

four-terminal current sense resistor



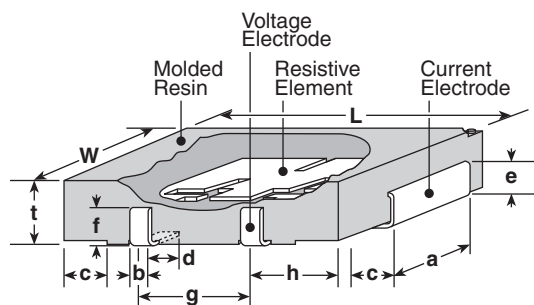
features

- Extremely low resistance and high precision tolerance
- Low T.C.R. achieved ($\pm 50\text{ppm}/^\circ\text{C}$)
- Flameproof UL94V0
- Marking: Black body color with white marking
- Products with lead-free terminations meet EU RoHS and China RoHS requirements



dimensions and construction

Size Code	Dimensions inches (mm)										
	L	W	t	a	b	c	d	e	f	g	h
CSR1	.425 $\pm$.02 (10.8 $\pm$ 0.5)	.244 $\pm$.012 (6.2 $\pm$ 0.3)	.083 $\pm$.008 (2.1 $\pm$ 0.2)	.118 $\pm$.012 (3.0 $\pm$ 0.3)	.031 $\pm$.008 (0.8 $\pm$ 0.2)	.055 $\pm$.02 (1.4 $\pm$ 0.5)	.047 $\pm$.02 (1.2 $\pm$ 0.5)	.051 $\pm$.012 (1.3 $\pm$ 0.3)	.051 $\pm$.012 (1.3 $\pm$ 0.3)	.197 $\pm$.004 (5.0 $\pm$ 0.1)	.098 $\pm$.004 (2.5 $\pm$ 0.1)
CSR2	.504 $\pm$.02 (12.8 $\pm$ 0.5)	.323 $\pm$.012 (8.2 $\pm$ 0.3)	.122 $\pm$.008 (3.1 $\pm$ 0.2)	.197 $\pm$.012 (5.0 $\pm$ 0.3)	.039 $\pm$.008 (1.0 $\pm$ 0.2)	.079 $\pm$.02 (2.0 $\pm$ 0.5)	.079 $\pm$.02 (2.0 $\pm$ 0.5)	.087 $\pm$.012 (2.2 $\pm$ 0.3)	.087 $\pm$.012 (2.2 $\pm$ 0.3)	.236 $\pm$.004 (6.0 $\pm$ 0.1)	.118 $\pm$.004 (3.0 $\pm$ 0.1)

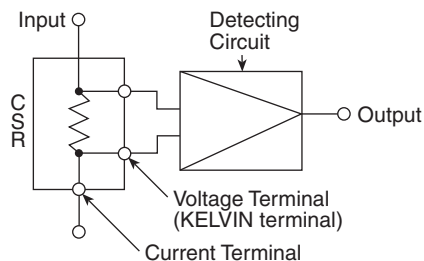


ordering information

New Part #	CSR	1	T	TE	10L0	F
Type		Power Rating	Termination Material	Packaging	Nominal Resistance	Tolerance
		1: 1W 2: 2W	T: Sn (Other termination styles may be available, please contact factory for options)	CSR1- TED: 10" embossed tape CSR2- TEB: 13" embossed plastic (CSR1: 10" 12mm pitch) (all sizes -1,000 pieces/reel)	In milliohms: 3 significant figures "L" indicates decimal point	D: $\pm 0.5\%$ F: $\pm 1\%$

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

typical circuit schematic

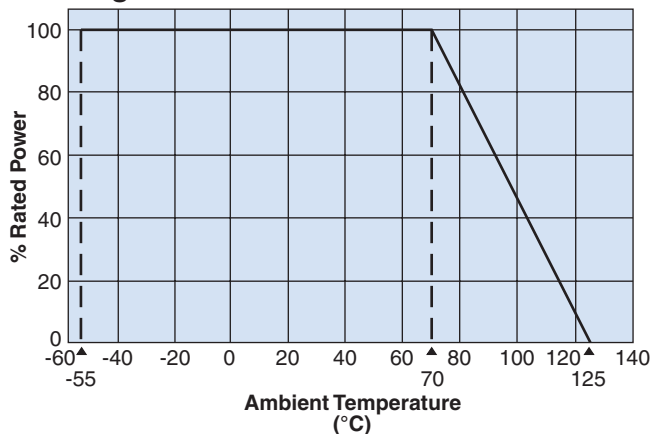


applications and ratings

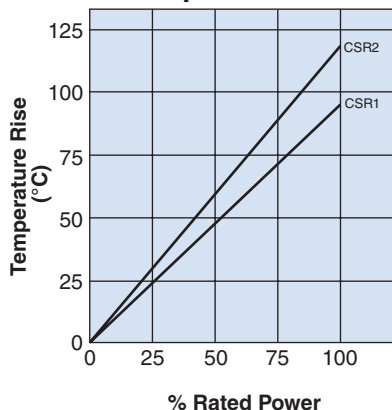
Part Designation	Power Rating	T.C.R. (ppm/°C) Max.	Resistance Range E-12	Resistance Tolerance	Dielectric Withstanding Voltage	Rated Ambient Temperature	Operating Temperature Range
CSR1	1W	±50	5mΩ - 50mΩ	D: ±0.5%, F: ±1%	500V	+70°C	-55°C to +125°C
CSR2	2W			F: ±1%			

environmental applications

Derating Curve



Surface Temperature Rise



Performance Characteristics

Parameter	Requirement ΔR		Test Method
	Limit	Typical	
Resistance	Within regulated tolerance	—	25°C
T.C.R.	Within specified T.C.R.	—	+25°C/+125°C
Overload	±1.0%	±1.0%	Rated power x 5 for 5 seconds
Resistance to Solder Heat	±1.0%	±1.0%	260°C ± 5°C, 10 seconds ± 1 second
Rapid Change of Temperature	±1.0%	±0.5%	-55°C (30 minutes), +125°C (30 minutes), 500 cycles
Moisture Resistance	±2.0%	±0.5%	40°C ± 2°C, 90 - 95% RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
Endurance at 70°C	±1.0%	±0.5%	70°C ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
Low Temperature Operation	±0.5%	±0.25%	-55°C, 1 hour
High Temperature Exposure	±0.5%	±0.25%	+125°C, 100 hours