

High-Accuracy, Ultra-Low-Power, 16-bit Relative Humidity and Temperature Sensor

Datasheet_V1.9
Jul. 2025

1 Features

- Relative humidity accuracy: up to $\pm 1\%$ RH
- Temperature accuracy: up to $\pm 0.1\text{ }^{\circ}\text{C}$
- Supply voltage: 1.6 V to 5.5 V
- Average current: 0.4 μA (at meas. rate 1 Hz)
- Idle current: 0.1 μA
- Resolution: 0.01%RH, 0.01 $^{\circ}\text{C}$
- Operating range: 0-100%RH, -40~125 $^{\circ}\text{C}$
- Communication Interface: I²C, up to 1 MHz, with 2 I²C addresses
- Variable power heater
- NIST traceability
- JEDEC JESD47 qualification
- Package Information:

PRODUCTS	PACK	DETAILS
GXHT40-AD	DFN4	Ordinary precision, see Fig.2, addr:0x44
GXHT40-BD	DFN4	Ordinary precision, see Fig.2, addr:0x45
GXHT41-AD	DFN4	High precision, see Fig.3, addr:0x45
GXHT45-AD	DFN4	Highest precision, see Fig.4, addr:0x45

2 Applications

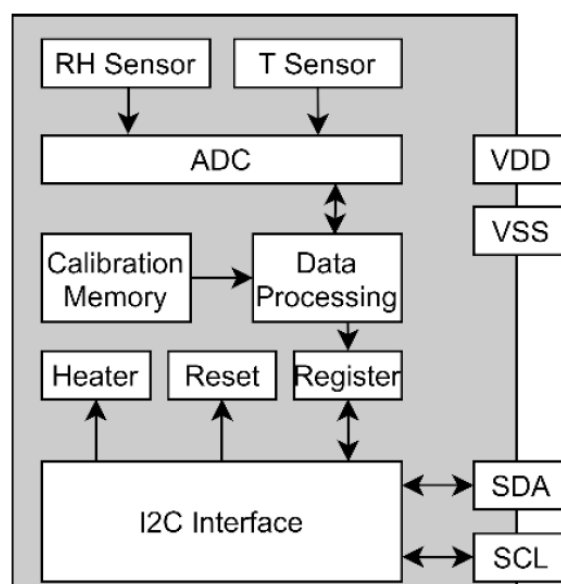
- Automotive cabin
- Industrial control
- Smart home
- Consumer electronics
- Medical devices

3 Description

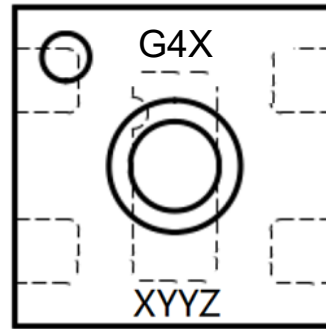
GXHT4x is a new-generation single-chip integrated temperature and humidity sensor of Galaxy-CAS, which can offer configurable I²C addresses. The built-in heater can be activated in anti-dew occasions, and the heater power is configurable.

The four-pin dual-flat-no-leads package is suitable for surface mount technology (SMT) processing.

Functional Block Diagram of GXHT4x Family



8.4 Marking Information



G4X: indicates the model GXHT4X, where X is a number 0/1/5. For example, G40 indicates the model GXHT40.

XYZ: X is the year, YY is the week, Z is the internal version number. For example, 5066 indicates production in the 6th week of 2025, version 6.

9 Ordering Information

ORDER NUMBER	DEVICE	PACKAGE	SPQ	NOTE
GXHT40-AD-R2-T&R	GXHT40-AD	DFN-4	2000	Ordinary precision, addr:0x44, Tape & Reel
GXHT40-AD-R3-T&R	GXHT40-AD	DFN-4	10000	Ordinary precision, addr:0x44, Tape & Reel
GXHT40-BD-R2-T&R	GXHT40-BD	DFN-4	2000	Ordinary precision, addr:0x45, Tape & Reel
GXHT40-BD-R3-T&R	GXHT40-BD	DFN-4	10000	Ordinary precision, addr:0x45, Tape & Reel
GXHT41-AD-R2-T&R	GXHT41-AD	DFN-4	2000	High precision, addr:0x44, Tape & Reel
GXHT41-AD-R3-T&R	GXHT41-AD	DFN-4	10000	High precision, addr:0x44, Tape & Reel
GXHT45-AD-R2-T&R	GXHT45-AD	DFN-4	2000	Highest precision, addr:0x44, Tape & Reel
GXHT45-AD-R3-T&R	GXHT45-AD	DFN-4	10000	Highest precision, addr:0x44, Tape & Reel