

Low-Power, LM75-Compatible Digital Temperature Sensor With SMBus and I²C Interface

1 Features

- Operating temperature range: -55°C ~ +125°C
- Temperature accuracy: $\pm 0.5^{\circ}\text{C}$
- Supply voltage range: 1.6V ~ 5.5V
- Low quiescent current:
Temperature conversion: 45 μA
Shutdown mode: 0.5 μA
- Resolution: 9~12 bits (user defined)
- Digital output:
SMBus, I²C interface compatibility
- Package Information:

PART NUMBER	PACKAGE	BODY SIZE
GX175	SOP (8)	4.90 × 3.90
GX175U	MSOP (8)	3.00 × 3.00
GX175D	DFN (8)	3.00 × 2.00
GX175N	DFN (8)	2.00 × 2.00

2 Applications

- Power-supply temperature monitoring
- Computer peripheral thermal protection
- Laptop computers
- Cell phones
- Battery management
- Office machines
- Thermostat controls
- Electro mechanical device temperature

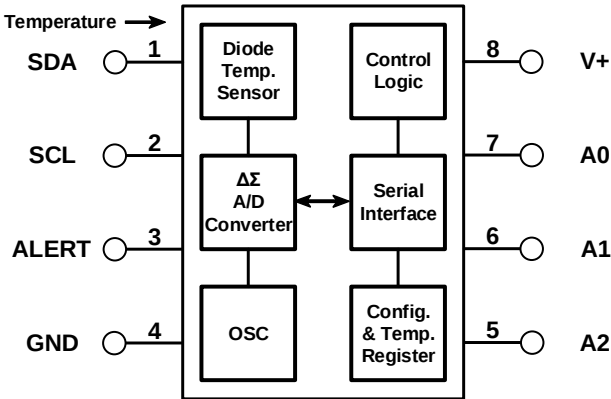
3 Description

The GX175 is a high-accuracy, low-power, NTC / PTC thermistor replacement digital temperature sensor for temperature measurement in communications, computer, consumer, environmental, industrial, and instrumentation applications. The GX175 provides $\leq \pm 0.5^{\circ}\text{C}$ temperature accuracy over the normal operating range of -40°C to +125°C with good temperature linearity.

The rated operating voltage range of the GX175 is 1.6V ~ 5.5V, and the quiescent current in actual temperature conversion is less than 45 μA . The on-chip analog-to-digital converter (ADC) provides a temperature resolution of 0.0625°C.

The GX175 is available in an LM75-compatible 8-Pin MSOP / SOP package that supports SMBus and I²C interfaces. Up to 27 GX175 device addresses can be mounted on one bus. The GX175 provides SMBus Alert function.

The GX175 Internal Block Diagram



10 Ordering Information

Order Number	Chip Model	Package	Standard Quantity	Note
GX175-T&R	GX175	SOP-8 (4.9*3.9)	4000	Tape & Reel
GX175U-T&R	GX175U	MSOP-8 (3*3)	4000	Tape & Reel
GX175D-T&R	GX175D	DFN-8 (3*2)	3000	Tape & Reel
GX175N-T&R	GX175N	DFN-8 (2*2)	3000	Tape & Reel