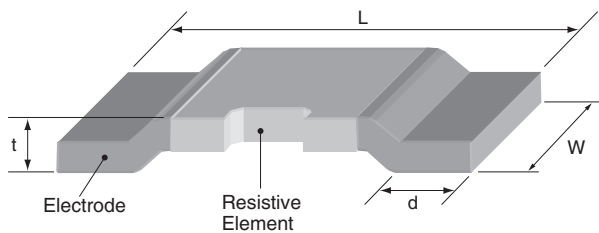


features

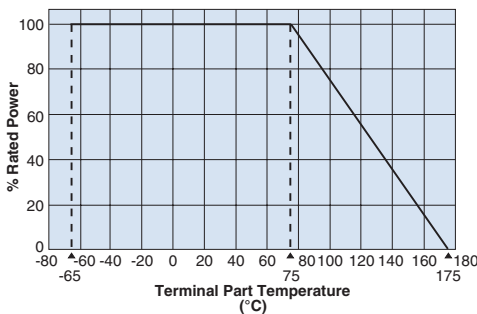
- Ultra low resistance, suitable for large current sensing
- Automatic mounting machines are applicable
- Suitable for reflow soldering (Not suitable for flow soldering)
- Products meet EU RoHS requirements
- AEC-Q200 qualified

dimensions and construction



| Type (Inch Size Code) | Resist. (Ω) | Dimensions inches (mm) | | | |
|--------------------------|-------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| | | L | W | d | t |
| PSJ2 (3920) | 0.2m | .394 \pm .010 (10.0 \pm 0.25) | .205 \pm .010 (5.2 \pm 0.25) | .079 \pm .010 (2.0 \pm 0.25) | .078 \pm .008 (1.98 \pm 0.2) |
| | 0.5m | | | | .05 \pm .008 (1.27 \pm 0.2) |
| | 1m | | | | .035 \pm .008 (0.89 \pm 0.2) |
| | 2m | | | | .046 \pm .008 (1.17 \pm 0.2) |
| | 3m | | | | .037 \pm .008 (0.95 \pm 0.2) |
| | 4m | | | | .033 \pm .008 (0.84 \pm 0.2) |
| PSL2 (2512) | NEW 0.2m | .248 \pm .006 (6.3 \pm 0.15) | .124 \pm .006 (3.15 \pm 0.15) | .045 \pm .006 (1.15 \pm 0.15) | .055 \pm .006 (1.40 \pm 0.15) |
| | 0.3m | | | | .052 \pm .006 (1.32 \pm 0.15) |
| | 0.5m | | | | .044 \pm .006 (1.12 \pm 0.15) |

Derating Curve



For resistors operated at a terminal part temperature of described for each size or above, a power rating shall be derated in accordance with the derating curve.

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

ordering information

| PS | J | 2 | N | TEB | L500 | F |
|------|--|--------------------|-------------------------|---------------------------------|---|-------------|
| Type | Power Rating | Termination Number | Termination Material | Packaging | Nominal Resistance | Tolerance |
| | J: 0.2m: 12W 0.5m: 10W 1m: 8W 2m: 6W 3m: 5W 4m: 5W New L: 0.2m: 9W 0.3m: 8W 0.5m: 8W | | N: No surface treatment | TEB: 8mm pitch plastic embossed | 4 digits: all values less than 100m Ω are expressed in m Ω with "L" as decimal Ex: 0.5m Ω - L500 1m Ω = 1L00 | F: \pm 1% |

For further information on packaging, please refer to Appendix A.

