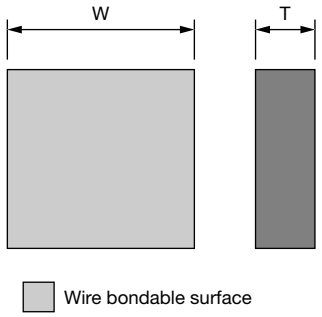
Leadless NTC Thermistor Die Suitable for Wire Bonding

QUICK REFERENCE DATA

PARAMETER	VALUE	UNIT
Resistance value at 25 °C	4.7K to 20K	Ω
Tolerance on R_{25}-value	± 1 to ± 5	%
$B_{25/85}$-value	3435 to 3865	K
Tolerance on $B_{25/85}$-value	± 1	%
Operating temperature range	-55 to +175	°C
Response time (63.2 %) 25 °C to 85 °C still air (for info)	3	s
Dissipation factor δ in still air (for info, non-mounted die)	3	mW
Maximum power dissipation	50	mW
Weight	3	mg

DIMENSIONS in millimeters



PARAMETER	VALUE
W	2 ± 0.1
T	0.7 max.

Note

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

FEATURES

- Flat chip contacted top and bottom (gold: NTCC300E4 series or silver: NTCC200E4 series)
- Wide temperature range from -55 °C to +175 °C
- Highly resistant to thermal shocks
- Ideal for wire bonding (aluminum or gold depending on metallization type)
- Resistance to leaching
- Delivered on blister tape
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free

e4

RoHS COMPLIANT

APPLICATIONS

- High temperature sensing, control and compensation. E.g. IGBT modules (inverters in EV and HEV vehicles)
- IC and semiconductor protecting
- DC/AC power inverters and HIC overheat protecting

MOUNTING

The thermistors are primarily intended for wire bonding. The parameters of the assembly process should be chosen in accordance with the lead-wire material.
The mounting process should be in compliance with the following guidelines and recommendations:

Die bonding:

- Gold electrode: silver epoxy gluing.
- Silver electrode: (vacuum) reflow soldering - silver epoxy gluing - nano silver sintering.

Cleaning:

- Detergent spraying.
- Ultrasonic cleaning is not recommended.

Wire bonding:

- The gold electrode has been tested for gold wire bonding with a wire diameter of max. 32 µm.
- The silver electrode has been tested for aluminium wire bonding with a wire diameter of max. 300 µm.

Encapsulation:

- In order to preserve the characteristics of the bonded die at long term an encapsulation is mandatory.
- The encapsulation is defined by the user. Silicon and epoxy encapsulations have been tested. For recommendations on compatible encapsulants contact Vishay.

ELECTRICAL DATA AND ORDERING INFORMATION

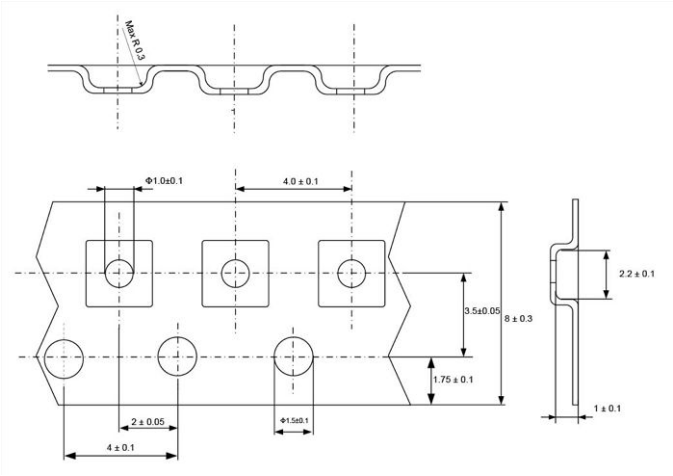
VISHAY SAP ORDERING NUMBER (1)	R_{25}-VALUE (kΩ)	ΔR_{25}-VALUE (%)	$B_{25/85}$-VALUE (K)	$B_{25/85}$-TOL. (%)	DESCRIPTION
NTCC200E4472*T	4.7	1, 2, 3, 5	3435	1	Bare die with top /bottom silver terminations
NTCC200E4123*T	12	1, 2, 3, 5	3740	1	Bare die with top /bottom silver terminations
NTCC200E4203*T	20	1, 2, 3, 5	3865	1	Bare die with top /bottom silver terminations
NTCC300E4472*T	4.7	1, 2, 3, 5	3435	1	Bare die with top /bottom gold terminations
NTCC300E4123*T	12	1, 2, 3, 5	3740	1	Bare die with top /bottom gold terminations
NTCC300E4203*T	20	1, 2, 3, 5	3865	1	Bare die with top /bottom gold terminations

Note

(1) In order to define R_{25}-tolerance, replace * in SAP part number by F (± 1 %) , G (± 2 %) , H (± 3 %) of J (± 5 %).

PACKAGING INFORMATION

The components are delivered on 8mm embossed blister tape (conductive PS) conforming to EIA-481 and IEC 60286-3, with 2000 parts per reel.



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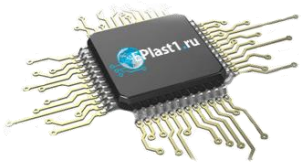
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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