STTS751

TEMPERATURE SENSOR

GENERAL DESCRIPTION

The STTS751 is a digital temperature sensor which communicates over a 2-wire SMBus 2.0 compatible bus. The temperature is measured with a user-configurable resolution between 9 and 12 bits. At 9 bits, the smallest step size is 0.5 °C, and at 12 bits, it is 0.0625 °C. At the default resolution (10 bits, 0.25 °C/LSB), the conversion time is nominally 21 milliseconds. The opendrain EVENT output is used to indicate an alarm condition in which the measured temperature has exceeded the user-programmed high limit or fallen below the low limit. When the EVENT pin is asserted, the host can respond using the SMBus Alert Response Address (ARA) protocol to which the STTS751 will respond by sending its slave address

TECHNICAL SPECIFICATIONS

Operating voltage 2.25V to 3.6V

Operating Temperature -40 °C to +125 °C

Programmable

- 10 different conversion rates
- 0.0625 to 32 conversions/sec.
- 1 conversion/sec. - default
- 4 different resolutions
- 9-bit (0.5 °C/LSB) to12-bit (0.0625 °C/LSB)
- 10-bit (0.25 °C/LSB) – default

Low supply current

- 50 µA (typ) for 8 conversions/sec.
- 20 µA (typ) for 1 conversion/sec.
- 3µA (typ) standby

Accuracy

- ±0.5 °C (typ) 0 °C to +85 °C
- ±0.5 °C (typ) –40 °C to +125 °C

One-shot mode for power saving

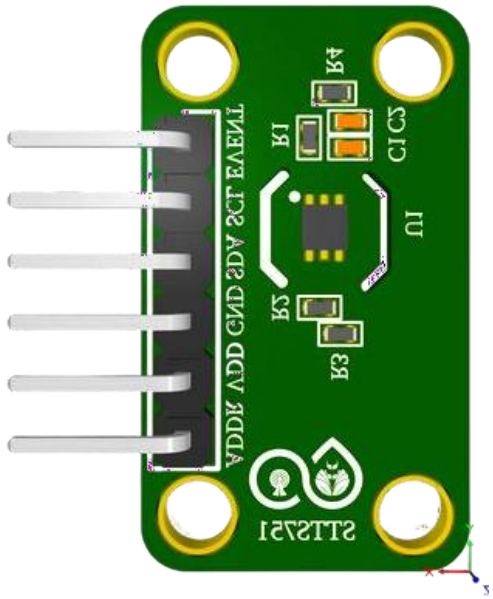
Fast conversion time 21 ms (typ) 10-bit

Pull-up resistor value allows single pin to select

one of four slave addresses Supports 400 kHz serial clock

SMBus 2.0 compatible

- SMBus ALERT (ARA) support
- SMBus timeout



APPLICATIONS

- Solid state drives
- Portable electronics
- Notebook computers
- Smart batteries
- Servers
- Telecom