PTC Thermistors, Inrush Current Limiters



RoHS COMPLIANT

FEATURES

- Short reset time
- High reliability and stability
- Compact and cost-effective solution
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

APPLICATIONS

- Limiting inrush current in the EV chargers, usually used to protect contractors in the chargers
- Temperature sensing
- Overcurrent protection
- Temperature compensation
- Motor starters
- Liquid level sensing
- Heating elements

DESCRIPTION

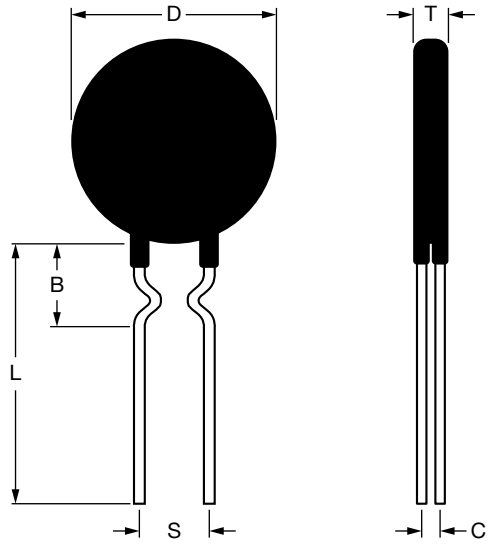
With its industry high voltage rating, Vishay Ametherm's inrush PTC thermistors can withstand hundreds of hits of maximum inrush current without degrading.

The device offers a short reset time, and as a PTC thermistor a quick reset will not result in a large inrush current, as its resistance is already at a high state. The result is extremely high reliability and stability in high voltage applications.

This solution provides designers with a more compact and cost-effective alternative to combining a power resistor, relay, and timer on one circuit to achieve the same functionality.

QUICK REFERENCE DATA		
PARAMETER	**VALUE**	**UNIT**
Resistance at 25 °C (R_{25})	47	Ω
Tolerance on R_{25} value	± 25	%
Switching temperature	130	°C
Maximum inrush current	20	A
Maximum voltage	1000	V_{DC}
Breakdown voltage	1200	V_{DC}
Operating temperature range	-50 to +150	°C
Min. switching current at 25 °C	0.22	A
Max. continuous current at 25 °C	0.11	A
Heat capacity	2.4	J/°C
Thermal time constant	65	s

MECHANICAL SPECIFICATIONS in millimeters



SYMBOL	MCL20500100A
B	8.0 ± 1.0
C	4.8 ± 0.5
D	22.0 max.
L	40.0 nom.
S	7.8 ± 1.0
T	7.0 ± 1.0
Lead diameter	1.0 ± 0.1

For technical questions, contact: ametherm@vishay.com

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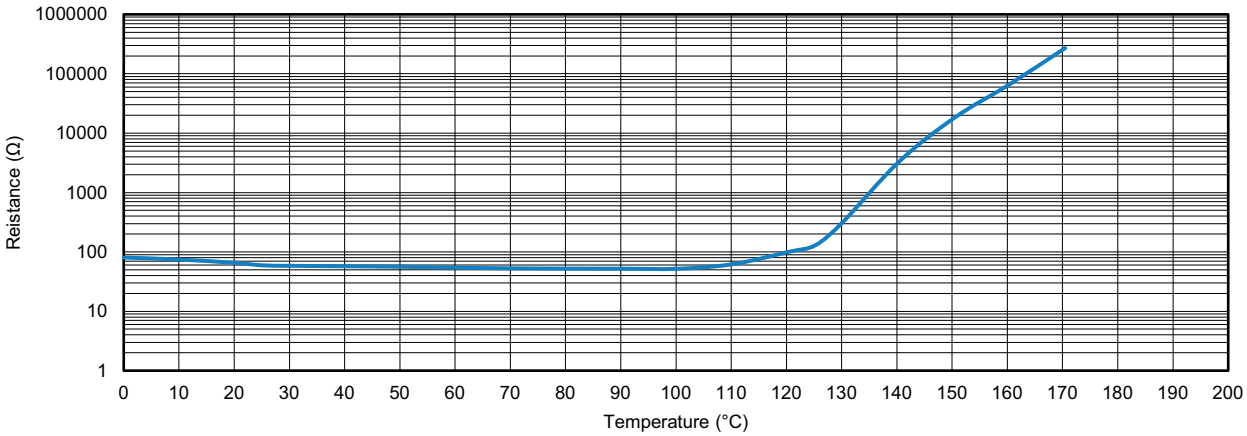


Fig. 1 - Resistance vs. Temperature

RESISTANCE VS. TEMPERATURE	
RESISTANCE (Ω)	**TEMPERATURE (°C)**
81.3	-40
72.6	-30
64.2	-20
58.2	-10
50.2	0
47.0	25
37.7	50
34.7	75
34.7	100
45.7	125
482.0	150
2570 000	175
23 340 000	200

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