PTC Thermistors, Mini Radial Leaded for Over-Temperature Protection



FEATURES

- Well-defined protection temperature levels
- Fast response time
- Accurate resistance for ease of circuit design
- Excellent long term behavior ($\Delta T \leq 1$ °C after 1000 h at T_n + 15 °C)
- Wide range of protection temperatures (80 °C to 150 °C)
- Small size and rugged
- Coated leaded (bare pellets available)
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

QUICK REFERENCE DATA

PARAMETER	VALUE	UNIT
Resistance at 25 °C (R_{25})	20 to 120	Ω
Nominal working temperature T_n	80 to 150	°C
Maximum voltage	30	V
Operating temperature range (1)	-40 to +165	°C
Dissipation factor	5	mW/K
Thermal time constant (still air)	6	s
Weight	≈ 0.12	g

Note

(1) Max operating temperature range is T_n +15 °C, indicated value is for T_n = 150 °C.

APPLICATIONS

Over-temperature protection and control in:

- Industrial electronics, motor drives, and lighting drivers
- Power supplies, converters, and heat-sink
- Motor protection

DESCRIPTION

These PTC sensing thermistors consist of a medium resistivity doped barium titanate ceramic with copper clad steel wires lead (Pb)-free soldered to the Ag metalized pellet. A high temperature silicone coating covers the sensing body and has a temperature marking character.

PACKAGING

PTC thermistors are available in 500 pieces bulk packed or 2000 pieces tape on reel.

NOMINAL WORKING TEMPERATURES AND ORDERING INFORMATION

NOMINAL WORKING TEMPERATURE	VISHAY SAP ORDERING NUMBER		
T_n (°C)	BULK	TAPE AND REEL	MARKING CODE
80	PTCSL03T081DB1E	PTCSL03T081DT1E	8
90	PTCSL03T091DB1E	PTCSL03T091DT1E	9
100	PTCSL03T101DB1E	PTCSL03T101DT1E	0
110	PTCSL03T111DB1E	PTCSL03T111DT1E	1
120	PTCSL03T121DB1E	PTCSL03T121DT1E	2
130	PTCSL03T131DB1E	PTCSL03T131DT1E	3
140	PTCSL03T141DB1E	PTCSL03T141DT1E	4
150	PTCSL03T151DB1E	PTCSL03T151DT1E	5

Note

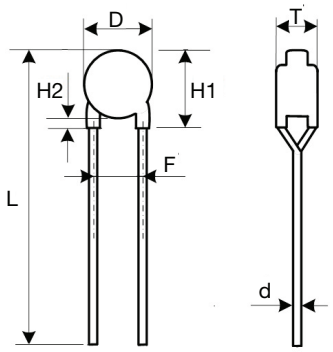
- 2E pitch version in bulk or tape and reel available on request.

For technical questions, contact: nlr@vishay.com

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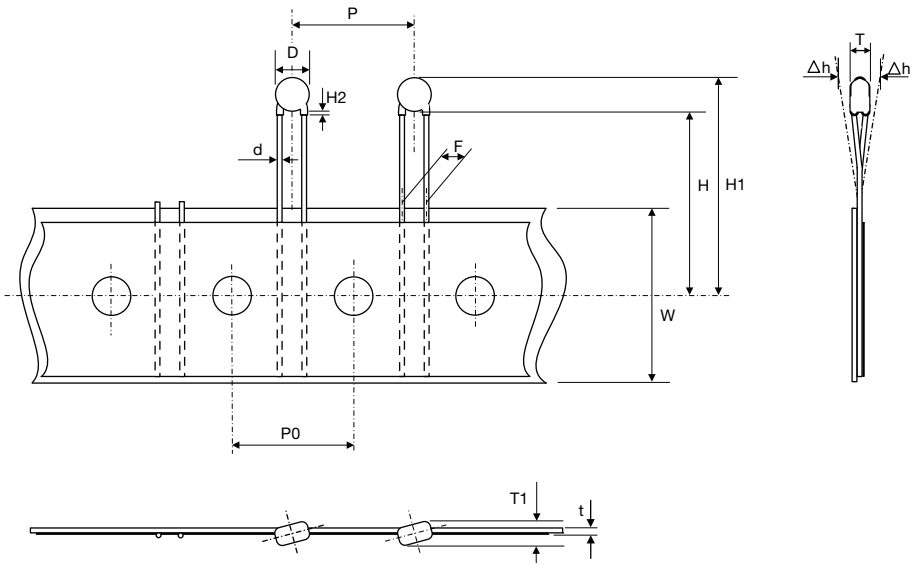
ELECTRICAL CHARACTERISTICS		
PARAMETER	**VALUES**	**UNIT**
Resistance at 25 °C	20 to 120	Ω
Maximum resistance between -20 °C and (T_n - 20) °C	250	Ω
Maximum resistance at -40 °C	300	Ω
Maximum resistance at (T_n - 5) °C	550	Ω
Minimum resistance at (T_n + 5) °C	1330	Ω
Minimum resistance at (T_n + 15) °C	4000	Ω
Maximum voltage	30	V (AC or DC)

