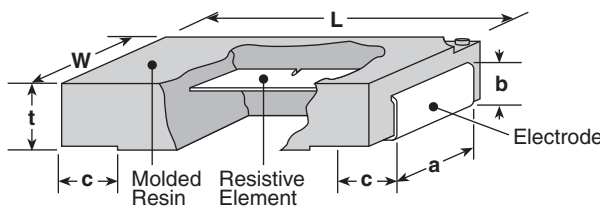


features

- 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/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)
SL1/SLW1, 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/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)
SLN2/SLN3 (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)
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	SL SLZ SLN TSL	Size & Power Ratings	Termination Material	Packaging	Nominal Resistance	Tolerance
		07: 0.75W W07: 1W* 1: 1W W1: 1.5W* 2: 2W 3: 3W*	T: Sn L: SnPb only SL1: 105mΩ ~ 22MΩ SL2: 365mΩ ~ 22MΩ	SL07, SLW1, SL1, SLZ1, TSL- (TE: 7" embossed plastic) SL2, SLN2, SLN3, SL3- TED: 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%

* Please ask us separately about Ratings and Performance

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
NEW SLW07	1W	0~200: R=<10mΩ 0~150: R=>11mΩ	5mΩ - 100mΩ	(F: ±1%) (J: ±5%)	—	—	
NEW 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%)			
NEW SLW1	1.5W	±180: R=<13mΩ ±100: R=>15mΩ	10mΩ - 100mΩ	(D: ±0.5%)	—	—	
			5mΩ - 100mΩ	(F: ±1%)			
			3mΩ, 4mΩ	(G: ±2%)			
			3mΩ ~ 100mΩ	(J: ±5%)			
SL2	2W	±180: R=<10mΩ ±100: R=>11mΩ	10mΩ - 200mΩ	(D: ±0.5%)	500V	1000V	
			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%) (G: ±2%) (J: ±5%)	—	—	
NEW SLN3	3W	±110: R<10mΩ ±75: R=>10mΩ	5mΩ - 110mΩ	(D: ±0.5%) (F: ±1%) (G: ±2%) (J: ±5%)	—	—	
SL3	3W	±180: R=<10mΩ ±100: R=>11mΩ	10mΩ - 100mΩ	(D: ±0.5%)	—	—	
			5mΩ - 100mΩ	(F: ±1%)			
			5mΩ - 100mΩ	(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%)			
			5mΩ - 100mΩ	(J: ±5%)			

* 3m, 4m, 5m, 6m, 7m, 8m, 9m also available inside resistance range

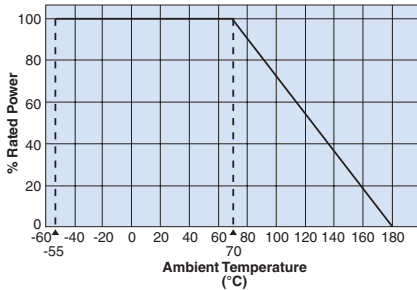
** SLZ1: Current rating: 44A

*** Please contact factory for T.C.R.: ±50ppm/°C and ±75ppm/°C

environmental applications

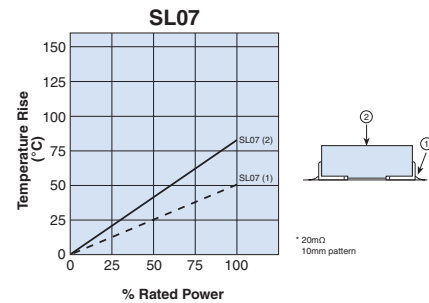
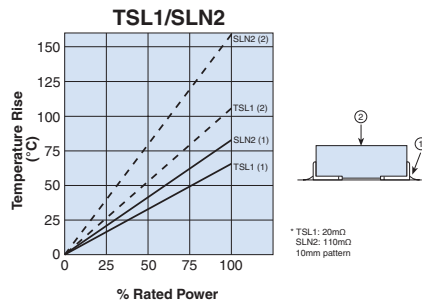
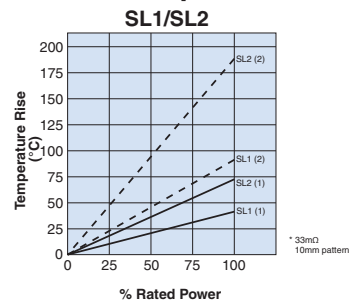
Derating Curve

(SL07, SL1, SL2, SLN2, TSL1)



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.
(Please ask separately us about Derating Curve for SLW07, SLW1, SL3, SLN3, SLZ1).

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 $\Delta R \pm\%$		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)	SL07, TSL1, SL1, SL2: $\pm 1\%$ SLN2: $\pm 0.5\%$	SL07, TSL1, SL1, SL2: $\pm 1\%$ SLN2: $\pm 0.25\%$	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: $\pm 1\%$	SL07, TSL1, SL1, SL2: $\pm 1\%$	260°C $\pm 5^\circ\text{C}$, 10 ± 1 second
	SLN2: $\pm 0.5\%$	SLN2: $\pm 0.5\%$	260°C $\pm 5^\circ\text{C}$, 10~12 seconds
Rapid Change of Temperature	SL07, TSL1, SL1, SL2: $\pm 1\%$	SL07, TSL1, SL1, SL2: $\pm 0.5\%$	-55°C (30 minutes), +150°C (30 minutes), 100 cycles
	SLN2: $\pm 0.5\%$	SLN2: $\pm 0.25\%$	-55°C (15 minutes), +150°C (15 minutes), 1000 cycles
Moisture Resistance	SL07, TSL1, SL1, SL2: $\pm 2\%$	SL07, TSL1, SL1, SL2: $\pm 0.5\%$	40°C $\pm 2^\circ\text{C}$, 90%~95%RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
	SLN2: $\pm 0.5\%$	SLN2: $\pm 0.25\%$	85°C $\pm 2^\circ\text{C}$, 85% $\pm 3\%$ RH, 1000 hours, Rated power x 0.1
Endurance at 70°C	SL07, TSL1, SL1, SL2: $\pm 2\%$ SLN2: $\pm 1\%$	$\pm 0.5\%$	70°C $\pm 2^\circ\text{C}$, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
Low Temperature Exposure	$\pm 0.5\%$	$\pm 0.25\%$	SL07, TSL1, SL1, SL2: -55°C, 1 hour; SLN2: -65°C, 24 hours

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