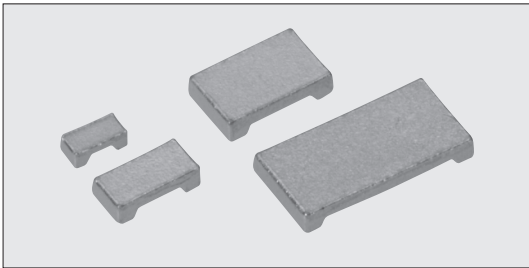


JUMPER (Metal Plate)

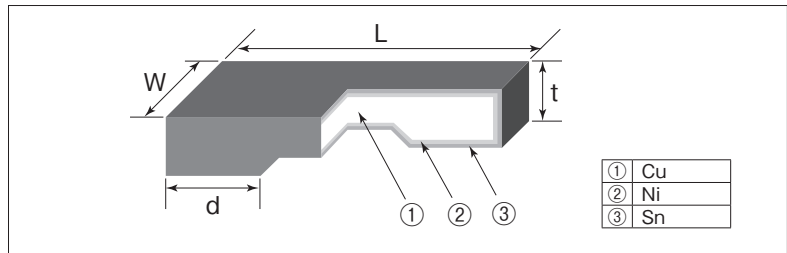


TLRZ Metal Plate Chip Type Jumper

Current Sensing Resistors



Construction



Features

- SMD type of small size, high rated current jumper.
- Low height suitable of use of Small equipment such as mobile phone.
- Suitable for reflow soldering. (Not suitable for flow soldering.)
- AEC-Q200 qualified.
- Products meet EU-RoHS requirements.

Applications

- Mobile phones, PDAs, Media players, Computers etc.

Reference Standards

IEC 60115-1
JIS C 5201-1

Dimensions

| Type (Inch Size Code) | Dimensions (mm) | | | | Weight(g) (1000pcs) |
|--------------------------|-----------------|----------|---------|----------|------------------------|
| | L | W | d | t | |
| 1E (0402) | 1.0±0.1 | 0.5±0.1 | 0.2±0.1 | 0.4±0.05 | 1.1 |
| 1J (0603) | 1.6±0.1 | 0.8±0.1 | 0.3±0.1 | 0.5±0.05 | 4.6 |
| 2A (0805) | 2.0±0.1 | 1.25±0.1 | | | 8.9 |
| 2B (1206) | 3.2±0.1 | 1.6±0.1 | | | 15.3 |

Type Designation

Example

| TLRZ | 1J | T | TD |
|--------------|--|---------------------------|---|
| Product Code | Current Rating | Terminal Surface Material | Taping |
| | 1E : 10A 1J : 26A 2A : 31.6A 2B : 50A | T : Sn | TB : 2mm pitch press paper TD : 4mm pitch punch paper BK : Bulk |

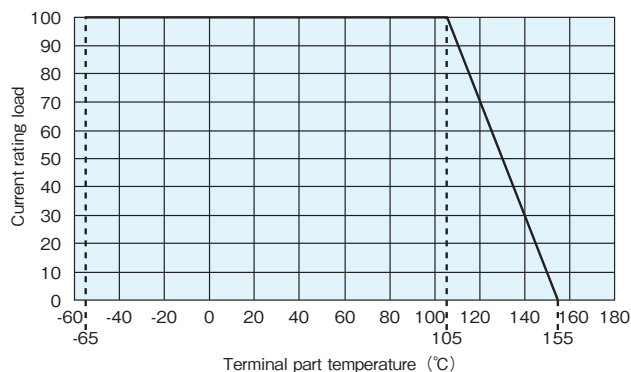
Contact us when you have control request for environmental hazardous material other than the substance specified by EU-RoHS.

For further information on taping, please refer to APPENDIX C on the back pages.

