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

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.

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
Max. 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.

NOMINAL WORKING TEMPERATURES AND ORDERING INFORMATION

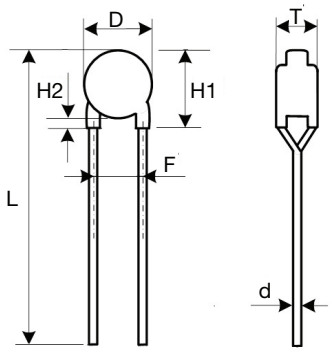
NOMINAL WORKING TEMPERATURE	VISHAY SAP ORDERING NUMBER		
T_n (°C)	BULK	TAPE AND REEL	MARKING CODE
80	PTCSL03T081DB1E	PTCSL03T081DT1E	8
90	PTCSL03T091DB1E	PTCSL03T091DT1E	9
100	PTCSL03T101DB1E	PTCSL03T101DT1E	0
110	PTCSL03T111DB1E	PTCSL03T111DT1E	1
120	PTCSL03T121DB1E	PTCSL03T121DT1E	2
130	PTCSL03T131DB1E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

Note

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

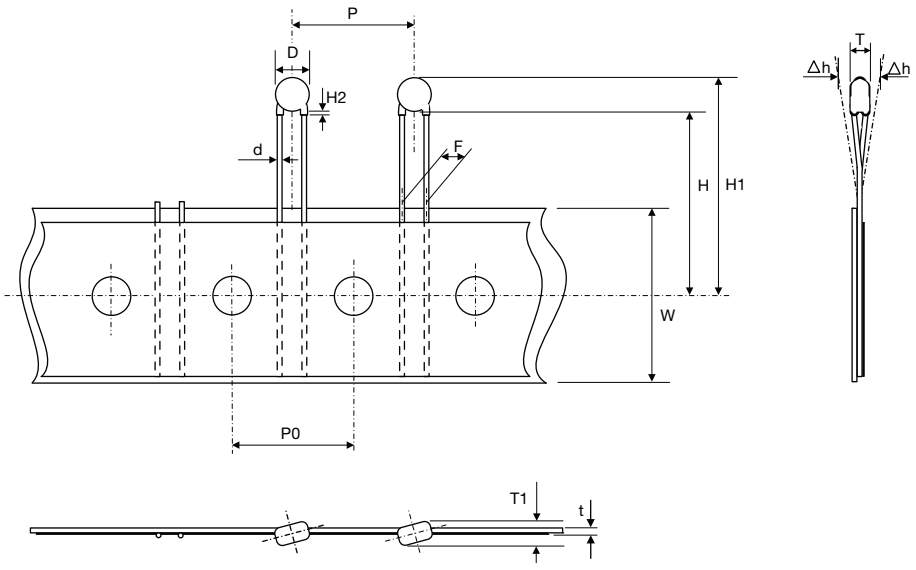
ELECTRICAL CHARACTERISTICS		
PARAMETER	**VALUES**	**UNIT**
Resistance at 25 °C	20 to 120	Ω
Maximum resistance between -20 °C and (T_n - 20) °C	250	Ω
Maximum resistance at -40 °C	300	Ω
Maximum resistance at (T_n - 5) °C	550	Ω
Minimum resistance at (T_n + 5) °C	1330	Ω
Minimum resistance at (T_n + 15) °C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

DIMENSIONS in millimeters



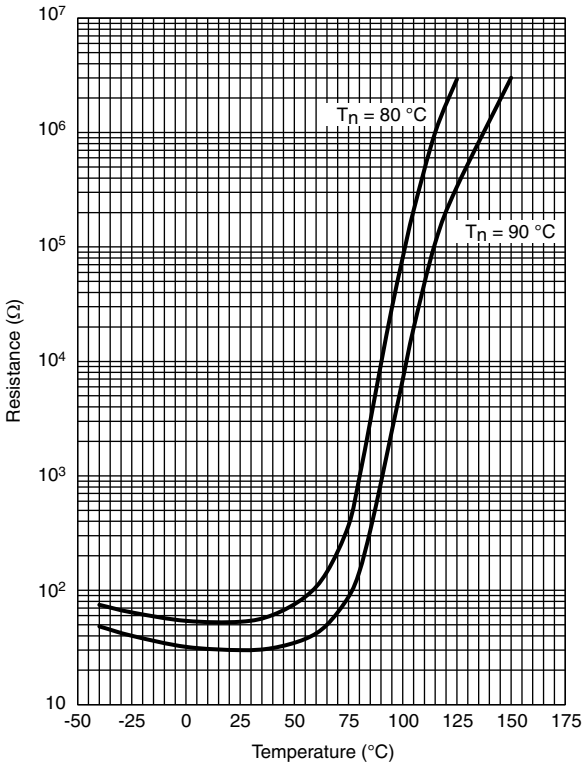
COMPONENT DIMENSIONS in millimeters	
D	4.0 max.
H1	7.0 max.
H2	3 max.
d	0.5 ± 0.05
L	30 ± 3
F	2.5
T	3.0 max.

