

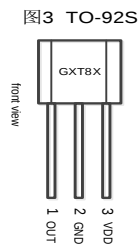
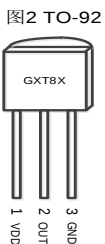
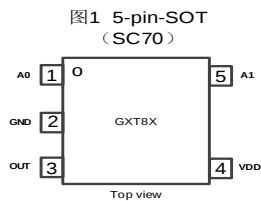
Analog Temperature Sensor with Class AB Output

1 Features

- GXT84/85/86/87 are a series of analog temperature sensors with negative temperature coefficients and average sensor gains of -5.5 mV/°C, -8.2 mV/°C, -10.9 mV/°C, -13.6 mV/°C.
- Temperature range: -55°C ~ +125 °C, up to +140°C
- Temperature accuracy: $\pm 0.4^{\circ}\text{C}$ (typ.)
- The output is short-circuit protected
- Power supply voltage: 2.5V ~ 5.5 V
- Low quiescent current: less than 10 μA
- Analog temperature sensors compatible with LM20/19 and LM35 package

2 Applications

- Thermal management system
- Temperature control
- Home appliances



3 Description

GXT84/85/86/87 are a series of analog temperature sensors with negative temperature coefficients that provide an analog voltage output which

is linearly proportional to the Celsius temperature. The GXT8X performs factory calibration, so no external calibration is required, with a typical accuracy of $\pm 4^{\circ}\text{C}$ at +25°C and a maximum accuracy of $\pm 2.7^{\circ}\text{C}$ in the temperature range from 40°C to +125°C.

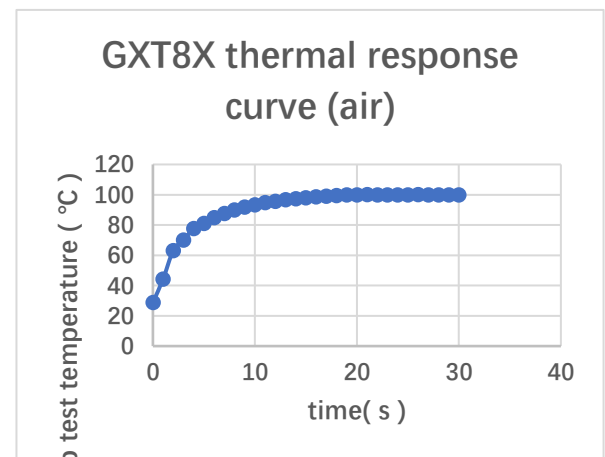
GXT84/85/86/87 (the GXT8X series only include these four models) feature low-output impedance, linear output, and factory calibration, enabling significant simplification of temperature control circuits and ADC requirements. This series of sensor components can operate with a single power supply ranging from 1.5V to 5.5V. The power supply current is below 10 μA , and the self-heating effect is minimal, with a temperature change of less than 0.1°C in static air.

GXT84/85/86/87 are available in low-cost 5-pin SOT353 surface mount, 3-pin TO-92 and 3-pin TO92S packages.

Chip Package Information

Product Number	Packaging Information	Body Size (NOM)
GXT8XG	SOT353 (5)	2.10mm*1.25mm
GXT8XS	TO-92S(3)	4.0mm 3.0mm
GXT8X	TO-92(3)	4.6mm*4.6mm

* Where X can represent 4, 5, 6, 7.



9 Ordering Information

Purchasing Code	Devices	Packaging	SPQ	Note
GXT8XG-T&R	GXT8XG	SOT353(SC70)	3000	Tape and Reel
GXT8X-Bu	GXT8X	TO92	2000	Bagged
GXT8XS -Bu	GXT8XS	TO92S	2000	Bagged

Note: When purchasing GXT84, the second X in the purchase code is 4;

When purchasing GXT85, the second X in the purchase code is 5;

When purchasing GXT86, the second X in the purchase code is 6;

When purchasing GXT87, the second X in the purchase code is 7.

Revision History:

Version	Date	Description	Modified pages
V1.1	10/31	The original version	–
V1.2	2024.01.29	Changed the ordering information	12
V1.3	2024.08.20	Correct the calculation formula	8, 9
V1.4	2024.10.12	Correct the package name	1, 11, 14
V1.5	2024.12.4	Update the value of electrostatic protection	4