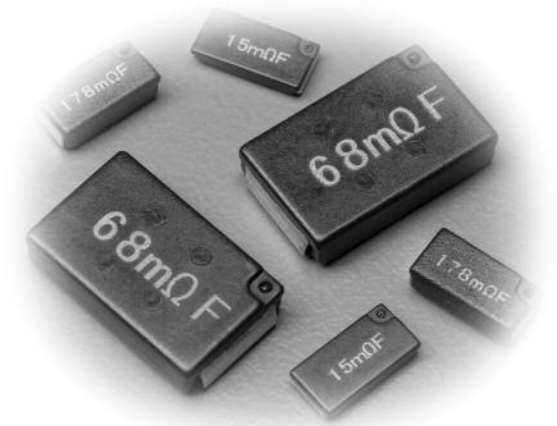
SLW07, SLW1, SLN3, SLN5

surface mount molded current sense resistors

KOA SPEER ELECTRONICS, INC.

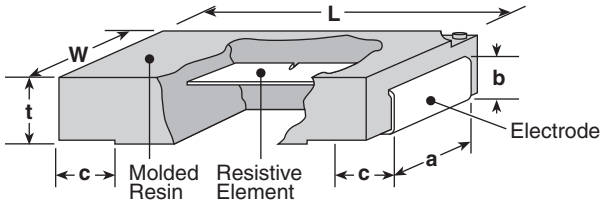
EU RoHS COMPLIANT



features

- Surface mount type
- Flameproof UL94V0 molded polymer case
- Excellent dimension accuracy, mountability and shock resistance
- Products with lead-free terminations meet EU RoHS requirements. EU RoHS regulation is not intended for Pb-glass contained in electrode, resistor element and glass.
- AEC-Q200 Qualified

dimensions and construction



Size Code	Dimensions inches (mm)					
	L	W	t	a	b	c
SLW07 (2010)	.197±.012 (5.0±0.3)	.098±.008 (2.5±0.2)	.067±.008 (1.7±0.2)	.079±.008 (2.0±0.2)	.047±.008 (0.9±0.2)	.035±.012 (1.2±0.3)
SLW1 (2512)	.248±.012 (6.3±0.3)	.122±.008 (3.1±0.2)	.075±.008 (1.9±0.2)	.094±.008 (2.4±0.2)	.047±.008 (1.2±0.2)	.047±.012 (1.2±0.3)
SLN3 (4527)	.453±.012 (11.5±0.3)	.276±.008 (7.0±0.2)	.094±.008 (2.4±0.2)	.217±.008 (5.5±0.2)	.063±.008 (1.6±0.2)	.100±.016 (2.55±0.4)
SLN5 (4527)	.453±.012 (11.5±0.3)	.276±.008 (7.0±0.2)	.098±.008 (2.5±0.2)	.217±.008 (5.5±0.2)	.075±.008 (1.9±0.2)	.100±.016 (2.55±0.4)

ordering information

SL	1	T	TE	10L0	F	75
Type	**Size & Power Ratings**	**Termination Material**	**Packaging**	**Nominal Resistance**	**Tolerance**	**T.C.R. ($x10^{-6}$/K)**
SL SLN	W07: 1W W1: 1.5W 3: 3W 5: 7W	T: Sn	TE: Embossed plastic TED: 10" embossed plastic (SLN5 only) For further information on packaging please refer to Appendix A	±0.5%, ±1%: 4 digits ±5%: 3 digits All values less than 0.1Ω (100m) are expressed in mW with "L" as decimal Ex: 2mΩ = 2L00	D: ±0.5% F: ±1% J: ±5%	Nil: 0-150 0-200 ±75 (SLN3/SLN5) ±100 ±110 ±180 50: ±50 (SLW1) 75: ±75 (SLW1)

applications and ratings

Part Designation	Power Rating	Resistance Range (Ω)* D: ±0.5% E24, E96***	Resistance Range (Ω)* F: ±1% E24, E96***	Resistance Range (Ω)* J: ±5% E24	T.C.R. (ppm/°C) Max.	Rated Terminal Part Temperature	Operating Temperature Range
SLW07	1W	—	5m - 100m		0~200: R=<10mΩ 0~150: R=>11mΩ	125°C	-55°C to +180°C
SLW1	1.5W	10m - 100m	5m - 100m		±180: R=<13mΩ ±100: R=>15mΩ ±75: 20m=<R=<100mΩ ±50: 34.8m=<R=<100mΩ	120°C	
SLN3	3W	5m - 110m			±110: R<10mΩ ±75: R=>10mΩ		
SLN5	7W (5W)**	3m - 200m		—	±110: R<10mΩ ±75: R=>10mΩ	70°C (120°C)**	-65°C to +180°C