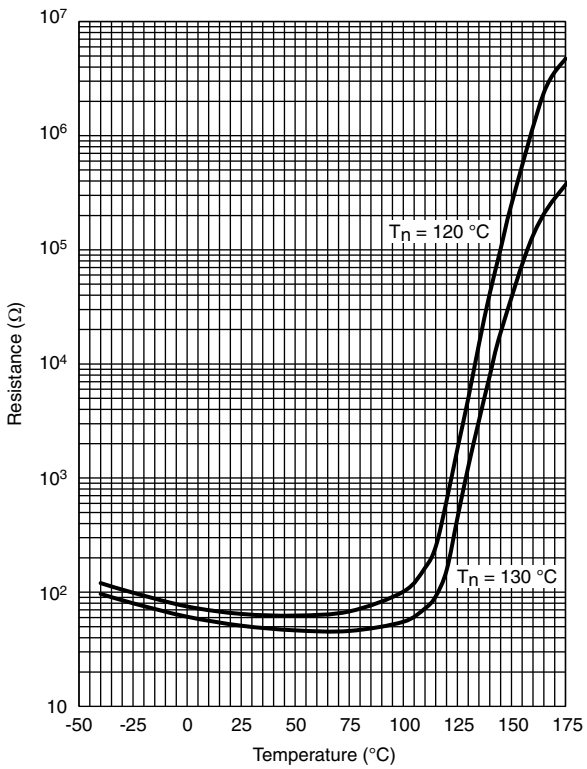
TAPING DATA DIMENSIONS in millimeters (based on IEC 60286-2)		
D	Body Diameter	4.0 max.
d	Lead Diameter	0.5 ± 0.05
F	Lead to lead center distance	2.5 + 0.5 / - 0.2
H	Component seating plane to tape-center	18.0 + 2.0
H1	Component top to tape-center	25 max.
Δh	Component alignment	0 ± 2
P, P0	Component 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

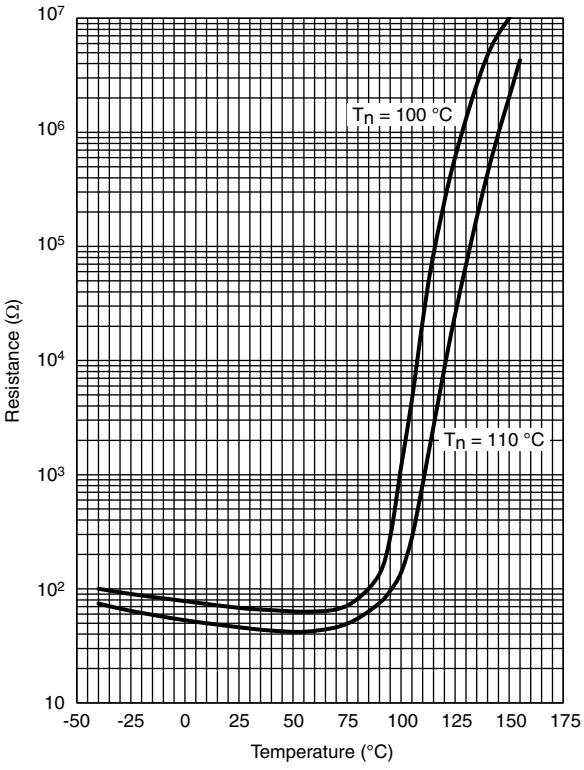


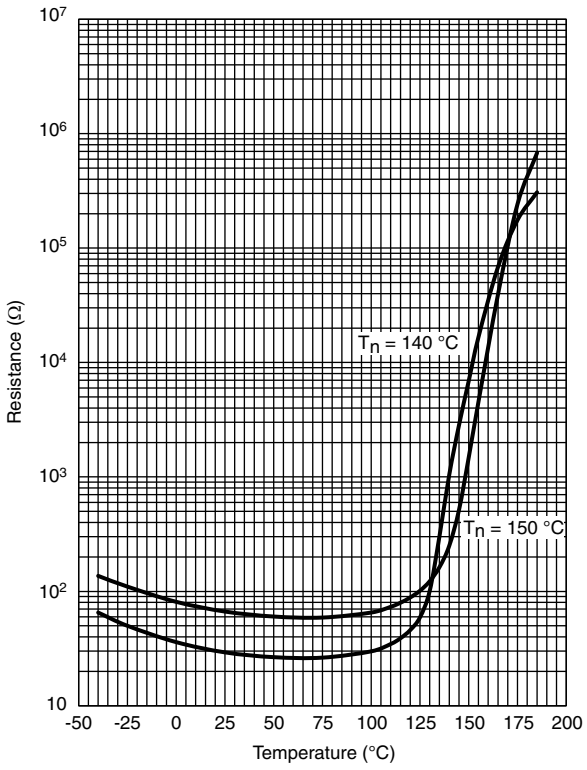
RESISTANCE vs. TEMPERATURE

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









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