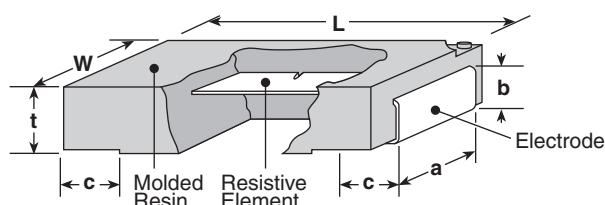




features

- Surface mount type
- Flameproof UL94V0 molded polymer case
- Excellent dimension accuracy, mountability and shock resistance
- Low profile type available (TSL)
- Marking: Black body color with white marking or laser marking
- 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
SL07 (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)
SL1/SLZ1 (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)
SL2 (4528)	.453±.012 (11.5±0.3)	.276±.008 (7.0±0.2)	.098±.008 (2.5±0.2)	.197±.008 (5.0±0.2)	.067±.008 (1.7±0.2)	.102±.02 (2.6±0.5)
SLN2 (4528)	.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)
SL3 (4528)	.453±.012 (11.5±0.3)	.276±.008 (7.0±0.2)	.098±.008 (2.5±0.2)	.197±.008 (5.0±0.2)	.067±.008 (1.7±0.2)	.102±.02 (2.6±0.5)
TSL1 (2512)	.248±.012 (6.3±0.3)	.122±.008 (3.1±0.2)	.039±.008 (1.0±0.2)	.094±.008 (2.4±0.2)	.028±.008 (0.7±0.2)	.047±.012 (1.2±0.3)

ordering information

New Part #	SL	1	T	TE	20L0	F
	Type	Size	Termination Material	Packaging	Nominal Resistance	Tolerance
	SL SLN SLZ TSL	07: 0.75W 1: 1W 2: 2W 3: 3W	T: Sn L: SnPb (SL1, SL2, SL3, SLZ, TSL only)	SL07, SL1, SLZ1, TSL- (TE: 7" embossed plastic) SL2, SLN2, SL3- TE: 10" embossed plastic For further information on packaging please refer to Appendix A	±2%, ±5%: 2 significant figures + 1 multiplier "R" indicates decimal on value <10Ω ±0.5%, ±1%: 3 significant figures + 1 multiplier "R" indicates decimal on value <100Ω All values less than 0.1Ω (100mΩ) are expressed in mΩ with "L" as decimal Example: 20mΩ, 1% = 20L0	D: ±0.5% F: ±1% G: ±2% J: ±5%

applications and ratings

Part Designation	Power Rating	T.C.R. (ppm/°C) Max.***	Resistance Range	Resistance Tolerance E-24*	Absolute Maximum Working Voltage	Absolute Maximum Overload Voltage	Operating Temperature Range
SL07	0.75W	0~200: R=<10mΩ 0~150: R=>11mΩ	5mΩ - 100mΩ	(F: ±1%) (J: ±5%)	—	—	-55°C to +180°C
SL1	1W	±180: R=<13mΩ ±100: R=>15mΩ	10mΩ - 1MΩ	(D: ±0.5%)	200V	400V	
			5mΩ - 1MΩ	(F: ±1%)			
			3mΩ, 4mΩ	(G: ±2%)			
			3mΩ ~ 22MΩ	(J: ±5%)			

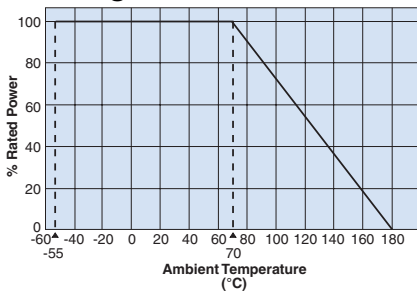
applications and ratings (continued)

