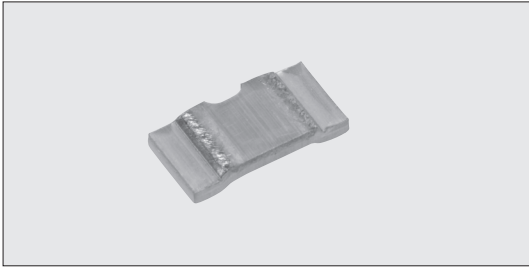
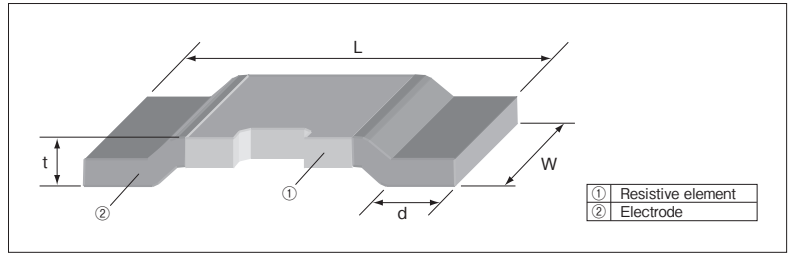


PSL2 | Chip Type Power Shunt



Construction



Features

- Ultra low resistance, suitable for large current sensing.
- Automatic mounting machines are applicable.
- Suitable for reflow soldering. (Not suitable for flow soldering.)
- Products meet EU-RoHS requirements.
- AEC-Q200 Tested.

Applications

- Current sensing for module of Automobiles, Inverter power supplies etc.

Reference Standards

IEC 60115-1
JIS C 5201-1

Dimensions

| Type (Inch Size Code) | Resistance (Ω) | Dimensions (mm) | | | | Weight (g) (1000pcs) |
|--------------------------|----------------------------|-----------------|-----------------|-----------------|-----------------|-------------------------|
| | | L | W | d | t | |
| PSL2 (2512) | 0.2m | 6.3 \pm 0.15 | 3.15 \pm 0.15 | 1.15 \pm 0.15 | 1.40 \pm 0.15 | 181 |
| | 0.3m | | | | 1.32 \pm 0.15 | 161 |
| | 0.5m | | | | 1.12 \pm 0.15 | 128 |

Type Designation

Example

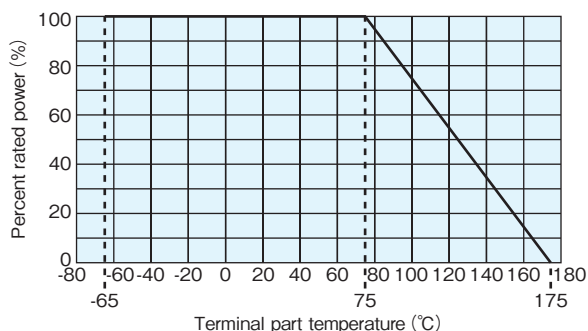
| PS | L | 2 | N | TEB | L500 | F |
|--------------|--|-----------------|---------------------------|---|--|----------------------|
| Product Code | Style & Power Rating | Terminal Number | Terminal Surface Material | Taping | Nominal Resistance | Resistance Tolerance |
| | L(0.2m) : 9W L(0.3m) : 8W L(0.5m) : 8W | | N : Pure Copper | TEB: 8mm pitch plastic embossed BK: Bulk | 4 digits L200 : 0.2m Ω L300 : 0.3m Ω L500 : 0.5m Ω | F : \pm 1% |

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 | Power Rating (Current Rating) | T.C.R. ($\times 10^{-6}/K$) | Resistance Range (Ω) | Resistance Tolerance | Rated Terminal Part Temp. | Operating Temp. Range | Taping & Q'ty/Reel (pcs) |
|------|----------------------------------|----------------------------------|----------------------------------|----------------------|---------------------------|------------------------------|--------------------------|
| | | | | | | | TEB |
| PSL2 | 9W (212A) | 250 \pm 100 | 0.2m | F : \pm 1% | 75 $^{\circ}$ C | -65 \sim +175 $^{\circ}$ C | 5,000 |
| | 8W (163A) | \pm 175 | 0.3m | | | | |
| | 8W (126A) | \pm 115 | 0.5m | | | | |

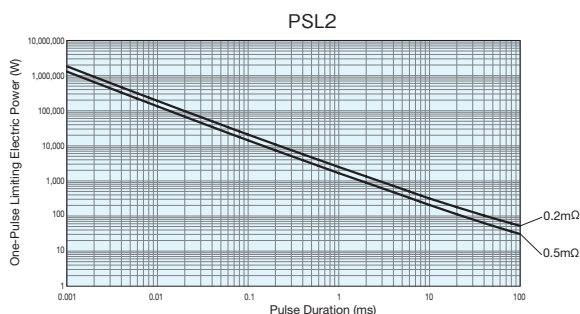
Derating Curve



When the terminal part temperature of the resistor 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 catalog before use.

One-Pulse Limiting Electric Power

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.



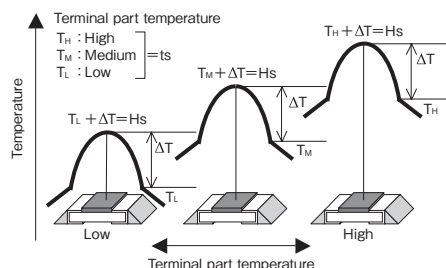
Thermal Resistance

| Type | Resistance (Ω) | Rth (°C/W) |
|------|----------------|------------|
| PSL2 | 0.2m | 3.2 |
| | 0.5m | 6.7 |

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

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 $\Delta R \pm \%$ | | Test Methods |
|---|--|---------|---|
| | Limit | Typical | |
| Resistance | Within specified tolerance | — | 25°C |
| T.C.R | Within specified T.C.R | — | +25°C/+125°C |
| Overload (Short time) | 0.5 | 0.1 | 0.2mΩ : 27W for 5s. 0.3mΩ, 0.5mΩ : 24W for 5s. |
| Resistance to soldering heat | 0.5 | 0.1 | 260°C ± 5°C, 15s ± 1s |
| Rapid change of temperature | 0.5 | 0.1 | -55°C (30min.) / +150°C (30min.) 1000 cycles |
| Moisture resistance | 0.5 | 0.05 | 85°C ± 3°C, 85% ± 3%RH, 1000h, 10% Bias |
| Endurance at 75°C and less of terminal part temperature | 1.0 | 0.3 | Terminal part temp. : 75°C ± 3°C, 1000h, 1.5h ON/0.5h OFF cycle |
| Low temperature exposure | 0.5 | 0.02 | -65°C, 1000h |
| High temperature exposure | 1.0 | 0.5 | +175°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 PSL2 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.