Ratings

| Type | Resistance | Current Rating | Rated Terminal Part Temp. | Operating Temp. Range | Taping & Q'ty/Reel (pcs) | |
|---------|------------|----------------|---------------------------|-----------------------|--------------------------|-------|
| | | | | | TB | TD |
| TLRZ 1E | 0.2mΩ max. | 10A | +105°C and less | -55°C~+155°C | 10,000 | — |
| TLRZ 1J | | 26A | | | — | 5,000 |
| TLRZ 2A | | 31.6A | | | | |
| TLRZ 2B | | 50A | | | | |

Derating Curve



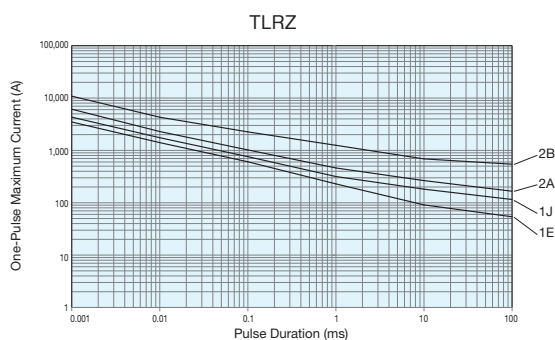
When the terminal part temperature of the jumper exceeds the rated terminal part temperature shown above, the power shall be derated according to the derating curve.

※Please refer to "Introduction of the derating curves based on the terminal part temperature" on the beginning of our catalog before use.

One-Pulse Maximum Current

Please ask us about the resistance characteristic of continuous applied pulse.

The pulse endurance values are not assured values,so be sure to check the products on actual equipment when you use them.



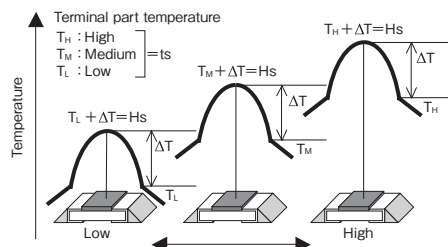
Thermal Resistance

| Type | Size | Rth |
|------|------|----------|
| TLRZ | 1E | <0.5°C/W |
| | 1J | |
| | 2A | |
| | 2B | |

$$R_{th} = (H_s - t_s) / \text{Power}$$

Regarding the temperature rise, the value of the temperature varies per conditions and board for use since the temperature is measured under our measuring conditions. Please refer to us before use.

The temperature of the resistor will increase the same ΔT from the standard terminal part temperature regardless of the ambient temperature when the same power is applied. This is because there is hardly any heat dissipation from the resistor surface to the ambient air.



Performance

| Test Items | Performance Requirements $\Delta R\%$ | | Test Methods |
|--|---------------------------------------|--------------------------------------|--|
| | Limit | Typical | |
| Resistance | | | 25°C |
| Overload (Short time) | | | 1E : 20A, 1J/2A : 40A, 2B : 80A, 5s |
| Resistance to soldering heat | | | 260°C ± 5°C, 10~12s |
| Rapid change of temperature | | | -55°C (30min.) ~ +155°C (30min.) 1000 cycles |
| Moisture resistance | MAX 0.5mΩ 1E MAX 0.2mΩ 1J/2A/2B | MAX 0.25mΩ 1E MAX 0.15mΩ 1J/2A/2B | 85°C, 85%RH, 1E : 1A, 1J/2A : 2A, 2B : 4A, 1000h |
| Endurance of rated terminal part temperature | | | Terminal part temp. : 105°C, 1000h, 1.5h ON/0.5h OFF cycle |
| Low temperature exposure | | | -55°C, 1000h |
| High temperature exposure | | | 155°C, 1000h |

Precautions for Use

- In case of using the low ohm resistors as shunt resistors, please lay out a pattern considering the electromagnetic induction with surrounding inductors.
- For resistance values of TLRZ the resistance value after soldering may change depending on the size of pad pattern or solder amount. Make sure the effect of decline/increase of resistance value before designing.