SENSIRION

SHT3x Thermal Resistance Parameters Information

Abstract

The following note presents thermal resistance parameters of the SHT3x sensors. Results have been obtained through simulation.

Contents

1 Thermal Resistance Parameters

Symbol	Description	Heater off, die pad soldered [K/W]	Heater on, die pad soldered [K/W]
$R_{\theta JA}$	Junction-to-ambient thermal resistance	122	219
$R_{\theta JC}$	Junction-to-case thermal resistance	90	189
$R_{\theta JB}$	Junction-to-board thermal resistance	74	175
Ψ_{JB}	Junction-to-board characterization param.	76	174
Ψ_{JT}	Junction-to-top characterization param.	7.7	106

Table 1: Typical values for thermal metrics. All results have been obtained through simulation. In all cases, the die pad has been considered soldered to the board. In the “heater on” column, a heater power of 11.5mW has been used. The heater is located on the silicon die. Note however that not all SHT3x products possess a heater functionality.

2 Revision history

Date	Version	Page(s)	Changes
April 2021	1	all	Initial version

Important Notices

Warning, Personal Injury

Do not use this product as safety or emergency stop devices or in any other application where failure of the product could result in personal injury. Do not use this product for applications other than its intended and authorized use. Before installing, handling, using or servicing this product, please consult the data sheet and application notes. Failure to comply with these instructions could result in death or serious injury.

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See application note "ESD, Latchup and EMC" for more information.

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