NTC Thermistor, Epoxy Coated Mini Sensor



FEATURES

- Advanced NTC technology
- Temperature range from -55 °C to +150 °C
- Highly resistant to thermal shocks
- Small body diameter of max. 2.5 mm
- Fast response time
- High sensitivity
- Delivery in bulk or in tape with extra long leads (for automatic mounting)
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free

e3

RoHS COMPLIANT

QUICK REFERENCE DATA		
PARAMETER	VALUE	UNIT
Resistance value at 25 °C	2.1K to 100K	Ω
Tolerance on R_{25}-value	± 1 to ± 5	%
$B_{25/85}$-value	3511 to 4190	K
Tolerance on $B_{25/85}$-value	± 0.5 to ± 1.5	%
Operating temperature range	-55 to +150	°C
Response time (63.2 %) 25 °C to 85 °C still air (for info)	5	s
Dissipation factor δ in still air (for info)	1.8	mW
Maximum power dissipation	100	mW
Min. dielectric withstanding voltage between terminals and coated body	500	V_{AC}
Insulation resistance at 100 V_{DC}	> 10M	Ω
Weight	approx. 100	mg

APPLICATIONS

Temperature sensing, control and compensation.
E.g. inlet air temperature sensing thermistors or ECT in automotive applications, sensor elements in industrial and commercial applications, heating systems and industrial systems.

MOUNTING

The thermistors are suitable for all standard assembly processes like crimping, soldering, welding. The parameters of the assembly process should be chosen in accordance with the lead-wire material (tinned nickel) and validated in application.
The mounting process should be in compliance with the following guidelines and recommendations:

- Peeling forces on the leads should be reduced to a minimum and should never exceed 3 N
- Avoid large temperature gradients between the welding region and the sensor

PACKAGING

- Bulk components are delivered in boxes of 500 components
- Taped components are delivered on a reel of 1500 components (according to IEC 60286-2 but with extra long leads: H0 = 32 mm)

DESIGN IN SUPPORT

R(T) tables spreadsheet available on request at nlr@vishay.com or to download at:
www.vishay.com/resistors-non-linear/curve-computation-list

ELECTRICAL DATA AND ORDERING INFORMATION					
VISHAY SAP ORDERING NUMBER (1)	R_{25}-VALUE (kΩ)	R_{25}-TOL. (%)	$B_{25/85}$-VALUE (K)	$B_{25/85}$-TOL. (%)	COLOR DOT (see next page)
NTCLE213E3212xMyy	2.1	1, 2, 3, 5	3511	1	Orange
NTCLE213E3103xLyy	10	1, 2, 3, 5	3435	1	Red
NTCLE213E3103xHyy	10	1, 2, 3, 5	3984	0.5	Blue
NTCLE213E3123xMyy	12	1, 2, 3, 5	3740	1	Black
NTCLE213E3303xHyy	30	1, 2, 3, 5	3935	0.75	Green
NTCLE213E3104xXyy	100	1, 2, 3, 5	4190	1.5	Brown

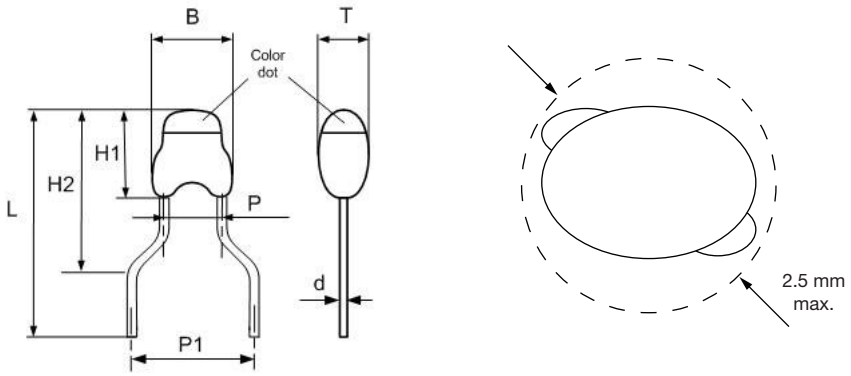
Note

(1) Replace the x-digit by J for R_{25}-tolerance of 5 %, H for 3 %, G for 2 %, and F for 1 %.
Replace the y-digits by B0 for bulk delivery and by T1 for tape and reel delivery.

For technical questions, contact: nlr@vishay.com

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DIMENSIONS in millimeters



PARAMETER	VALUE
B	2.5 max.
T	2.5 max.
P	1.1 nominal
P1	2.54
d	0.4 ± 10 %
H1	5.5 max.
H2	10 max.
L	41 ± 1

Note

- Non-dimensioned details do not affect the performance of the thermistors.

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