DIMENSIONS in millimeters



COMPONENT DIMENSIONS in millimeters	
D	4.0 max.
H1	7.0 max.
H2	3 max.
d	0.5 ± 0.05
L	30 ± 3
F	2.5
T	3.0 max.

TAPING DATA DIMENSIONS in millimeters (based on IEC 60286-2)		
D	Body Diameter	4.0 max.
d	Lead Diameter	0.5 ± 0.05
F	Lead to lead center distance	2.5 + 0.5 / - 0.2
H	Component seating plane to tape-center	18.0 + 2.0
H1	Component top to tape-center	25 max.
Δh	Component alignment	0 ± 2
P, P0	Component pitch, sprocket hole pitch	12.7
T	Total thickness	3.0 max.
T1	Total thickness in line of tape	3.5 max.
W	Tape width	18 + 1.0 / - 0.5

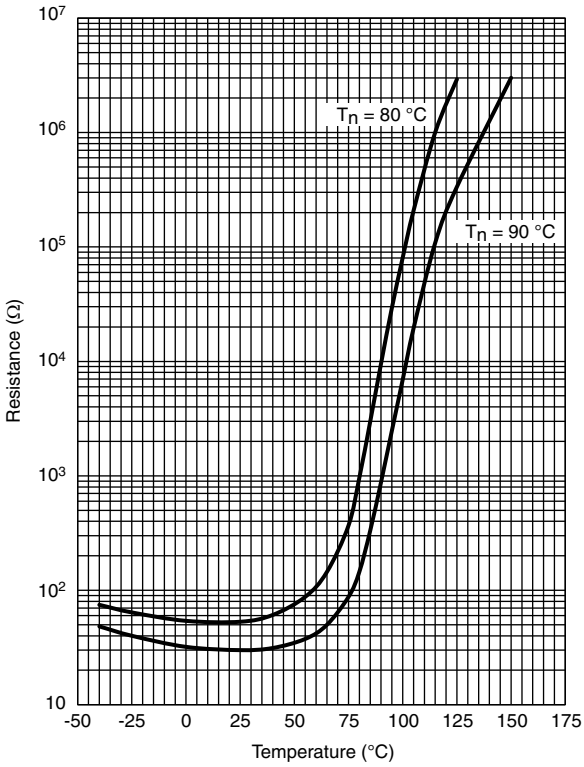


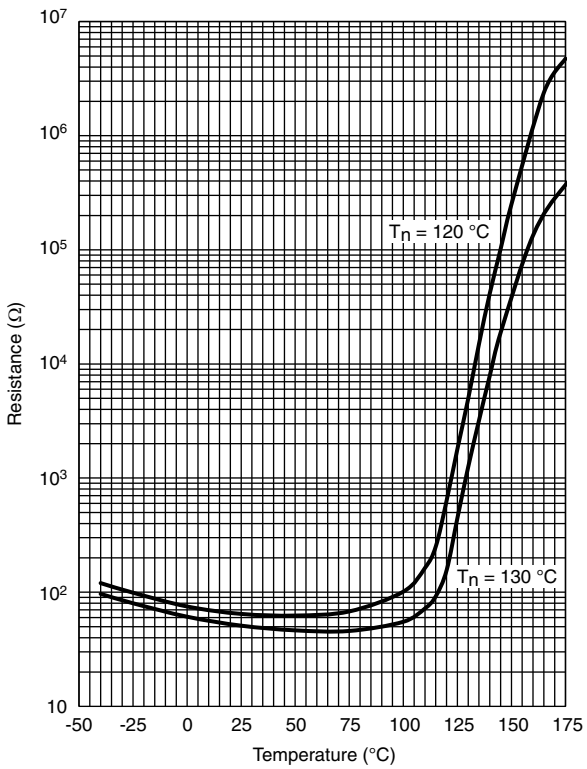
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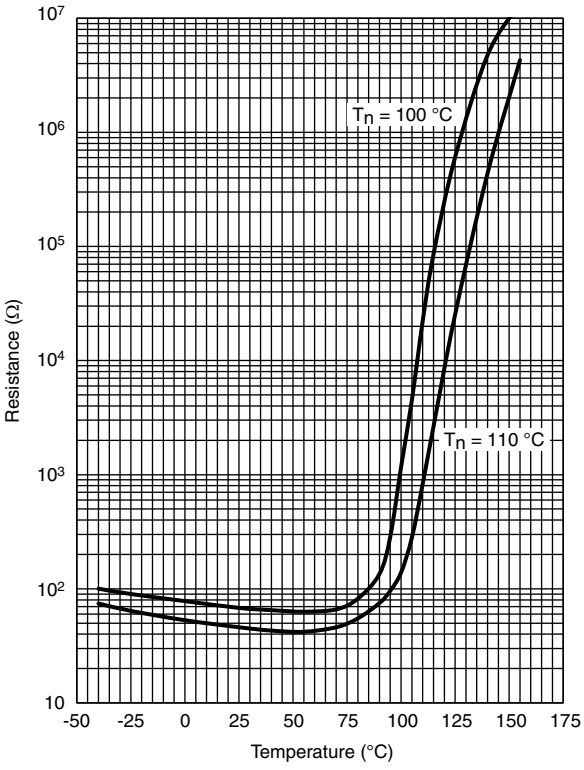
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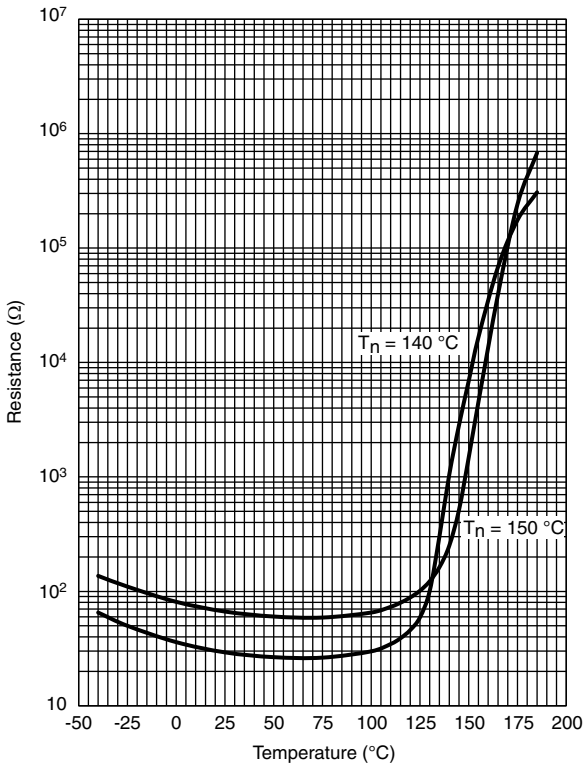
RESISTANCE vs. TEMPERATURE

Typical ($\leq 5\ V_{DC}$)









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