13	9.62	16.47

●Tape Dimensions

■ Paper Tape

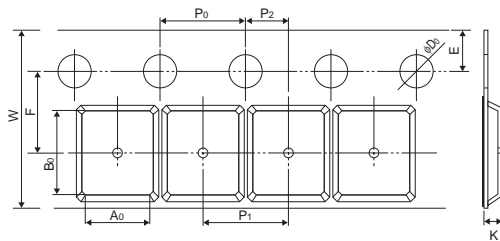


(Unit : mm)

Part No.	W	F	E	A0	B0
<b>KTR03</b>	8.0±0.3	3.5±0.05	1.75±0.1	1.1±0.1	1.9±0.1
<b>KTR10</b>	8.0±0.3	3.5±0.05	1.75±0.1	1.65 <sup>+0.2</sup> <sub>-0.1</sub>	2.4 <sup>+0.2</sup> <sub>-0.1</sub>
<b>KTR18</b>	8.0±0.3	3.5±0.05	1.75±0.1	1.95 <sup>+0.1</sup> <sub>-0.05</sub>	3.5 <sup>+0.15</sup> <sub>-0.05</sub>

Part No.	D0	P0	P1	P2	T2
<b>KTR03</b>	φ1.5 <sup>+0.1</sup> <sub>0</sub>	4.0±0.1	4.0±0.1	2.0±0.05	Max 1.1
<b>KTR10</b>	φ1.5 <sup>+0.1</sup> <sub>0</sub>	4.0±0.1	4.0±0.1	2.0±0.05	Max 1.1
<b>KTR18</b>	φ1.5 <sup>+0.1</sup> <sub>0</sub>	4.0±0.1	4.0±0.1	2.0±0.05	Max 1.1

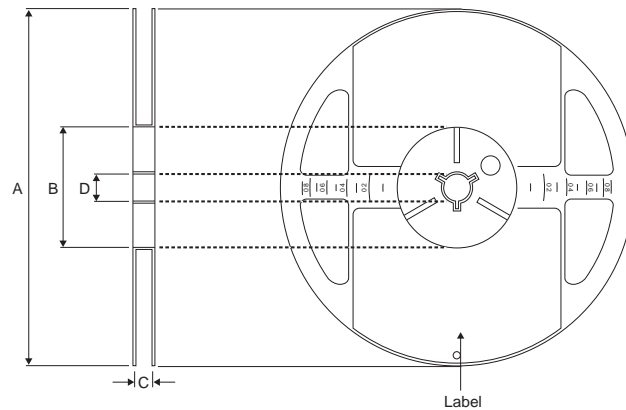
■ Embossed Tape



(Unit : mm)

Part No.	W	F	E	A0	B0
<b>KTR25</b>	8.0±0.3	3.5±0.05	1.75±0.1	3.0±0.1	3.5±0.1
	D0	P0	P1	P2	K
	φ1.5 <sup>+0.1</sup> <sub>0</sub>	4.0±0.1	4.0±0.1	2.0±0.05	Max 1.1

●Reel Dimensions



ACCORDING TO EIAJ ET-7200B

(Unit : mm)

Part No.	A	B	C	D
<b>KTR03</b>	φ180 <sup>0</sup> <sub>-1.5</sub>	φ60 <sup>+1.0</sup> <sub>0</sub>	9 <sup>+1.0</sup> <sub>0</sub>	φ13±0.2
<b>KTR10</b>				
<b>KTR18</b>				
<b>KTR25</b>				

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