

TC1046/A and 1047/A Voltage Output Temperature Sensor Family

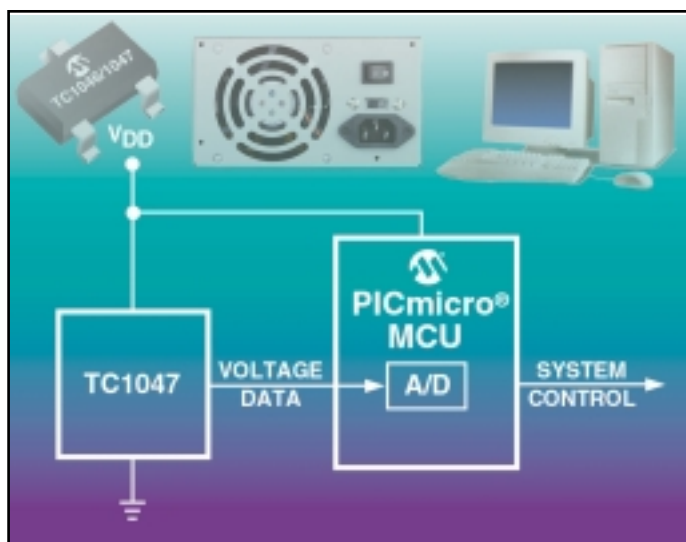
Product Information



The **TC1046/A** and **TC1047/A** are voltage output temperature sensing products in space-saving SOT packages.

The TC1046/A and TC1047/A develop an output voltage proportional to temperature with a nominal temperature coefficient of 6.25mV/°C and 10mV/°C respectively. Both temperature-to-voltage converters can sense a -40°C to +125°C temperature range while operating from a single 2.5V supply. The devices feature an offset voltage that allows reading negative temperatures without the need for a negative supply voltage. The extremely low operating current minimizes self-heating and maximizes battery life. The TC1046/A and TC1047/A are fully specified from 2.7V to 4.4V and 2.5V to 5.5V respectively, and are available in small, space-saving 3-lead SOT-23 packages.

High accuracy, low operating current and small packages make these devices ideal for a variety of applications such as cellular phones, consumer electronics, power supplies, amplifiers, motors, battery management, printers, industrial control, appliances, and office equipment.



Features:

- $\pm 0.5^\circ\text{C}$ typical temperature conversion accuracy
- Operating current as low as 35 μA
- 2.5V to 5.5V supply voltage range
- -40°C to +125°C temperature range
- Available in 6.25mV/°C and 10mV/°C linear temperature slopes
- Small 3-lead SOT-23 packages

TC1046/A and 1047/A

Voltage Output Temperature Sensor Family *Continued*

Additional Information:

- Microchip's web site: www.microchip.com
- Microchip's *Technical Library CD-ROM*, Order No. DS00161
- *Analog Interface Handbook*, Order No. DS00207
- Product Line Card, Order No. DS00148
- *Analog Design Pack CD-ROM*, Order No. DS51205

Voltage Output Temperature Sensor Family

Product	Linear Temperature Slope	Typical Accuracy	Temperature Range	V _{CC} Range	Maximum I _O	# of Pins/Package
TC1046	6.25mV/°C	±0.5°C	-40°C to +125°C	2.7V to 4.4V	60µA	3TT
TC1047	10mV/°C	±0.5°C	-40°C to +125°C	2.7V to 4.4V	60µA	3TT
TC1046A	6.25mV/°C	±0.5°C	-40°C to +125°C	2.5V to 5.5V	60µA	3TT
TC1047A	10mV/°C	±0.5°C	-40°C to +125°C	2.5V to 5.5V	60µA	3TT

Package Key: TT = SOT-23

Americas

Atlanta (770) 640-0034
 Austin – Analog (512) 345-2030
 Boston (978) 692-3848
 Boston – Analog (978) 371-6400
 Chicago (630) 285-0071
 Dallas (972) 818-7423
 Dayton (937) 291-1654
 Detroit (248) 538-2250
 Los Angeles (949) 263-1888
 Mountain View (650) 968-9241
 New York (631) 273-5305
 Rocky Mountain (480) 792-7966
 San Jose (408) 436-7950
 Toronto (905) 673-0699

Asia /Pacific

Australia 61-2-9868-6733
 China – Beijing 86-10-8528-2100
 China – Shanghai 86-21-6275-5700
 Hong Kong 852-2-401-1200
 India 91-80-229-0061
 Japan 81-45-471- 6166
 Korea 82-2-554-7200
 Singapore 65-334-8870
 Taiwan 886-2-2717-7175

Europe

Denmark 45-4420-9895
 France 33-1-69-53-63-20
 Germany 49-89-627-144-0
 Germany – Analog 49-89-895-650-0
 Italy 39-039-65791-1
 United Kingdom 44-118-921-5869



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