600 V PTC Thermistors For Overload Protection

FEATURES AND BENEFITS

- Fast response time for rapid protection
- Automatic resetting once overload is removed
- Operates on DC or AC voltage
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC
- UL approved (E148885)

APPLICATIONS

- Over-Temperature/over-load protection for metering, low current signal protection, digital signal protection against over-voltage

DESCRIPTION

Test and measuring instruments, such as oscilloscopes and digital multimeters, can be easily damaged if excessive voltages are applied across their input terminals.

Simple and effective overload protection can be provided by connecting a high-voltage PTC thermistor in series with the instrument; see Typical connection of the PTC thermistor for digital multimeter protection drawing. Under normal conditions, the resistance of the PTC thermistor is low, so the test voltage will be measured by the instrument. Under an overload condition, the PTC thermistor will switch to its high-resistance state, absorbing the overload current and protecting the instrument. When the overload is removed, the PTC thermistor will return to its low-resistance state, ready to resume its protective function.

ELECTRICAL DATA AND ORDERING INFORMATION

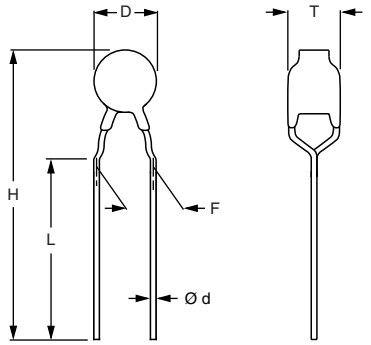
INT MAX. at 25 °C (mA)	IT MIN. at 25 °C (mA)	R_{25} (2)	MAXIMUM (1) VOLTAGE (V)	INSULATION VOLTAGE (V)	CATALOG NUMBER	
					12NC	SAP CODING
10	20	1600 ± 300	600	-	2381 660 93034	PTCCL05H100SBE
10	50	400 ± 100	600	> 1000	2381 661 93113	PTCCL10H010SBE

Note

(1) These PTCs can handle maximum voltage without series resistance

(2) Other resistance values and voltage levels on request

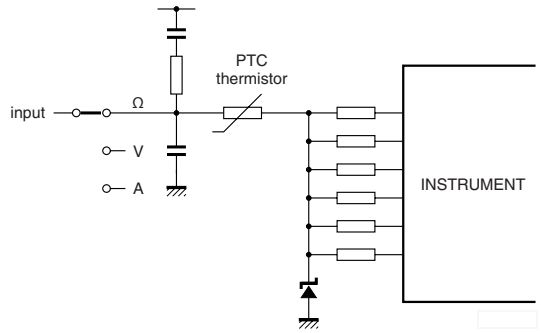
PTC THERMISTORS IN BULK



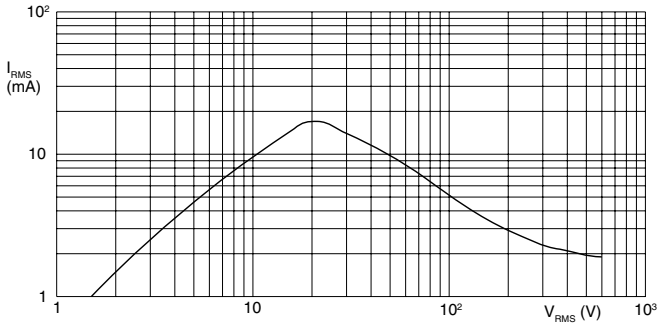
COMPONENT DIMENSIONS

H (mm)	L (mm)	D MAX. (mm)	T MAX. (mm)	F (mm)	Ø d (mm)	MASS (g)	SPQ	CATALOG NUMBER	
								12NC	SAP CODING
30 ± 3	20 ± 3	5	4.5	5.08	0.6	± 0.47	500	2381 660 93034	PTCCL05H100SBE
15.5 ± 1.5	3.1 ± 0.5	10	6.5	8.12	0.8	± 1.82	500	2381 661 93113	PTCCL10H010SBE

