PSG4/PSF4

current sensing power shunt

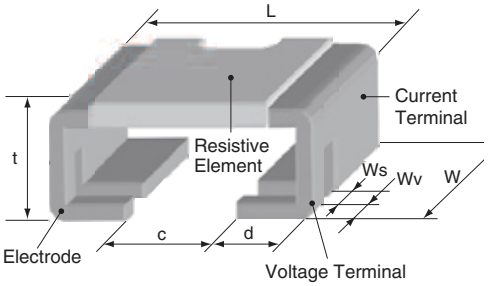
EU RoHS COMPLIANT

features

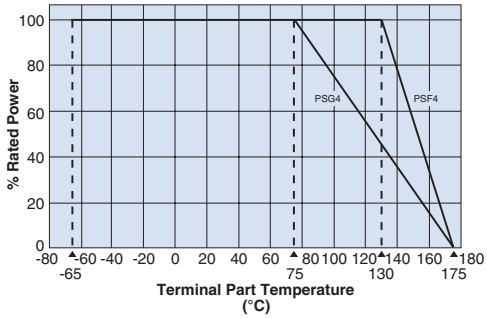
- Correcter electric current detection is possible with 4-terminal construction
- Excellent T.C.R. achieved (±50×10^{-6}/K)
- Ultra low resistance, suitable for large current sensing
- Automatic mounting machines are applicable
- Suitable for reflow soldering (Not suitable for flow soldering)
- Products meet EU RoHS requirements
- AEC-Q200 tested

dimensions and construction

Type (Inch Size Code)	Resist. (Ω)	Dimensions inches (mm) L	W	d	c	Ws	Wv	t
PSG4 (2725)	0.5m	.272±.010 (6.9±0.25)	.260±.010 (6.6±0.25)	.079±.004 (2.0±0.1)	—	.039±.004 (1.0±0.1)	.028±.010 (0.7±0.1)	.120±.008 (3.05±0.2)
	1m							.110±.008 (2.8±0.2)
PSF4 (1216)	0.5m	.118±.004 (3.0±0.1)	.150±.004 (3.8±0.1)	—	.037±.006 (0.95±0.15)	.028±.002 (0.7±0.05)	.020±.002 (0.5±0.05)	.071±.004 (1.8±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

PS	G	4	N	TEB	L500	F
Type	Power Rating	Termination Number	Termination Material	Packaging	Nominal Resistance	Tolerance
	G (0.5m): 10W G (1m): 8W F (0.5m): 5W F (1m): 3W		N: No surface treatment	TEB: Plastic embossed	4 digits: all values less than 100mΩ are expressed in mΩ with "L" as decimal Ex: 0.5mΩ - L500 1mΩ - 1L00	F: ±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.

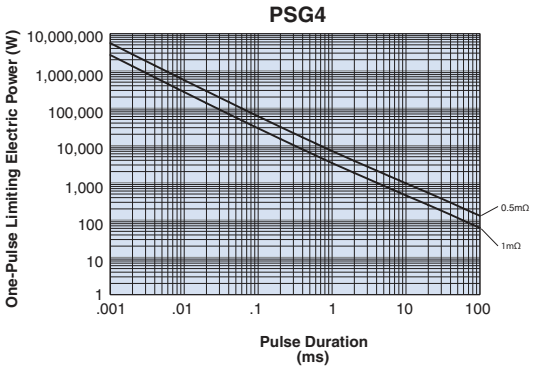
4/13/20

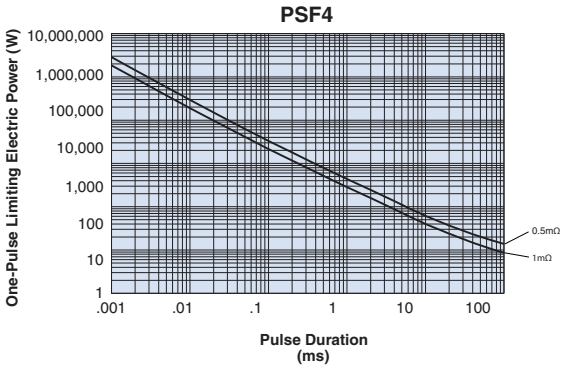
applications and ratings

Part Designation	Power Rating (Current Rating)	T.C.R. (ppm/°C) Max.	Resistance Range	Resistance Tolerance	Rated Terminal Part Temperature	Operating Temperature Range
PSG4	10W (141A)	±50	0.5mΩ	F: ±1%	75°C	-65°C to +175°C
	8W (89A)		1mΩ			
PSF4	5W (100A)	±50	0.5mΩ	F: ±1%	130°C	
	3W (54A)		1mΩ			

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.

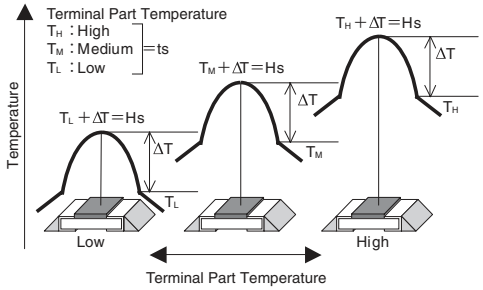
The pulse endurance values are not assured values,so be sure to check the products on actual equipment when you use them.

Thermal Resistance

Type	Resistance (Ω)	Rth (°C/W)
PSG4	0.5m	9
	1m	12
PSF4	0.5m	8
	1m	14

Rth=(Hs-ts)/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 ⊿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 Characteristics

Parameter	Requirement Δ R ±% Limit	Typical	Test Method
T.C.R.	Within specified T.C.R.	—	+25°C/+125°C
Overload (Short time)	±0.5%	±0.1%	PSG4 (0.5mΩ): 30W for 5 seconds; PSG4 (1mΩ): 20W for 5 seconds PSF4 (0.5mΩ): 15W for 5 seconds; PSF4 (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%	PSG4: Terminal part temperature: 75°C ± 3°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle PSF4: 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