KOA SPEER ELECTRONICS, INC.

PSF4/PSG4

current sensing power shunt

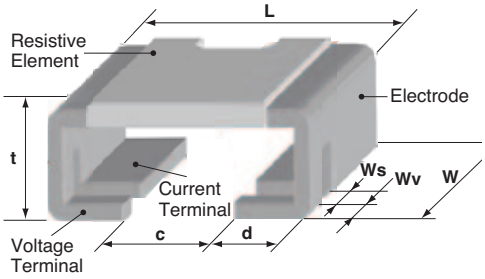
EU RoHS COMPLIANT



features

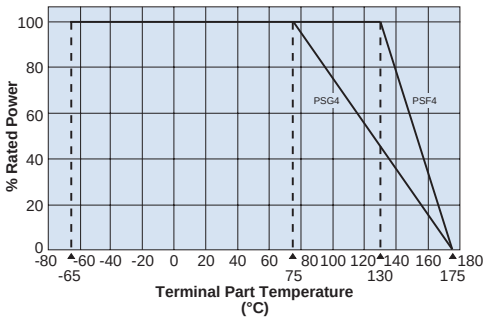
- Correcter electric current detection is possible with 4-terminal construction
- Excellent T.C.R. achieved (±50×10^{-6}/K)
- Ultra low resistance, suitable for large current sensing
- Automatic mounting machines are applicable
- Suitable for reflow soldering (Not suitable for flow soldering)
- Products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

dimensions and construction



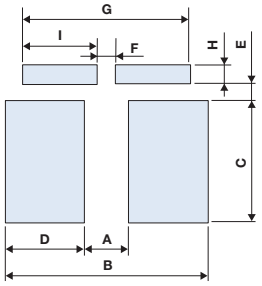
Type (Inch Size Code)	Resist. (Ω)	Dimensions inches (mm)						
		L	W	d	c	Ws	Wv	t
PSF4 (1216)	0.5m	.118±.004 (3.0±0.1)	.150±.004 (3.8±0.1)	—	.037±.006 (0.95±0.15)	.028±.002 (0.7±0.05)	.020±.002 (0.5±0.05)	.071±.004 (1.8±0.1)
	1m							
PSG4 (2725)	0.5m	.272±.010 (6.9±0.25)	.260±.010 (6.6±0.25)	.079±.004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

Derating Curve



When the terminal part temperature of the resistor exceeds the rated part temperature, the power shall be derated according to the derating curve. For more details on derating click here "*Derating Curves – Caution & Terms*."

Recommended Pad Dimensions



These pad dimensions are only for standard patterns and the characteristics are not guaranteed, please confirm before use.

Type (inch Size Code)	Dimensions (mm)								
	A	B	C	D	E	F	G	H	I
PSF4 (1216)	0.6	3.6	2.95	1.5	0.5	0.6	3.6	0.7	1.5
PSG4 (2725)	2.0	9.4	5.6	3.7	0.8	0.8	7.8	0.9	3.5

ordering information

PS	G	4	N	TEB	L500	F
Type	Power Rating	Termination Number	Termination Material	Packaging	Nominal Resistance	Tolerance
	F (1m): 3W F (0.5m): 5W G (0.5m): 10W		N: Pure Copper	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.

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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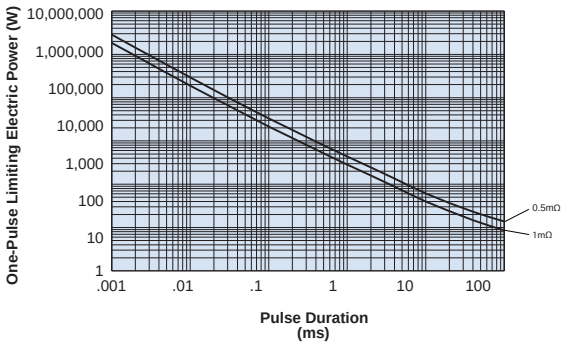
applications and ratings

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

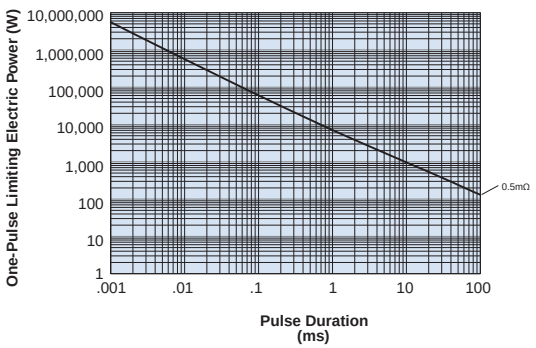
environmental applications

One-Pulse Limiting Electric Power

PSF4



PSG4



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

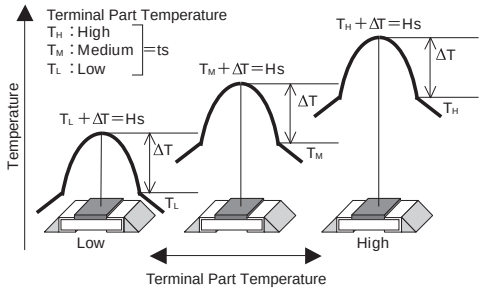
The pulse endurance values are not assured values,so be sure to check the products on actual equipment when you use them.

Thermal Resistance

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

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 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 R ±% Limit	Typical	Test Method
T.C.R.	Within specified T.C.R.	—	+25°C/+125°C
Overload (Short time)	±0.5%	±0.1%	PSF4 (0.5mΩ): 15W for 5 seconds; PSF4 (1mΩ): 9W for 5 seconds PSG4 (0.5mΩ): 30W 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%	PSF4: Terminal part temperature: 130°C ± 3°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle PSG4: Terminal part temperature: 75°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

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