High Power Thick Chip Resistor -JZP

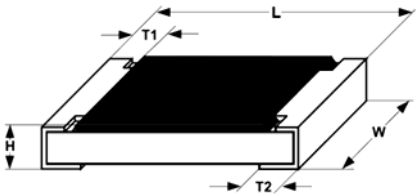
APPLICATION

- Consumer electrical
- Home Appliance: Air conditioner, Refrigerator
- Computer & related products: Mainboard
- Communication equipment: Cell phone, Fax machine
- Power equipment: Power supply, illumination equipment
- Measuring instrument: Electric meter, Navigation equipment

FEATURES

- Small size and light weight
- Reliability, high quality
- High Power

Dimension

Dimension	 (unit):mm				
(Type)	**L**	**W**	**H**	**T1**	**T2**
0201	0.60±0.03	0.30±0.03	0.23±0.03	0.10±0.05	0.15±0.05
0402	1.00±0.05	0.50±0.05	0.35±0.05	0.20±0.10	0.25±0.10
0603	1.60±0.10	0.80±0.10	0.45±0.10	0.25±0.15	0.25±0.15
0805	2.00±0.10	1.25±0.10	0.50±0.10	0.35±0.20	0.40±0.20
1206	3.10±0.10	1.60±0.10	0.55±0.10	0.45±0.20	0.45±0.20
1210	3.10±0.10	2.50±0.15	0.55±0.10	0.45±0.15	0.50±0.20
2010	5.00±0.10	2.50±0.15	0.55±0.10	0.45±0.15	0.50±0.20
2512	6.35±0.10	3.10±0.15	0.55±0.10	0.60±0.20	1.80±0.20

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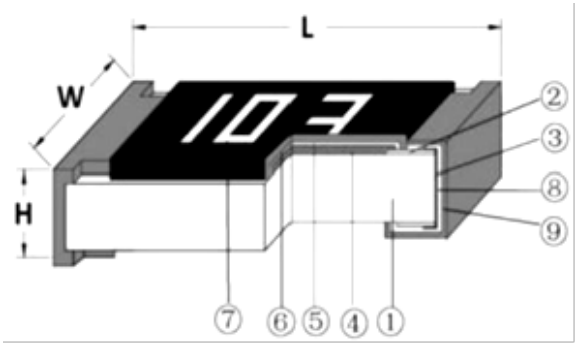
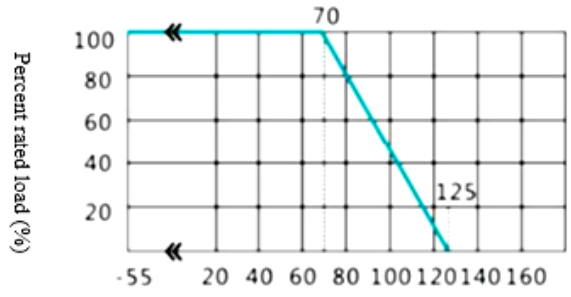
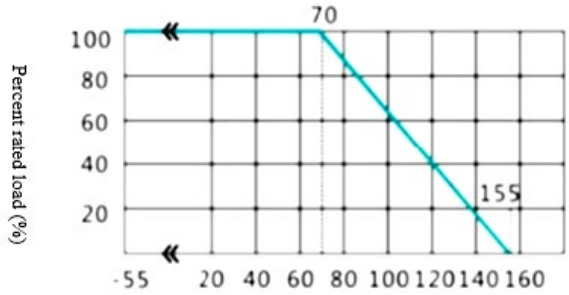
Construction



NO.	construction	Major material
1	Ceramic substrate	Al_2O_3
2	Conductive layer	Ag
3	Side conductive layer	NiCr
4	Resistive layer	RuO_2+glass
5	Inner protective layer	Glass
6	Outer Protective layer	Epoxy
7	Marking	Epoxy
8	Ni plating layer	Ni
9	Sn plating layer	Matte Tin

Derating Curve

Temperature usage rang	-55℃~+125℃(0201)	-55℃~+155℃(other)
Describe	If the ambient temperature exceeds 70°C to 125℃, the power can be revised according to the curve in the following figure.	If the ambient temperature exceeds 70°C to 155℃, the power can be revised according to the curve in the following figure.
Power Attenuation curve	 Ambient temperature (℃)	 Ambient temperature (℃)

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Resistance range

Type	Resistance Range			
	0.5%, 0.1%	1%	2%	5%
0201	-	1Ω~10MΩ	1Ω~10MΩ	1Ω~10MΩ
0402	100Ω~1MΩ	1Ω~10MΩ	1Ω~22MΩ	1Ω~22MΩ
0603	100Ω~1MΩ	1Ω~10MΩ	1Ω~22MΩ	1Ω~22MΩ
0805	100Ω~1MΩ	1Ω~10MΩ	1Ω~22MΩ	1Ω~22MΩ
1206	100Ω~1MΩ	1Ω~10MΩ	1Ω~22MΩ	1Ω~22MΩ
1210	100Ω~1MΩ	1Ω~10MΩ	1Ω~22MΩ	1Ω~22MΩ
2010	100Ω~1MΩ	1Ω~10MΩ	1Ω~22MΩ	1Ω~22MΩ
2512	100Ω~1MΩ	1Ω~10MΩ	1Ω~22MΩ	1Ω~22MΩ

