SMD 0201, Commercial Grade NTC Thermistors

LINKS TO ADDITIONAL RESOURCES

Design Tools | Calculators | SPICE Models

QUICK REFERENCE DATA		
PARAMETER	VALUE	UNIT
Resistance value at 25 °C	10K to 100K	Ω
Tolerance on R_{25}-value	± 1	%
$B_{25/85}$-value	3435 to 4311	K
Tolerance on $B_{25/85}$-value	3	%
Maximum power dissipation at 25 °C P_{max25}	70	mW
Thermal time constant τ	< 3	s
Dissipation factor D	1	mW/K
Operating temperature range at zero power (1)	-40 to +125	°C
Storage temperature range	-40 to +125	°C
Weight	0.16	mg

Note

(1) Zero power is considered as measuring power maximum 1 % of P_{max25}

AGENCY APPROVALS

Agency approval documents, please see:
www.vishay.com/ppg?29238&documents

DESIGN-IN SUPPORT

For complete curve computation, please visit:
www.vishay.com/thermistors/ntc-rt-calculator/

FEATURES

- TCR ranging from -6.5 %/K at -40 °C to -2 %/K at 125 °C
- Tolerance on R_{25} of ± 1 %
- Suitable for wave or reflow soldering
- NiSn terminations
- cULus recognized, file E148885 (UL category XGPU2 / XGPU8)
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb e3 RoHS COMPLIANT HALOGEN FREE

APPLICATIONS

- Temperature sensing, protection and compensation in industrial, telecom and consumer applications.

  Examples are:

  - Battery chargers
  - Power supplies
  - Office equipment
  - LED compensation

  This series is not recommended for automotive applications.

DESCRIPTION

Size 0201 (M0603) SMD chip thermistor with negative temperature coefficient (TCR) and matte tin (Sn) plated terminations. The device has no marking.

PACKAGING

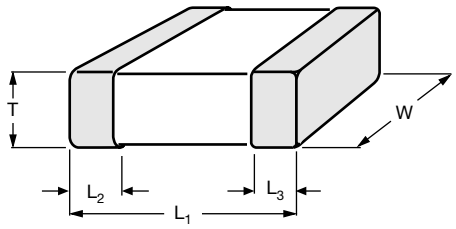
Available in 8 mm punched paper tape on reel package of 15 000 units.

CAUTIONS AND WARNINGS ON MOUNTING AND HANDLING

Please read the special instructions:
see www.vishay.com/doc?29224.

ELECTRICAL DATA AND ORDERING INFORMATION				
R_{25} (Ω)	R_{25}-TOL. (± %)	$B_{25/85}$ (K)	$B_{25/85}$-TOL. (± %)	SAP MATERIAL AND ORDERING NUMBER
10 000	1	3435	3	NTCSC0201E3103FLHT
22 000	1	3414	3	NTCSC0201E3223FLHT
47 000	1	4108	3	NTCSC0201E3473FXHT
100 000	1	4311	3	NTCSC0201E3104FXHT

DIMENSIONS in millimeters



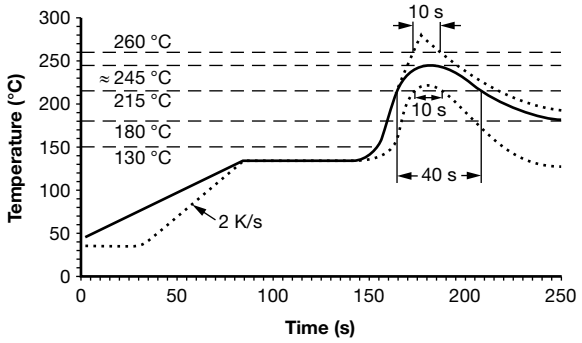
L_1	W	T	L_2 AND L_3
0.6 ± 0.05	0.3 ± 0.05	0.3 ± 0.05	0.15 ± 0.05

SOLDERING CONDITIONS

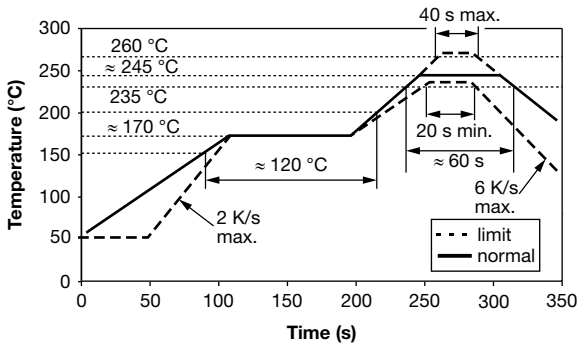
Soldering, handling, and mounting conditions are detailed in the instructions document: see www.vishay.com/doc?29224.

Typical examples of soldering processes that will provide reliable joints without damage, are shown below.

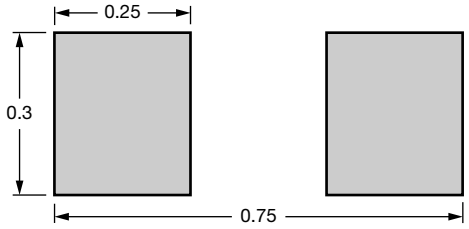
Reflow Soldering



Lead (Pb)-free Reflow Soldering Profile



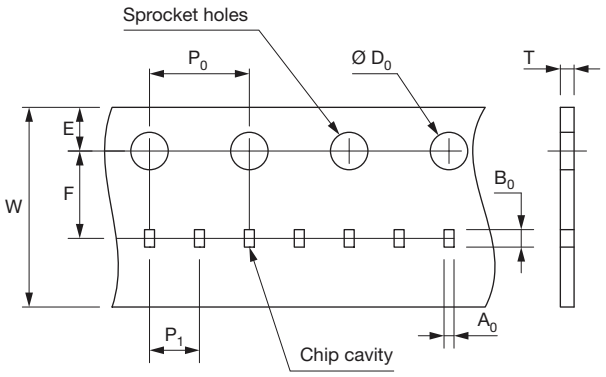
Recommended solder land pattern dimensions (mm)



PACKAGING

TAPE SPECIFICATIONS

All tape specifications are in accordance with IEC 60286-3. Basic dimensions are given below. Carrier tape material is paper.



DIMENSIONS OF PAPER TAPE in millimeters	
PARAMETER	**DIMENSION**
A_0 (1)	0.4 ± 0.1
B_0 (1)	0.7 ± 0.1
W	0.8 ± 0.3
E	1.75 ± 0.1
F	3.5 ± 0.05
D_0	1.55 ± 0.05
P_0 (2)	4.0 ± 0.05
P_1	2.0 ± 0.05
T tape thickness max.	0.55

Notes

(1) Measured 0.3 mm above base pocket

(2) P_0 pitch cumulative error over any 10 pitches ± 0.2 mm

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