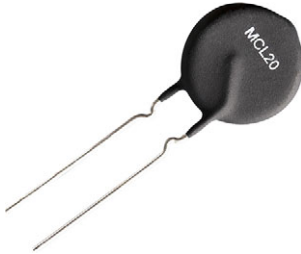


PTC Thermistors, Inrush Current Limiters



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	$^{\circ}\text{C}$
Maximum inrush current	20	A
Maximum voltage	1000	V_{DC}
Breakdown voltage	1200	V_{DC}
Operating temperature range	-50 to +150	$^{\circ}\text{C}$
Min. switching current at 25 °C	0.22	A
Max. continuous current at 25 °C	0.11	A
Heat capacity	2.4	$\text{J}/^{\circ}\text{C}$
Thermal time constant	65	s

FEATURES

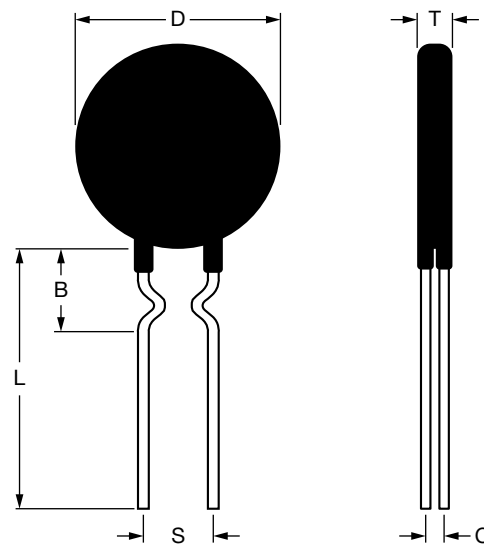
- Short reset time
- High reliability and stability
- Compact and cost-effective solution
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS
COMPLIANT

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

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

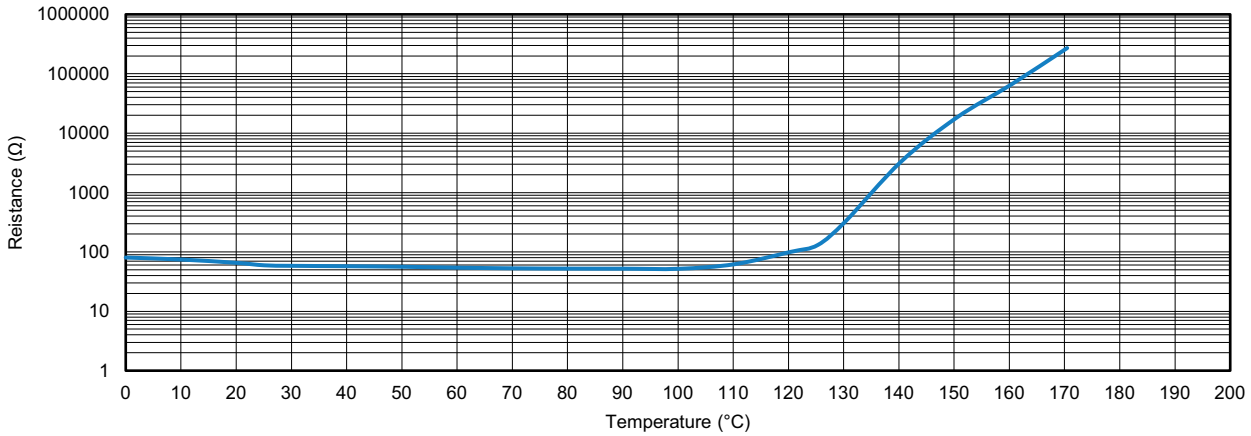


Fig. 1 - Resistance vs. Temperature

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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