

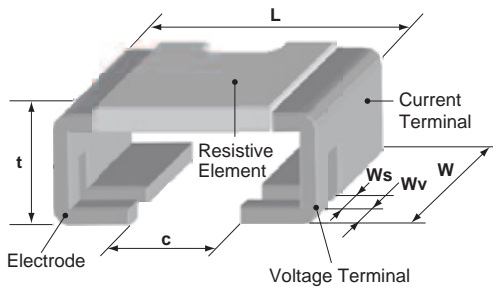


**features**

- Correcter electric current detection is possible with 4-terminal construction
- Excellent T.C.R. achieved ( $\pm 50 \times 10^{-6}/K$ )
- 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

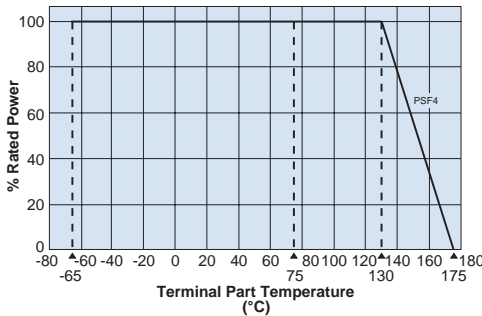
current sense

**dimensions and construction**



Type (Inch Size Code)	Resist. ( $\Omega$ )	Dimensions inches (mm)					
		L	W	c	Ws	Wv	t
PSF4 (1216)	0.5m	.118 $\pm$ .004 (3.0 $\pm$ 0.1)	.150 $\pm$ .004 (3.8 $\pm$ 0.1)	.037 $\pm$ .006 (0.95 $\pm$ 0.15)	.028 $\pm$ .002 (0.7 $\pm$ 0.05)	.020 $\pm$ .002 (0.5 $\pm$ 0.05)	.071 $\pm$ .004 (1.8 $\pm$ 0.1)
	1m						

**Derating Curve**



When the terminal part temperature of the resistor exceeds the rated terminal part temperature shown, the power shall be derated according to 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**

<b>PS</b>	<b>G</b>	<b>4</b>	<b>N</b>	<b>TEB</b>	<b>L500</b>	<b>F</b>
Type	Power Rating F (0.5m): 5W F (1m): 3W	Termination Number	Termination Material N: Pure Copper	Packaging TEB: Plastic embossed	Nominal Resistance 4 digits: all values less than 100m $\Omega$ are expressed in m $\Omega$ with "L" as decimal Ex: 0.5m $\Omega$ - L500 1m $\Omega$ - 1L00	Tolerance F: $\pm 1\%$

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

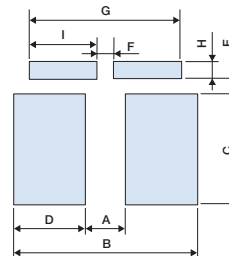
For further information on packaging, please refer to Appendix A.

## 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
PSF4	5W (100A)	±50	0.5mΩ	F: ±1%	130°C	-65°C to +175°C
	3W (54A)		1mΩ			

## pad dimensions

Type (Inch Size Code)	Dimensions inches (mm)								
	A	B	C	D	E	F	G	H	I
PSF4 (1216)	.024 (0.6)	.142 (3.6)	.116 (2.95)	.059 (1.5)	.020 (0.5)	.024 (0.6)	.142 (3.6)	.028 (0.7)	.059 (1.5)

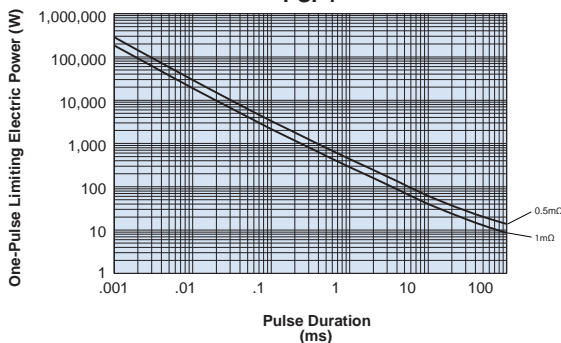


These pad dimensions are only for standard pattern and the characteristics are not guaranteed, which you are suggested to confirm before use.

## environmental applications

### One-Pulse Limiting Electric Power

PSF4



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

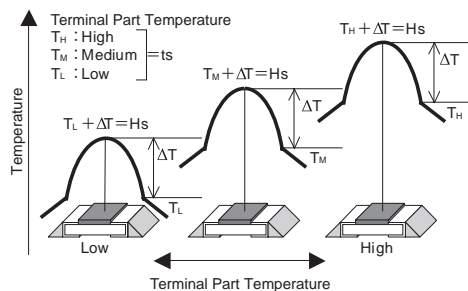
The pulse endurance values are not assured values, so be sure to check the products on actual equipment when you use them.

### Thermal Resistance

Type	Resistance (Ω)	Rth (°C/W)
PSF4	0.5m	8
	1m	14

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

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  $\Delta T$  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	
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%	0.5mΩ: 15W for 5 seconds; 1mΩ: 9W 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% RH, 1000 hours, 10% Bias
Endurance at Rated Terminal Part Temperature	±1.0%	±0.5%	Terminal part temperature: 130°C ± 3°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
Low Temperature Exposure	±0.5%	±0.01%	-65°C, 1000 hours
High Temperature Exposure	±1%	±0.6%	+175°C, 1,000 hours