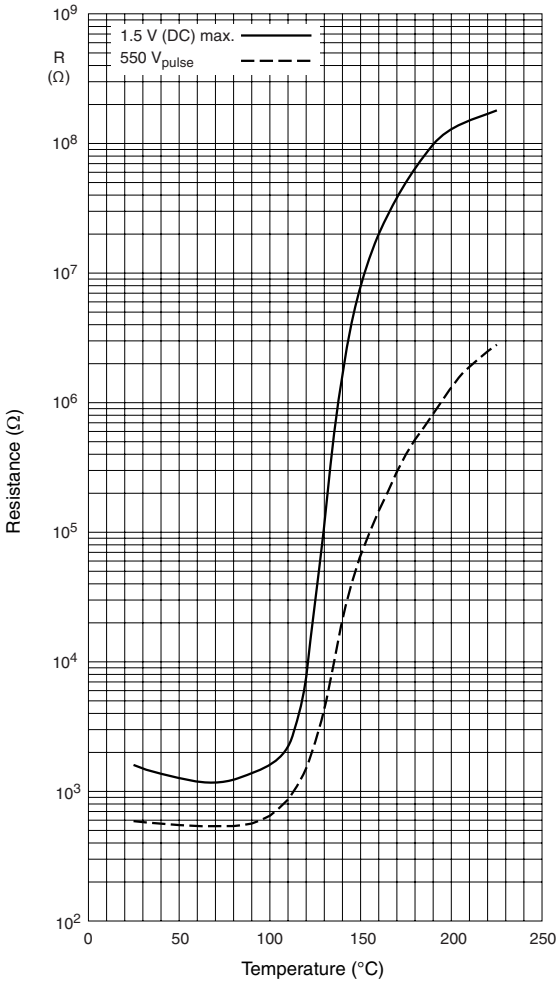
TYPICAL CONNECTION OF THE PTC THERMISTOR FOR DIGITAL MULTIMETER PROTECTION.



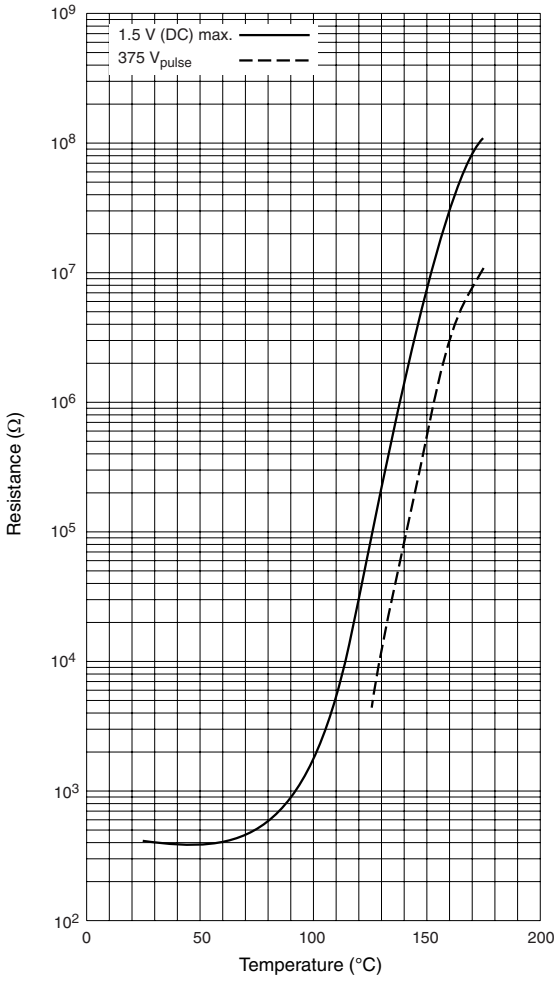
TYPICAL CURRENT/VOLTAGE CHARACTERISTIC for 2381 660 93034/PTCCL05H100SBE



TYPICAL RESISTANCE/TEMPERATURE CHARACTERISTIC for 2381 660 93034/PTCCL05H100SBE



TYPICAL RESISTANCE/TEMPERATURE CHARACTERISTIC for 2381 661 93113/PTCCL10H010SBE



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