

## Anti-sulfurated · High reliability type thick film chip resistors ZXR series

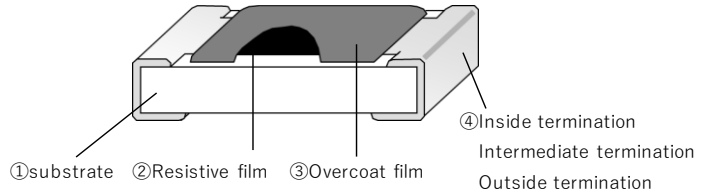
ZXR05 (0603) ZXR10 (0805) \* ( ) : Inch size

Recommendation

### ■ Features

- Load life in Humidity is much better than conventional chip resistors.  
Long time stability  $\pm 0.2\%$
- The use of special inside termination contribute to high performance of anti-sulfuration.
- Tolerance on rated resistance  $\pm 0.1\%$
- TCR  $\pm 50\text{ppm}/^\circ\text{C}$  ( $\pm 25\text{ppm}/^\circ\text{C}$  is available depending on resistance value)
- RoHS qualified
- ELV qualified
- AEC-Q200 qualified

### ■ Structure



\*This is only a schematic drawing of the structure.

### ■ Part No. Explanation (Example)

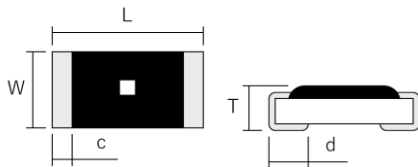
Product type	Rated power and Size	T.C.R	Packaging form	Nominal resistance value(*)	Resistance tolerance
ZXR : High reliability	05 : 0.2W,0603 10 : 0.25W,0805	Refer to "■ Ratings"	T : 4mm pitch taping $\phi$ 180 reel	The resistance value is indicated by 3-digit numbers.	B: $\pm 0.1\%$

\*The first two numbers are significant numbers, and the third one is the number of zeros "0" following to the first two numbers (multiple of 10).

\*In the case of the E96 sequence, the first three values mean the significant figures and the fourth one represents the number of 0 following to them (multiplier of 10).

\*If there is a decimal point in resistance value, it is indicated by "R" and all numbers are significant numbers.

### ■ Dimensions



	L	W	T	c	d
ZXR05	$1.60 \pm 0.10$	$0.80 \pm 0.10$	$0.45 \pm 0.10$	$0.25 \begin{matrix} +0.15 \\ -0.10 \end{matrix}$	$0.25 \begin{matrix} +0.15 \\ -0.10 \end{matrix}$
ZXR10	$2.00 \pm 0.15$	$1.25 \pm 0.15$	$0.55 \begin{matrix} +0.10 \\ -0.05 \end{matrix}$	$0.25 \begin{matrix} +0.20 \\ -0.10 \end{matrix}$	$0.40 \pm 0.15$

\* External dimensions are for reference only.

Overcoat film color : Black

\* ZXR has no indication of resistance value.

Yellow ■ shows anti-sulfuration series.

(Unit: mm)

## ■ Ratings

	Rated power	Limiting element voltage(*1)	Maximum overload voltage(*2)	Range of rated resistance	Tolerance on rated resistance	Category temperature range	Temperature Coefficient of Resistance(T.C.R)			
ZXR05	0.2W	150V	150V	100Ω~220KΩ	B	-55°C~+155°C	Y	+25°C~+155°C	100Ω~220KΩ	$\pm 50 \times 10^{-6}/^{\circ}\text{C}$
								-55°C~+25°C	100Ω~732Ω	$-100 \sim +50 \times 10^{-6}/^{\circ}\text{C}$
							E		+25°C~+125°C	10KΩ~100KΩ
									+25°C~+155°C	100Ω~2MΩ
ZXR10	0.25W	150V	200V	100Ω~2MΩ	B	-55°C~+155°C	Y	-55°C~+25°C	100Ω~2MΩ	$-80 \sim +70 \times 10^{-6}/^{\circ}\text{C}$
								E	+25°C~+125°C	1MΩ~2MΩ
							H	+25°C~+155°C	2MΩ~6.2MΩ	$\pm 25 \times 10^{-6}/^{\circ}\text{C}$
									-55°C~+25°C	2MΩ~6.2MΩ

(\*1) Rated voltage =  $\sqrt{\text{Rated power} \times \text{Resistance value}}$

In the case of rated voltage over above limiting element voltage, limiting element voltage will be the maximum.

(\*2) The applied voltage in short time overload test =  $2.5 \times$  rated voltage

In the case of the applied voltage in short time overload test over above maximum overload voltage, maximum overload voltage will be the maximum.

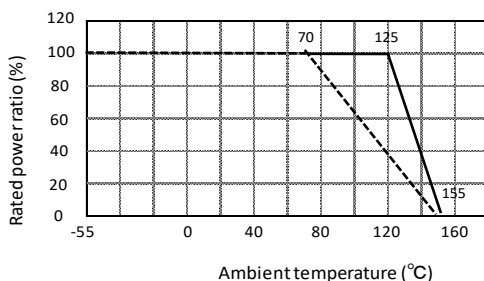
\* There are the supplementary information about rating on reference page.

\* Temperature Coefficient of Resistance (T.C.R) is based on JIS C5201-1 6.2 between two points: -55°C and 25°C, 25°C and 155°C.  
However  $\pm 25\text{ppm}$  is between two points: 25°C and 125°C

## ■ Specifications and test methods

Item	Specifications	Test method
Overload	$\pm (0.2\%+0.05\Omega)$	JIS C5201-1 8.1 2.5 × Rated voltage, for 5 seconds
Bend strength of the face plating	$\pm (0.2\%+0.05\Omega)$	JIS C5201-1 9.8 Bending distance : 3mm
Resistance to soldering heat	$\pm (0.2\%+0.05\Omega)$	JIS C5201-1 11.2 260 ± 5°C.10(sec.)
Solderability	Covered with more than 95%	JIS C5201-1 11.1 245 ± 3°C.2(sec.)
Rapid change of temperature	$\pm (0.2\%+0.05\Omega)$	JIS C5201-1 10.1 -55°C ⇄ +125°C,1000(times)
Loadlife in humidity	$\pm (0.2\%+0.05\Omega)$	60 ± 2°C. 90~95% R.H 1000h
Endurance at 70°C	$\pm (0.2\%+0.05\Omega)$	JIS C5201-1 7.1 70 ± 2°C.1000h

## ■ Derating curve



\* Rated power of the resistor is the maximum power which can be loaded continuously at the ambient temperature of 70 °C. For the ambient temperature above 70°C, please use according to the load derating curve (dotted line). Please note that the component surface temperature does not exceed operating temperature range.

\* If the component temperature is below 155°C, the power rating can be used according to the load derating curve in the solid line.