

1-WIRE DIGITAL THERMOMETER

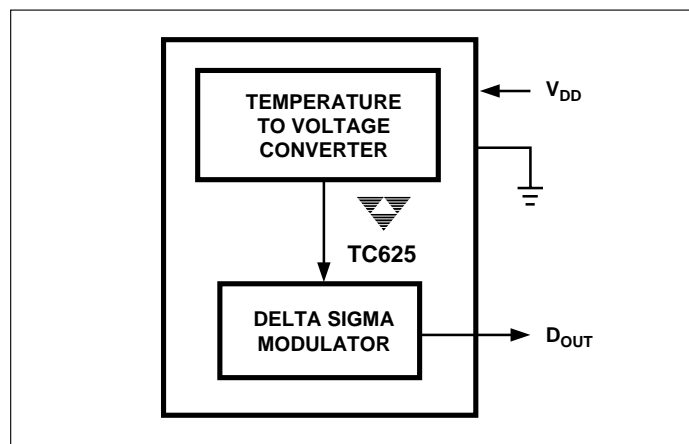
FEATURES

- Single Wire Interface to Host Microcontroller
- High Precision $\pm 1^{\circ}\text{C}$ Accuracy (Typical)
- Wide Measurement Range $- 25^{\circ}\text{C}$ to $+100^{\circ}\text{C}$
- No External Components Required
- Complimentary (TC625C) or Open Drain Outputs (TC625N)
- Low Voltage Operation 2.7V to 5.5V
- Small Packages TO-92, SOT-23A-5

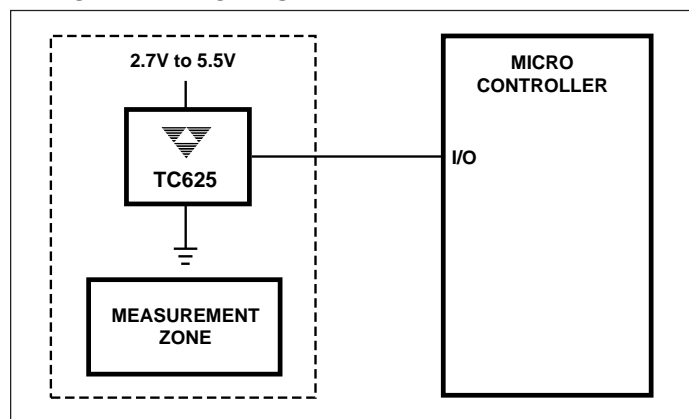
APPLICATIONS

- Isolated Temperature Sensing
- Environmental Control Systems
- Process / Industrial Control Systems
- Power System Temperature Monitoring
- Process Control Systems

FUNCTIONAL BLOCK DIAGRAM



TYPICAL APPLICATION



GENERAL DESCRIPTION

The TC625 is a monolithic temperature sensor that generates a pulse train, the high and low times of which vary in direct proportion to the temperature of the device. This technique allows temperature to be accurately measured by the host microcontroller without an A/D converter, and with only a single I/O port pin. The overall accuracy is $\pm 1.5^{\circ}\text{C}$ typical over the rated measurement range of $- 25^{\circ}\text{C}$ to $+100^{\circ}\text{C}$.

Unlike voltage output temperature sensors, the digital output of the TC625 offers superior immunity to system noise and does not require an A/D converter. Unlike two wire serial temperature sensors, the TC625 communicates over a single wire, and without serial protocol overhead.

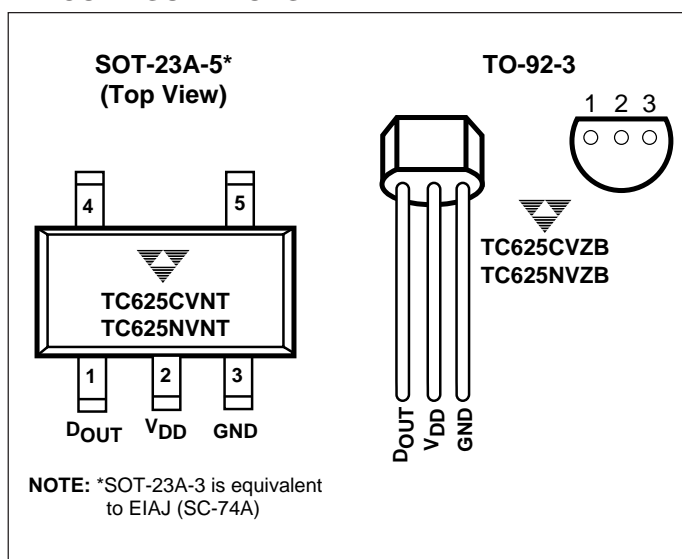
The TC625 operates from supply voltages as low as 2.7V. Open drain (TC625N) and complimentary (TC625C) output configurations are available. The TC625 is available in TO-92 and SOT-23A-5 packages.

