

Board Mount Temperature Sensors +/-0.25C accurate SPI Temperature Sensor

Manufacturers	Analog Devices, Inc
Package/Case	LFCSP-16
Product Type	IC Temperature Sensors
RoHS	Rohs
Lifecycle	



Images are for reference only

Please submit RFQ for ADT7320UCPZ-R2 or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

General Description

The ADT7320 is a high accuracy digital temperature sensor that offers breakthrough performance over a wide industrial temperature range, housed in a 4 mm × 4 mm LFCSP package. It contains an internal band gap reference, a temperature sensor, and a 16-bit analog-to-digital converter (ADC) to monitor and digitize the temperature to a resolution of 0.0078°C. The ADC resolution, by default, is set to 13 bits (0.0625°C). The ADC resolution is a user programmable mode that can be changed through the serial interface.

The ADT7320 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 ADT7320 has a shutdown mode that powers down the device and offers a shutdown current of typically 2.0 µA at 3.3 V. The ADT7320 is rated for operation over the -40°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 INT pin is also an open-drain output that becomes active when the temperature exceeds a programmable limit. The INT pin and CT pin can operate in either comparator or interrupt mode.

Product Highlights

Ease of use, no calibration or correction required by the user.

Low power consumption.

Excellent long term stability and reliability.

High accuracy for industrial, instrumentation, and medical applications.

Packaged in a 16-lead RoHS-compliant, 4 mm x 4 mm LFCSP package.

Features

High Performance Temperature accuracy $\pm 0.20^{\circ}\text{C}$ from -10°C to $+85^{\circ}\text{C}$ $\pm 0.25^{\circ}\text{C}$ from -20°C to $+105^{\circ}\text{C}$ at 3.3 V
16-bit resolution: 0.0078°C Ultra-low temperature drift: 0.0073°C

Easy Implementation No temperature calibration/correction required by user No linearity correction required

Low Power Power saving 1 sample per second (SPS) mode $700\ \mu\text{W}$ typical at 3.3 V in normal mode $7\ \mu\text{W}$ typical at 3.3 V in shutdown mode

Wide operating ranges Operating temperature from -40°C to $+150^{\circ}\text{C}$ Voltage range: 2.7 V to 5.5 V

Programmable interrupts Critical overtemperature indicator Overtemperature/undertemperature interrupt

SPI-compatible interface

16-lead, RoHS-compliant, $4\ \text{mm} \times 4\ \text{mm}$ LFCSP package

See data sheet for additional features

Application

RTD and thermistor replacement

Thermocouple cold junction compensation

Medical equipment

Industrial controls and test

Food transportation and storage

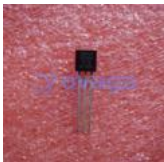
Environmental monitoring and HVAC

Laser diode temperature controls



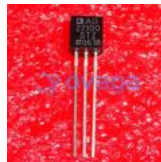


Related Products



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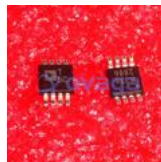
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