Electrical characteristics

Type	0402	0603	0805	1206	1210	2010	2512
Dielectric Withstanding Voltage	100V	100V	300V	500V	500V	500V	500V
Resistance Value of Jumper±5%	<50mΩ	<50mΩ	<50mΩ	<50mΩ	<50mΩ	<50mΩ	<50mΩ
Rated Current of Jumper	1A	1A	2A	2A	2A	2A	2A
Max Current of Jumper	3A	4A	6A	10A	12A	12A	12A

Standard Electrical Specifications

Type	(Power Rating at 70℃)	Max. RCWV	Max. Overload Voltage	T.C.R. (PPM℃)	Resistance Range
0402	1/10W	50V	100V	±200	1Ω~22MΩ
0603	1/5W	75V	150V		
0805	1/4W	150V	300V		
1206	1/2W	200V	400V		
1210	3/4W	200V	500V		
2010	1W	200V	500V		
2512	2W	200V	500V		

Remark: Optional code "L" is Low TCR Alloy Film ：100ppm

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Remark：**T**he rated voltage is calculated by the following formula）:

E= $\sqrt{RP}$

E:（Rated Voltage） (V)

P:（Rated Power ） (W)

R:（Resistance ） (ohm)

In case the value calculated by the formula exceed the maximum working voltage as above table 8, the maximum working voltage shall be regarded as rated voltage.

Performance Specifications

Item	Test Methods	Test Conditions	Specification
Temperature Coefficient	JIS C 5201 4.8	TCR=（R-R_0）/（t-t_0）R_0 ×10^6（ppm） R0:Resistance at room temperature R :Resistance at 125℃ or -55℃ t_0:Room temperature t :Test temperature 125℃ or -55℃	10Ω<R≦22MΩ: ±200 PPM/℃
Short-time overload	JIS C 5201 4.13	Applied 2.5 times of rated voltage for 5 second. Measure the variation of resistance.	±(1.00% +0.05Ω)
Solderability	JIS C 5201 4.17	Dip the terminal in a flux and then dip into a soldering bath at 245±5℃ for 3±0.5sec.	(＞95% coverage)
Resist to soldering heat	JIS C 5201 4.18	Dip the terminal in a flux and then dip into a soldering bath at 260±5℃ for 10±0.5sec. Measure the variation of resistance.	±(1.00% +0.05Ω)
Insulation resistance	JIS C 5201 4.6	Applied the dielectric withstanding voltage on the center of body for 60±5seconds. Then measure insulation resistance.	>10GΩ
Dielectric withstanding voltage	JIS C 5201 4.7	Applied the dielectric withstanding voltage on the center of body for60±5seconds.	No evidence of flashover, mechanical damage arcing or insulation breakdown
Rapid temperature changes	JIS C 5201 4.19	Put specimen in a chamber which temperature can be T1： -55±3℃；T2：155±3℃/125±3℃, 30min， repeated 300 cycles. Measure the variation of resistance.	±(2.00% +0.05Ω)

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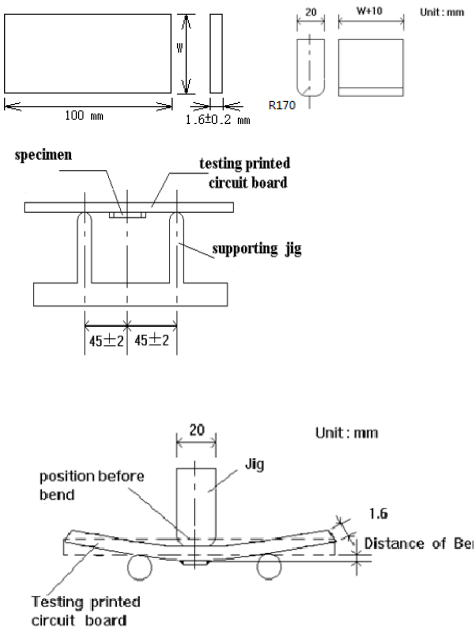
Performance Specifications