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

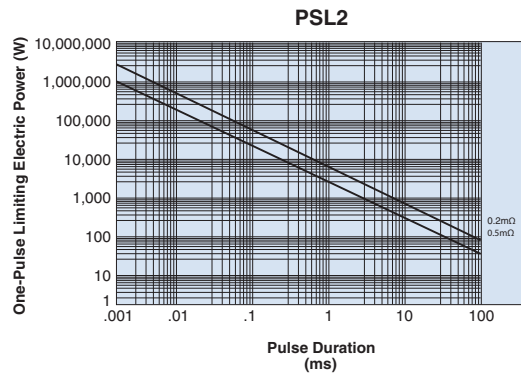
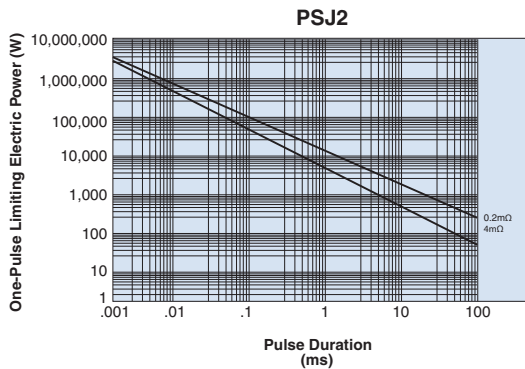
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applications and ratings

| Part Designation | Power Rating (Current Rating) | T.C.R. (ppm/°C) Max. | Resistance Range | Resistance Tolerance | Rated Terminal Part Temperature | Operating Temperature Range |
|------------------|-------------------------------|----------------------|------------------|----------------------|---------------------------------|-----------------------------|
| PSJ2 | 12W (244A) | ±200 | 0.2mΩ | F: ±1% | 75°C | -65°C to +175°C |
| | 10W (141A) | ±100 | 0.5mΩ | | | |
| | 8W (89A) | ±75 | 1mΩ | | | |
| | 6W (54A) | ±75 | 2mΩ | | | |
| | 5W (41A) | ±50 | 3mΩ | | | |
| | 5W (35A) | ±50 | 4mΩ | | | |
| PSL2 | NEW 9W (212A) | 250±100 | 0.2mΩ | F: ±1% | 75°C | -65°C to +175°C |
| | 8W (163A) | ±175 | 0.3mΩ | | | |
| | 8W (126A) | ±115 | 0.5mΩ | | | |

environmental applications

One-Pulse Limiting Electric Power



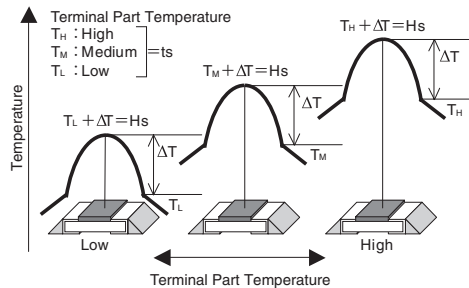
The maximum applicable voltage is equal to the max. overload voltage. Please ask us about the resistance characteristic of continuous applied pulse. The pulse endurance values are not assured values, so be sure to check the products on actual equipment when you use them.

Thermal Resistance

| Type | Resistance () | Rth (°C/W) |
|------|----------------|------------|
| PSJ2 | 0.2m | 4 |
| | 4m | 27 |
| 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 Characteristics

| Parameter | Requirement $\Delta R \pm \%$ | | Test Method |
|---|-------------------------------|---------|--|
| | Limit | Typical | |
| T.C.R. | Within specified T.C.R. | — | +25°C/+125°C |
| Overload (Short time) | ±0.5% | ±0.1% | PSJ (0.2m): 36W for 5 seconds; PSJ (0.5m): 30W for 5 seconds; PSJ (1m): 20W for 5 seconds; PSJ (2m): 18W for 5 seconds; PSJ (3m): 12.5W for 5 seconds; PSJ (4m): 10W for 5 seconds; PSL (0.2m): 27W for 5 seconds; PSL (0.3m, 0.5m): 24W for 5 seconds |
| Resistance to Solder Heat | ±0.5% | ±0.1% | 260°C ± 5°C, 15 seconds ± 1 second |
| Rapid Change of Temperature | ±0.5% | ±0.1% | -55°C (30 minutes), +150°C (30 minutes), 1,000 cycles |
| Moisture Resistance | ±0.5% | ±0.05% | 85°C ± 3°C, 85% ± 3°C RH, 1000 hours, 10% Bias |
| Endurance at 75°C and Less of Terminal Part Temperature | ±1.0% | ±0.3% | Terminal part temperature: 75°C ± 3°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle |
| Low Temperature Exposure | ±0.5% | ±0.02% | -65°C, 1000 hours |
| High Temperature Exposure | ±1% | ±0.5% | +175°C, 1,000 hours |

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

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