

GXTR304 1.6V Low-Voltage Communication, 5 Channels (1 Local Channel & 4 Remote Channels) Digital Temperature Sensor

1 Features

- Remote four-channel diode temperature sensor
- Temperature range: $-55^{\circ}\text{C} \sim +150^{\circ}\text{C}$
- Temperature measurement accuracy: ($-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$)
 - Local channel: $\pm 0.5^{\circ}\text{C}$
 - Remote channel: $\pm 1^{\circ}\text{C}$
- Package: **16-Pin QFN**
- Package size: **3.00 mm × 3.00 mm**
- Supply voltage: **2.7V ~ 5.5V**
- I2C communication voltage: **1.6V ~ 5.5V**
- Low Quiescent Current (@3.3 V, 27 °C):
 - Local channel: **180 μA**
 - Remote channel: **360 μA**
 - Shutdown mode: **1.2 μA**
- Resolution: **16 bits, 0.0078125°C**
- Digital output: **compatible with SMBus, I²C interface**
- Support register block read
- Remote diode: features **series resistance elimination, η factor correction, temperature offset correction, open circuit detection** and other functions
- Compatible with TMP464

2 Applications

- Servers and computers
- switch
- Secure data center
- Highly-integrated medical system
- Precision instruments and testing equipment
- Thermal management of LED lighting
- MCU, GPU, FPGA, DSP and CPU temperature monitoring

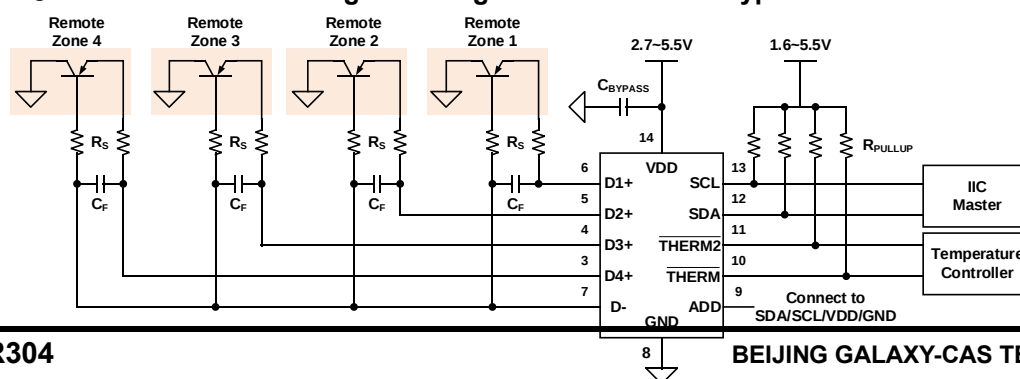
3 Description

GXTR304 is a high-precision, low-power digital temperature sensor compatible with SMBus and I2C interfaces. In addition to the local temperature of the chip, up to four remote diode areas can be monitored simultaneously. The typical application scenario of GXTR304 is real-time remote temperature monitoring of complex systems such as MCU, GPU and FPGA. With functions such as series resistance elimination, programmable η factor correction, programmable temperature offset correction and programmable temperature threshold, GXTR304 provides a reliable temperature monitoring solution with high precision and low power consumption.

The local channel and 4 remote channels of GXTR304 can be independently programmed and controlled. When the temperature of the measured location exceeds the corresponding temperature threshold, an alarm will be triggered. Each channel of GXTR304 has a programmable temperature threshold hysteresis setting to avoid repeated alarms caused by the measured temperature being near the temperature threshold.

The typical temperature measurement accuracy of the local channel and remote channel of GXTR304 is $\pm 0.5^{\circ}\text{C}$ and $\pm 1^{\circ}\text{C}$ respectively, and both provide a temperature measurement resolution of 0.0078125°C and a temperature measurement range of $-55 \sim +150^{\circ}\text{C}$. The power supply voltage range of GXTR304 is 2.7 ~ 5.5V, and it provides a 3mm × 3 mm 16 Pin QFN package for integration into various systems.

Figure 1 Diagram of GXTR304's Typical Connection



9 Ordering Information

Ordering Number	Chip Model	Packaging Information	Standard Packing Quantity	Note
GXTR304Q-T&R	GXTR304Q	QFN-16 (3*3)	3000	Tape & Reel