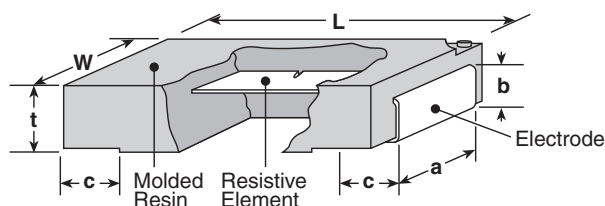


features

- Surface mount type
- Flameproof UL94V0 molded polymer case
- Excellent dimension accuracy, mountability and shock resistance
- Suitable for flow, reflow and hand soldering
- Low profile type available (TSL)
- Marking: Black body color with white marking
- Products with lead-free terminations meet RoHS requirements. Pb located in glass material, electrode and resistor element is exempt per Annex 1, exemption 5 of EU directive 2005/95/EC

dimensions and construction



Size Code	Dimensions inches (mm)					
	L	W	t	a	b	c
SL1	.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±.012 (1.2±0.3)	.047±.012 (1.2±0.3)
SL2	.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±.02 (1.7±0.5)	.102±.02 (2.6±0.5)
SLN2	.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	.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±.02 (1.7±0.5)	.102±.02 (2.6±0.5)
TSL1	.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 SLN TSL	Size	Termination Material	Packaging	Nominal Resistance	Tolerance
		1 Watt 2 Watt 3 Watt	T: Sn (Other termination styles may be available, please contact factory for options)	SL1, TSL- TE: 7" embossed plastic SL2, SLN2, SL3, SLN2- TED: 10" embossed plastic (TSL - 3,000 pieces/reel) (SL - 1,000 pieces/reel)	±5%: 2 significant figures + 1 multiplier "R" indicates decimal on value <10Ω ±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%

For further information on packaging, please refer to Appendix A.

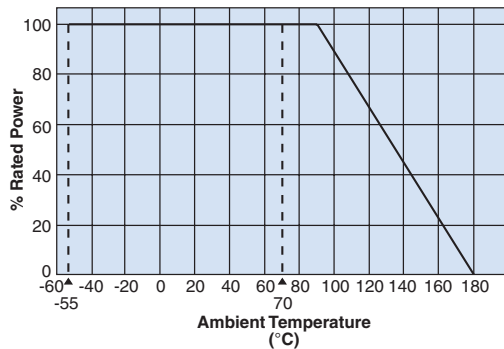
applications and ratings

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		
SL1	1W	±180: R=<13mΩ ±100: R=>15mΩ	10mΩ - 1MΩ	(D: ±0.5%)	200V	400V	-55°C to +180°C		
			5mΩ - 1MΩ	(F: ±1%)					
			3mΩ, 4mΩ	(G: ±2%)					
			3mΩ ~ 22MΩ	(J: ±5%)					
SL2	2W	±180: R=<10mΩ ±100: R=>11mΩ	10mΩ - 1MΩ	(D: ±0.5%)	500V	1000V			
			5mΩ ~ 1MΩ	(F: ±1%)					
			3mΩ, 4mΩ	(G: ±2%)					
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%)	$\sqrt{P \cdot R}$	$\sqrt{P \cdot R}$
						5mΩ - 100mΩ	(F: ±1%) (J: ±5%)		
TSL1	1W	±180: R=<13mΩ ±100: R=>15mΩ	10mΩ - 100mΩ	(D: ±0.5%)	$\sqrt{P \cdot R}$	$\sqrt{P \cdot R}$			
			5mΩ - 100mΩ	(F: ±1%) (J: ±5%)					

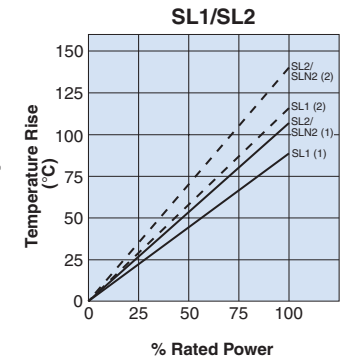
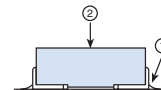
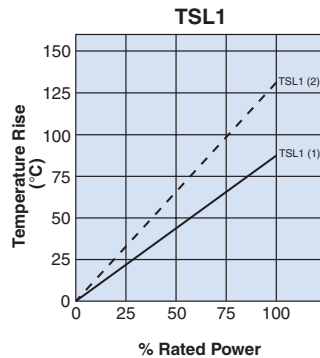
* 3m, 4m, 5m, 6m, 7m, 8m, 9m resistance values also available

environmental applications

Derating Curve



Surface Temperature Rise



Performance Characteristics

Parameter	Requirement	Test Method
Thermal Shock	±0.5%	MIL-STD-202, Method 107, -55°C to +125°C, 5 cycles
Low Temperature Operation	±0.5%	MIL-R-55342 π 4.7.4, 1 Hour @ -55°C followed by 45 minutes of RCWV*
Solderability	95% of the terminal should be covered with new solder	Immerse in solder at 230°C ± 5°C for 3 ± 0.5 seconds
Resistance to Solder Heat	±1.0% maximum	MIL-R-55342 π 4.7.7, 260°C for 10 seconds
Terminal Strength-Bend	±0.5%	2mm min. deflection in either direction for 10 seconds
Moisture Resistance	±2.0% maximum No evidence of damage	MIL-STD-202, Method 103, 40°C, 90 - 95% RH, 1000 hours
Life	±2.0% maximum No evidence of damage	MIL-STD-202, Method 108, 70°C, 1000 hours @ RCWV, 1.5 hr ON, 0.5 hr OFF
Pulse	±1.5%	SL-2.5 x RCWV, but not exceeding maximum overload voltage, 15 second ON, TSL1-5 x RCWV, but not exceeding maximum overload voltage, 5 second ON, 25 seconds OFF, 1,000 cycles
Temperature Cycling	±1.0% maximum No mechanical damage	30 minutes @ -55°C, 15 minutes @ +25°C, 30 minutes @ +125°C, 15 minutes @ +25°C, 5 cycles

* RCWV = Rated Continuous Working Voltage.

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

2/09/07