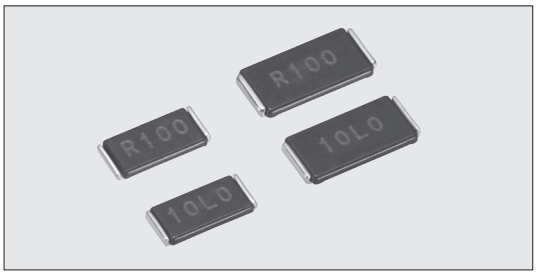
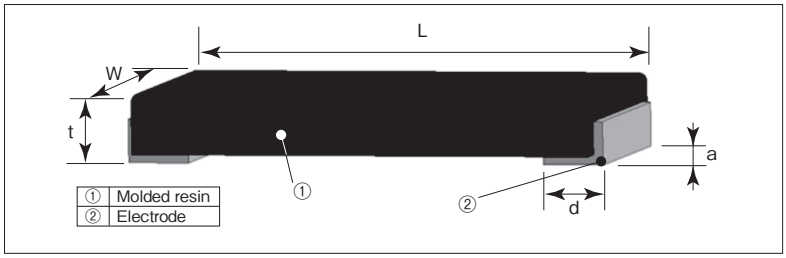
EU RoHS

SLP Current Sensing Chip Resistors



Coating Color : Black

■ Construction



■Features

- High-precision (TCR ±50×10^{-6}/K).
- SLP has a suitable termination structure with solder fillets.
- Automatic mounting machines are applicable.
- Suitable for flow, reflow and iron solderings.
- Products meet EU-RoHS requirements.
- AEC-Q200 qualified.

■Applications

- Automotive
- DC-DC converters

■Reference Standards

IEC 60115-1
JIS C 5201-1

■Dimensions

Type (Inch Size Code)	Dimensions (mm)					Weight (g) (1000pcs)
	L	W	d	t	a	
2H (2010)	5.1±0.25	2.5±0.25	0.5±0.25	0.635±0.25	2.2±0.25	25
2HW (2010)	5.1±0.25	2.5±0.25	0.5±0.25	0.635±0.25	2.2±0.25	25
3A (2512)	6.35±0.25	3.2±0.25	0.77±0.25	0.635±0.25	2.6±0.25	39
3AW (2512)	6.35±0.25	3.2±0.25	0.77±0.25	0.635±0.25	2.6±0.25	39

■Type Designation

Example

SLP	2H	T	TE	10L0	F
Product Code	Power Rating	Termination Surface Material	Taping	Nominal Resistance	Tolerance
	2H : 1W 2HW : 2W 3A : 1W 3AW : 2W	T : Sn	TE : Plastic embossed BK : Bulk	Ex. 10L0 : 10mΩ R100 : 100mΩ	D : ±0.5% F : ±1%

Resistance Value (Ω)	4 digits
10m~97.6m	10L0~97L6
0.1	R100

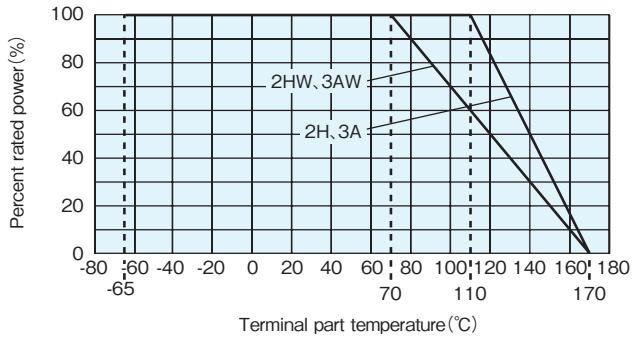
Contact us when you have control request for environmental hazardous material other than the substance specified by EU-RoHS.
For further information on taping, please refer to APPENDIX C on the back pages.

