



# LOW COST, ONE WIRE DIGITAL THERMOMETER WITH SHUTDOWN

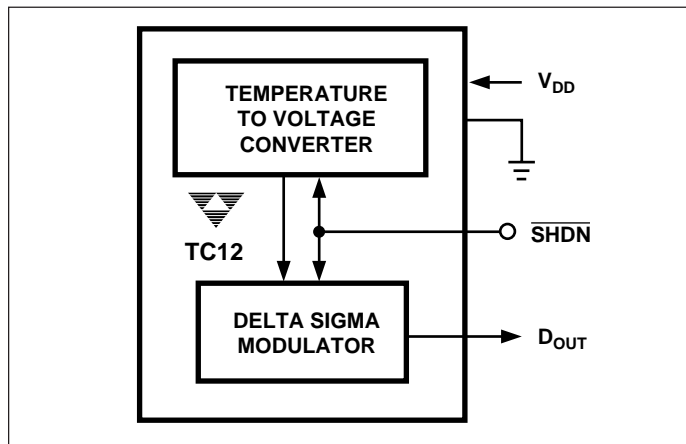
## FEATURES

- Single Wire Interface to Host Microcontroller
- High Precision .....  $\pm 1^{\circ}\text{C}$  Accuracy (Typical)
- Wide Measurement Range .....  $- 40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$
- No External Components Required
- Complimentary (TC12C) or Open Drain Outputs (TC12N)
- Low Voltage Operation ..... 2.7V to 5.5V
- Small Package ..... SOT-23A-5
- Low Cost
- Shutdown Input

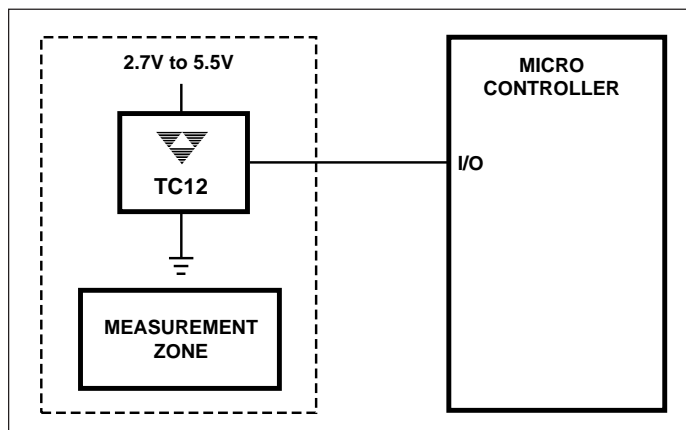
## APPLICATIONS

- Notebook Computers
- File Servers
- Desktop Computers

## FUNCTIONAL BLOCK DIAGRAM



## TYPICAL APPLICATION



## GENERAL DESCRIPTION

The TC12 is a monolithic temperature sensor that outputs a pulse waveform whose duty cycle varies in direct proportion to measured temperature. This output format is easily converted to binary data using logic or the counter/timer circuit on-board the system microcontroller. Typical accuracy is  $\pm 1^{\circ}\text{C}$  over the rated measurement range of  $- 40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ . It operates from supply voltages as low as 2.7V.

Unlike voltage output temperature sensors, the digital output of the TC12 offers superior immunity to system noise and does not require an A/D converter. Unlike two wire serial temperature sensors, the TC12 communicates over a single wire, and without complex serial protocol overhead.

## ORDERING INFORMATION

Part No.	Package	Temp. Range	Output Config.
TC12CVCT	SOT-23A-5*	$- 40^{\circ}\text{C}$ to $+125^{\circ}\text{C}$	Complimentary
TC12NVCT	SOT-23A-5*	$- 40^{\circ}\text{C}$ to $+125^{\circ}\text{C}$	Open Drain
<i>TC625EV Evaluation Kit for the TC12 and TC625</i>			

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

## PIN CONFIGURATION