Part Designation	Power Rating	T.C.R. (ppm/°C) Max.***	Resistance Range	Resistance Tolerance E-24*	Absolute Maximum Working Voltage	Absolute Maximum Overload Voltage	Operating Temperature Range
SL2	2W	±180: R<10mΩ ±100: R=>11mΩ	10mΩ - 1MΩ	(D: ±0.5%)	500V	1000V	-55°C to +180°C
			5mΩ ~ 1MΩ	(F: ±1%)			
			3mΩ, 4mΩ	(G: ±2%)			
			3mΩ - 22MΩ	(J: ±5%)			
SLN2	2W	±110: R<10mΩ ±75: R=>10mΩ	5mΩ - 200mΩ	(D: ±0.5%) (F: ±1%) (J: ±5%)	—	—	
SL3	3W	±180: R<10mΩ ±100: R=>11mΩ	10mΩ - 100mΩ	(D: ±0.5%)	—	—	
			5mΩ - 100mΩ	(F: ±1%) (J: ±5%)			
SLZ1**	—	4000 Max.	0.5mΩ Max.	—	—	—	
TSL1	1W	±180: R<13mΩ ±100: R=>15mΩ	10mΩ - 100mΩ	(D: ±0.5%)	—	—	
			5mΩ - 100mΩ	(F: ±1%) (J: ±5%)			

* 3m, 4m, 5m, 6m, 7m, 8m, 9m resistance values also available ** SLZ1: Current rating: 44A *** Please contact factory for T.C.R.: ±50ppm/°C

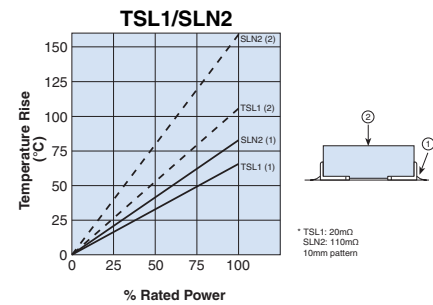
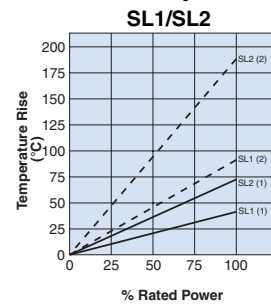
environmental applications

Derating Curve



For resistors operated at an ambient temperature of 70°C or above, a power rating shall be derated in accordance with the above derating curve.

Surface 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 ±%		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)	SL07, TSL1, SL1, SL2: ±1% SLN2: ±0.5%	SL07, TSL1, SL1, SL2: ±1% SLN2: ±0.25%	SL07: Rated power x 4 for 5 seconds, TSL1: Rated power x 2.5 for 5 seconds, SL1, SL2, SLN2: Rated power x 5 for 5 seconds,
Resistance to Solder Heat	SL07, TSL1, SL1, SL2: ±1%	SL07, TSL1, SL1, SL2: ±1%	260°C ± 5°C, 10 ± 1 second
	SLN2: ±0.5%	SLN2: ±0.5%	260°C ± 5°C, 10~12 seconds
Rapid Change of Temperature	SL07, TSL1, SL1, SL2: ±1%	SL07, TSL1, SL1, SL2: ±0.5%	-55°C (30 minutes), +150°C (30 minutes), 100 cycles
	SLN2: ±0.5%	SLN2: ±0.25%	-55°C (15 minutes), +150°C (15 minutes), 1000 cycles
Moisture Resistance	SL07, TSL1, SL1, SL2: ±2%	SL07, TSL1, SL1, SL2: ±0.5%	40°C ± 2°C, 90%~95%RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
	SLN2: ±0.5%	SLN2: ±0.25%	85°C ± 2°C, 85% ±3%RH, 1000 hours, Rated power x 0.1
Endurance at 70°C	SL07, TSL1, SL1, SL2: ±2% SLN2: ±1%	±0.5%	70°C ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
Low Temperature Exposure	±0.5%	±0.25%	SL07, TSL1, SL1, SL2: -55°C, 1 hour; SLN2: -65°C, 24 hours

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

12/17/12