■Ratings

Type	Power Rating	T.C.R. (×10^{-6}/K)	Resistance Range (Ω)※1 E24・E96	Resistance Tolerance	Rated Terminal Part Temp.	Operating Temp. Range	Taping & Q'ty/Reel (pcs)
							TE
SLP 2H	1W	±50	10m~100m	D : 0.5% F : 1%	110℃ and less	−65℃~+170℃	4000
SLP 2HW	2W	±50	10m~40m		70℃ and less		
SLP 3A	1W	±50	10m~100m		110℃ and less	−65℃~+170℃	2000
SLP 3AW	2W	±50	10m~40m		70℃ and less		

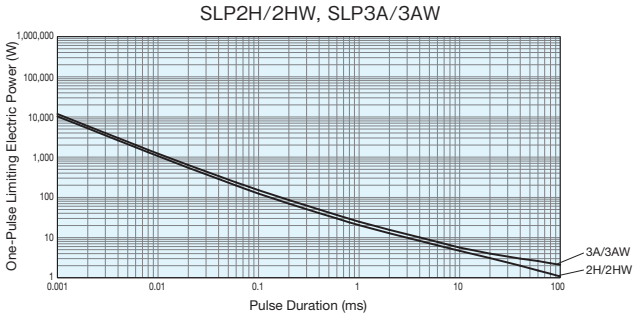
※1 Resistance values outside E-series are available in 5mΩ steps (10m, 15m, 20m, etc.)

■Derating Curve



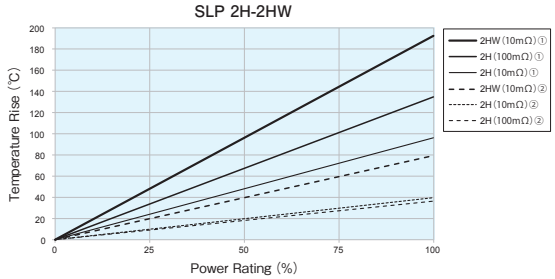
When the terminal part temperature of the resistor exceeds the rated terminal part temperature shown above, the power shall be derated according to the derating curve.
※Please refer to "Introduction of the derating curves based on the terminal part temperature" on the beginning of our catalog before use.

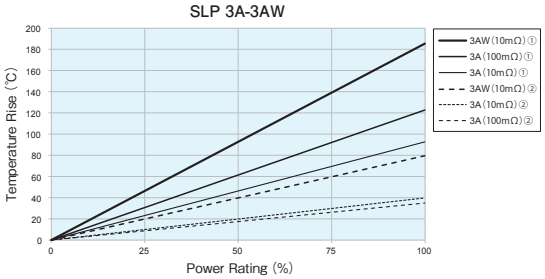
■One-Pulse Limiting Electric Power



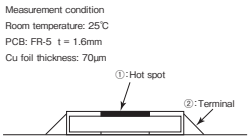
※The maximum applicable voltage is equal to the max. overload voltage.
Please ask us about the resistance characteristic of continuous applied pulse.
The pulse endurance values are not assured values,so be sure to check the products on actual equipment when you use them.

■Temperature Rise





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.

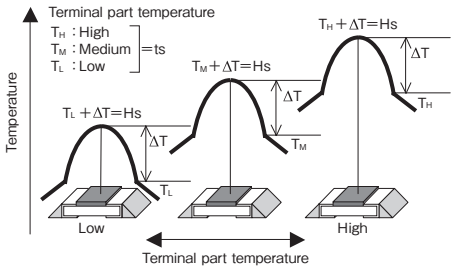


■Thermal Resistance

Type	Size	Resistance (Ω)	Rth (℃/W)
SLP	2H 2HW	10m	56.4
		100m	98.2
	3A 3AW	10m	53.0
		100m	87.9

Rth=(Hs-ts)/Power

The temperature of the resistor will increase the same ⊿T from the standard terminal part temperature regardlless 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 ΔR±%		Test Methods
	Limit	Typical	
Resistance	Within specified tolerance	—	25℃
T.C.R.	Within specified T.C.R.	—	+25℃/+125℃
Resistance to soldering heat	0.5	0.1	260℃±5℃, 10s~12s
Rapid change of temperature	0.5	0.2	−55℃ (15min.) /+150℃ (15min.) 1000 cycles
Biased humidity	0.5	0.1	85℃±2℃, 85%RH, 1000h, 10% Bias
Endurance of Rated Terminal Part Temperature	1.0	0.2	Terminal temp. : 70℃ (SLP2HW, SLP3AW) : 110℃ (SLP2H, SLP3A) 1,000h, 1.5h ON/0.5h OFF cycle
Low temperature operation	0.5	0.05	−65℃, 24h
High temperature exposure	1.0	0.2	+170℃, 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.
- In the resistance values of 50mΩ or under, 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.