* 5m, 6m, 7m, 8m, 9mΩ also available inside resistance range

** In case the rated terminal part temperature of 120°C, the rated power shall be 5W

*** SLW07 offers only E24 series

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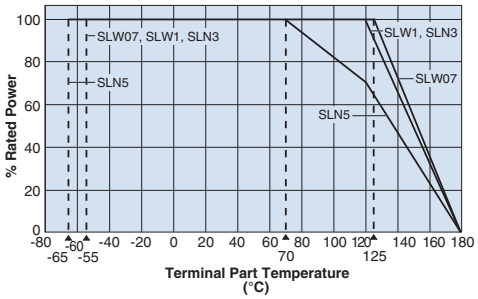
environmental applications

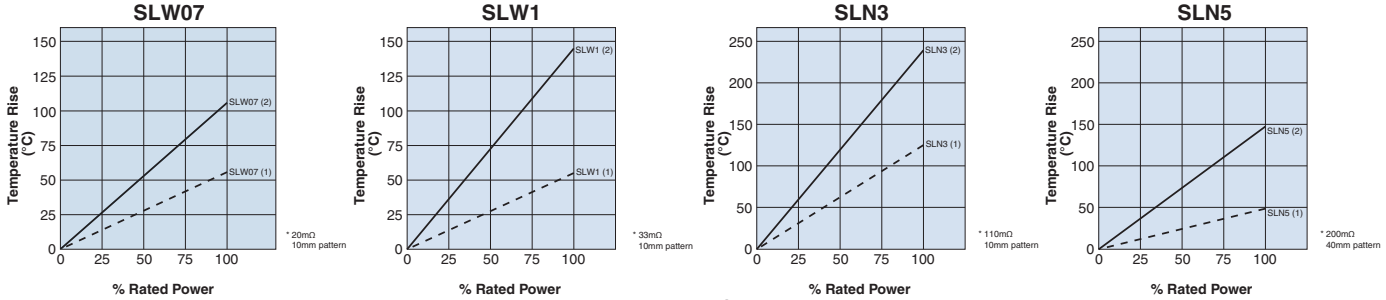
Derating Curve

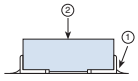


For resistors operated at a terminal part temperature of described for each size or above, a power rating shall be derated in accordance with the derating curve.

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

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.

Performance Characteristics

Parameter	Requirement Δ R ±% Limit	Typical	Test Method
Resistance	Within specified tolerance	—	25°C
T.C.R.	Within specified T.C.R.	—	+25°C/+125°C
Overload (Short time)	±1%: SLW07,SLW1 ±0.5%: SLN3 ±2%: SLN5	±1%: SLW07,SLW1 ±0.25%: SLN3 ±0.5%: SLN5	SLW07: Rated power x 3 for 5 seconds, SLW1: Rated power x 5 for 5 seconds, SLN3: Rated power x 10 for 5 seconds, SLN5: Rated power x 15 for 5 seconds
Resistance to Solder Heat	±1%: SLW07, SLW1	±1%: SLW07, SLW1	260°C ± 5°C, 10 ± 1 second
	±0.5%: SLN3,SLN5	±0.5%: SLN3,SLN5	260°C ± 5°C, 10~12 seconds
Rapid Change of Temperature	±1%: SLW07, SLW1	±0.5%: SLW07, SLW1	-55°C (30 minutes), +150°C (30 minutes), 100 cycles
	±0.5%: SLN3,SLN5	±0.3%: SLN3,SLN5	-55°C (15 minutes), +150°C (15 minutes), 1000 cycles
Moisture Resistance	±2%: SLW07, SLW1	±1%: SLW07, SLW1	40°C ± 2°C, 90%~95%RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
	±0.5%: SLN3,SLN5	±0.35%: SLN3,SLN5	SLN3: 85°C ± 2°C, 85% RH, 1000 hours, 0.3W SLN5: 85°C ± 2°C, 85% RH, 1000 hours, 0.7W
Endurance of Rated Terminal Part Temperature	±2%	±1% ±1.2%: SLN5	Terminal part temperature: 125°C (SLW07), 120 °C (SLW1, SLN3, SLN5: 5W), 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle, 70°C (SLN5: 7W)
Low Temperature Exposure	±0.5%	±0.25%	SLW07, SLW1: -55°C, 1 hour; SLN3, SLN5: -65°C, 24 hours