

### Vishay BCcomponents

### **NTC Thermistor, Epoxy Coated Mini Sensor**



QUICK REFERENCE DATA					
PARAMETER	VALUE	UNIT			
Resistance value at 25 °C	2.1K to 100K Ω				
Tolerance on R <sub>25</sub> -value	± 1 to ± 5	%			
B <sub>25/85</sub> -value	3511 to 4190	K			
Tolerance on B <sub>25/85</sub> -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 $\delta$ in still air (for info)	1.8	mW			
Maximum power dissipation	100	mW			
Min. dielectric withstanding voltage between terminals and coated body	500	V <sub>AC</sub>			
Insulation resistance at 100 V <sub>DC</sub>	> 10M Ω				
Weight	approx. 100	mg			

#### **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 <a href="https://www.vishav.com/doc?99912"><u>www.vishav.com/doc?99912</u></a>





## COMPLIANT

#### **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 a <a href="mailto:nlr@vishav.com">nlr@vishav.com</a> or to download at:

www.vishay.com/resistors-non-linear/curve-computation-list

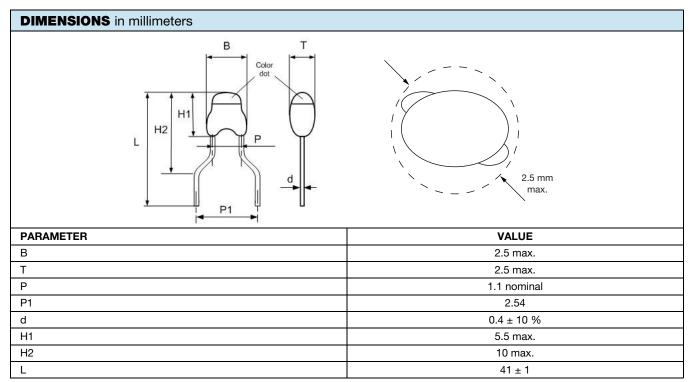
ELECTRICAL DATA AND ORDERING INFORMATION						
VISHAY SAP ORDERING NUMBER (1)	$R_{25}$ -VALUE (kΩ)	R <sub>25</sub> -TOL. (%)	B <sub>25/85</sub> -VALUE (K)	B <sub>25/85</sub> -TOL. (%)	COLOR DOT (see next page)	
NTCLE213E3212xMyy	2.1	1, 2, 3, 5	3511	1	Orange	
NTCLE213E3103xLyy	10	1, 2, 3, 5	3435	1	Red	
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

<sup>1)</sup> Replace the x-digit by J for R<sub>25</sub>-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.



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#### Note

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



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