ORDERING INFORMATION

Part No.	Package	Output Config.
TC625CVNT	SOT-23A-5*	Complimentary
TC625CVZB	TO-92-3	Complimentary
TC625NVNT	SOT-23A-5*	Open Drain
TC625NVZB	TO-92-3	Open Drain
TC625EV Evaluation Kit for the TC625 and TC12		

NOTE: *SOT-23A-5 is equivalent to EIAJ (SC-74A).

PIN CONFIGURATIONS

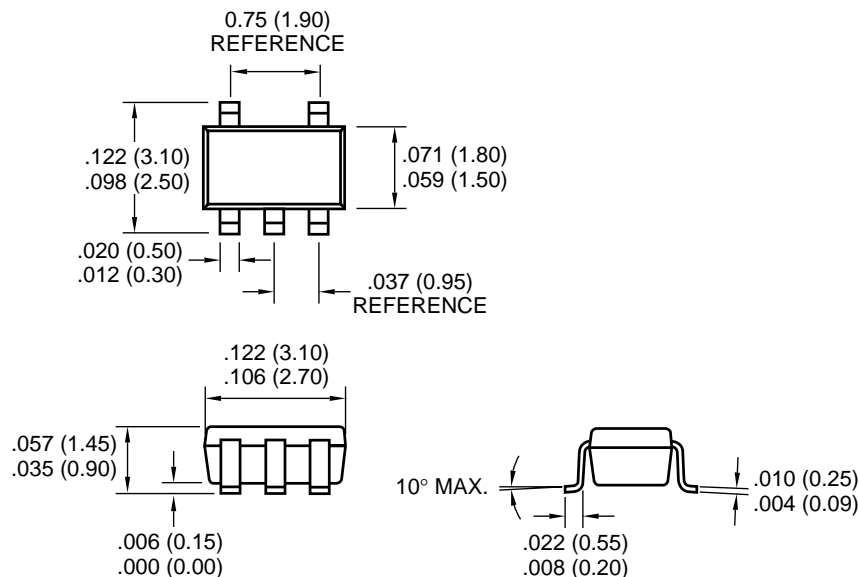


NOTE: *SOT-23A-3 is equivalent to EIAJ (SC-74A)

TC625

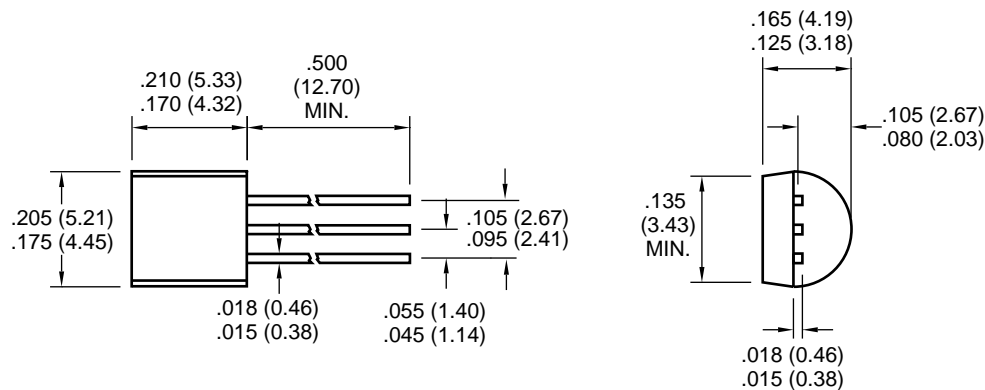
PACKAGE DIMENSIONS

SOT-23A-5*



NOTE: *SOT-23A-5 is equivalent to EIAJ (SC-74A).

TO-92-3



Dimensions: inches (mm)

Sales Offices

TelCom Semiconductor
 1300 Terra Bella Avenue
 P.O. Box 7267
 Mountain View, CA 94039-7267
 TEL: 415-968-9241
 FAX: 415-967-1590
 E-Mail: liter@c2smtp.telcom-semi.com

TelCom Semiconductor
 Austin Product Center
 9101 Burnet Rd. Suite 214
 Austin, TX 78758
 TEL: 512-873-7100
 FAX: 512-873-8236

TelCom Semiconductor H.K. Ltd.
 10 Sam Chuk Street, Ground Floor
 San Po Kong, Kowloon
 Hong Kong
 TEL: 852-2324-0122
 FAX: 852-2354-9957