±0.5℃ Accurate, 16-Bit Digital SPI Temperature Sensor; Package: 8-pin; Temperature Range: -55°C to +150°C

Manufacturers	Analog Devices, Inc
Package/Case	SOP-8
Product Type	PMIC - Thermal Management
RoHS	Rohs
Lifecycle	

Images are for reference only

Please submit RFQ for ADT7310TRZ or Email to us: sales@ovaga.com We will contact you in 12 hours.   RFQ

General Description

The ADT7310 is a high accuracy digital temperature sensor in a narrow SOIC package. It contains a band gap temperature reference and a 13-bit ADC to monitor and digitize the temperature to a 0.0625°C resolution. The ADC resolution, by default, is set to 13 bits (0.0625 °C). This can be changed to 16 bits (0.0078 °C) by setting Bit 7 in the configuration register (Register Address 0x01).

The ADT7310 is guaranteed to operate over supply voltages from 2.7 V to 5.5 V. Operating at 3.3 V, the average supply current is typically 210 µA. The ADT7310 has a shutdown mode that powers down the device and offers a shutdown current of typically 2 µA. The ADT7310 is rated for operation over the −55°C to +150°C temperature range.

The CT pin is an open-drain output that becomes active when the temperature exceeds a programmable critical temperature limit. The default critical temperature limit is 147°C. The INT pin is also an open-drain output that becomes active when the temperature exceeds a programmable limit. The INT and CT pins can operate in either comparator or interrupt mode.

Features

High performance:Temperature accuracy±0.5°C from −40°C to +105°C(2.7 V to 3.6 V)±0.4°C from −40°C to +105°C(3.0 V)16-bit temperature resolution: 0.0078°CFast first temperature conversion on power-up of 6 ms

Low power:Power saving 1 sample per second (SPS) mode700 µW typical at 3.3 V in normal mode7 µW typical at 3.3 V in shutdown mode

Easy implementation:No temperature calibration/correction required by userNo linearity correction required

Wide operating ranges:Temperature range: −55°C toVoltage range: 2.7 V to 5.5 V

Programmable interrupts:Critical overtemperature interruptOvertemperature/undertemperature interrupt

SPI-compatible interface

8-lead narrow SOIC RoHS-compliant package

Application

Medical equipment
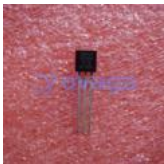
Environmental control systems

Computer thermal monitoring

Thermal protection

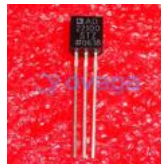Industrial process control

Power system monitors

Hand-held applications

Related Products

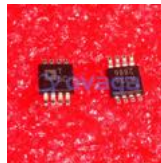**AD22100KTZ**

Analog Devices, Inc

TO-92

AD22100STZ

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TO-92

ADT6402SRJZ-RL7

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SOT23-6

ADT75BRMZ

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MSOP-8

ADT7320UCPZ-R2

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LFCSP-16

AD22100SRZ

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SOIC-8

AD7314ARMZ

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AD590MH

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TO-52-3