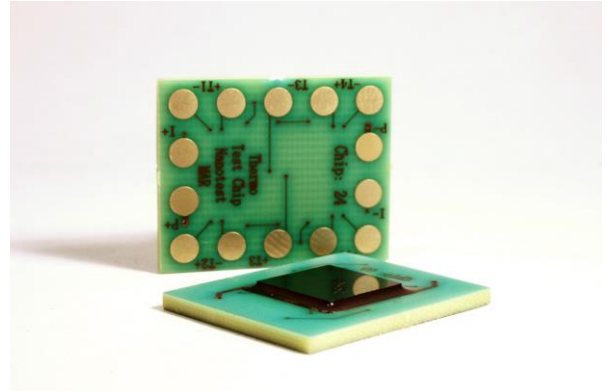


Description

The NT16-3k Thermotest Chip is designed as a modular system to provide the maximum flexibility for thermal characterization and qualification of materials, packages and systems.

The NT16-TTV5 Thermotest Vehicle is a minimalistic and TTV based on a 3 x 3 matrix of NT16-3k cells. For convenient use the full area of the chip surface is covered with a single uniform heater and the chip features five temperature sensors to observe the temperature distribution precisely and in-situ.

The package is assembled in flip chip technology on an FR4 PCB substrate with large-area contact pads on the backside to allow easy contacting and provide maximum robustness and reliability.



Technical Specification

General Information

Chip type	NT16-3k-FC
Chip configuration	3 x 3 matrix
Packaging technology	Flip chip technology
PCB substrate	FR4
Chip substrate	Silicon, undoped
Chip surface	Silicon, untreated
Package size	25 x 20 x 2.38 mm ³

Heater

Heater type	Resistor	
Heaters per chip	1	
Electrical resistance	15.5 ± 0.5	Ω
Max voltage	48	V
Max current	3	A
Max power	140 *	W
Max operating temperature	125	°C

Sensor

Sensor type	Meander-structured resistor	
Sensor count	5	
Resistance value at RT	3.3 ± 0.1	kΩ
Sensitivity	8	Ω/K
Max lateral extent	870	μm

Pad configuration

Connection	Pin label	Pin #
Heater	P +	06
	P -	13
Sensing current	I +	05
	I -	12
Corner sensor T1	T1 +	03
	T1 -	04
Corner sensor T2	T2 +	07
	T2 -	08
Center sensor T3	T3 +	09
	T3 -	02
Corner sensor T4	T4 +	01
	T4 -	00
Corner sensor T5	T5 +	11
	T5 -	10

* To achieve maximum heating power a proper cooling has to be installed to prevent overheating.