Item	Test Methods	Test Conditions	Specification
Humidity	JIS C 5201 4.24	Put the specimen in a chamber at 40±2℃ temperature and 90~95% relative humidity, then applied rated voltage for1.5H and rested for 0.5H repeatedly till total test time is $1000^{+48}/_{-0}$ H. Measure the variation of resistance.	±(2.00% +0.05Ω)
Terminal bending	JIS C 5201 4.33	Specimen shall be mounted on test board, then bend the board and maintained for 20±1s. the distance of bending is 5+0.2/0 mm for resistors which size no larger than 1206 or 2+0.2/0 mm which size larger than 1206. Measure the variation of resistance. （test board）　　（jig） 	±(1.00% +0.05Ω)
Load life	JIS C 5201 4.25.1	Put the specimen in a chamber at 70±2℃ temperature, ON TIME:1.5H，OFF TIME:0.5H，and applied rated voltage for 1000 $^{+24}/_{-0}$H. Measure the variation of resistance.	±(2.00% +0.05Ω)
Moisture resistance	MIL-STD-202 METHOD 106	25°C~65°C,90~100%RH, 2.5H; 65°C 90~100%RH, 3H; 65°C~25°C 80~100%RH, 2.5H, 10 cycles, Measurement at 24±4 hours after test conclusion.	±(2.00% +0.05Ω)

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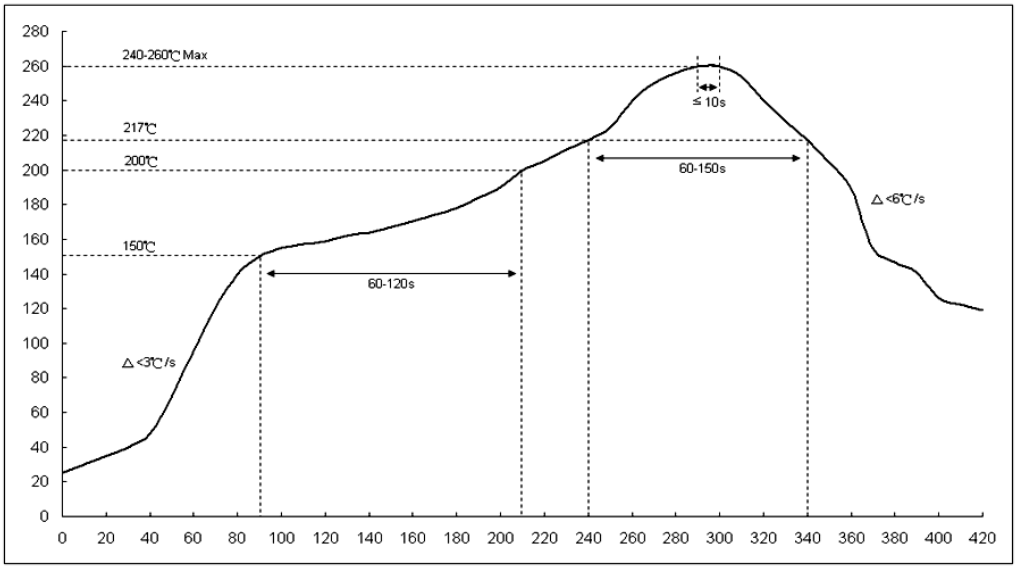
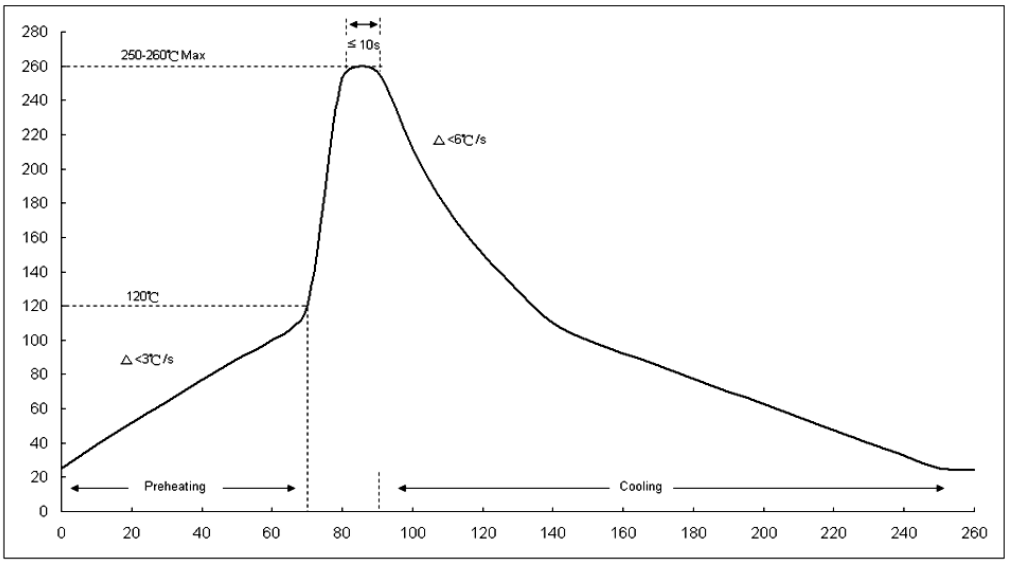
Soldering

Recommend reflow soldering profile



Recommend wave soldering profile



Hand soldering temperature

The iron temperature is 350±10℃, hand soldering time less than 3S. Avoid solder iron tip direct touch the components body

Please visit our website to get more update data, those data & specification are subject to change without notice.