

GXCAS Technology GXHT31

Temperature and Humidity Sensor

1 Features

- Automotive grade, AEC-Q100 qualified
- Fully calibrated, linearized, and temperature compensated digital output
- Wide supply voltage range, from 2.0 V to 5.5 V
- I²C interface with communication speed of 1 MHz
- Two user-selectable addresses
- Typical accuracy of GXHT31 is $\pm 2\%RH$ / $\pm 0.2^{\circ}C$
- Single chip integrated temperature and humidity sensor
- High reliability and long-term stability
- Relative humidity range: 0 ~ 100%
- Temperature range: $-45^{\circ}C$ ~ $130^{\circ}C$
- Integrated 16-bit high precision ADC
- Measurement time as low as 2.5ms

2 Applications

- Communication equipment
- Photovoltaic energy storage
- Consumer electronics
- Cold chain transportation
- Smart home
- Smart agriculture



Figure 1. Chip Rendering

3 Description

GXHT31 is the next generation of single-chip integrated temperature and humidity sensor developed by Beijing Galaxy-CAS Technology. It was developed based on the extremely weak signal detection design platform and MEMS process design platform of Beijing Galaxy-CAS Technology. Integrating high-sensitivity MEMS moisture-sensitive components on silicon-based CMOS wafers can reduce the interference of multi-chip signal transmission, reduce chip area, and improve packaging reliability. It has two user-selectable I²C addresses, the I²C communication speed is up to 1MHz, and the chip is packaged in a miniaturized DFN package with an outline size of 2.5 x 2.5 mm² and a height of 0.9 mm. This enables the GXHT31 to be integrated in various applications. In addition, the wide power supply voltage range of 2.0~5.5V makes it adaptable to various power supply environments.

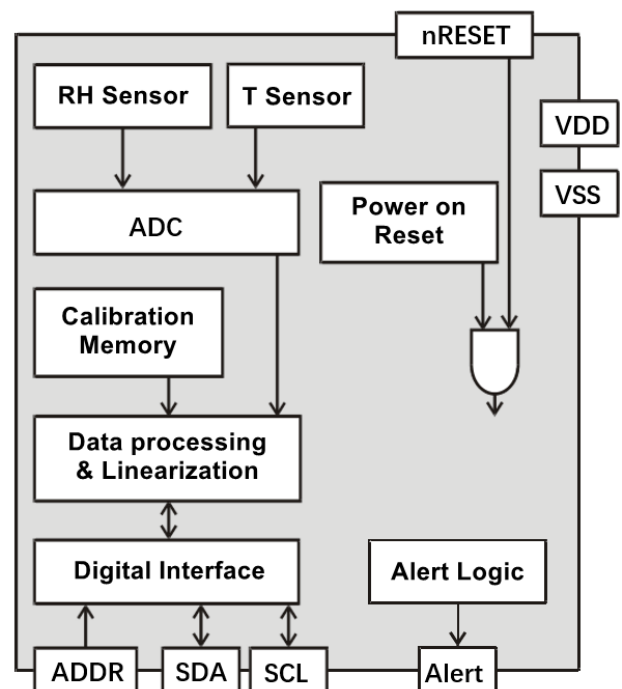


Figure 2. Functional block diagram of GXHT31

11 Chip description and ordering information

Order number description:

GXHT31-T&R: GXHT31 represents the product number, T&R represents packaged form is tape and reel.

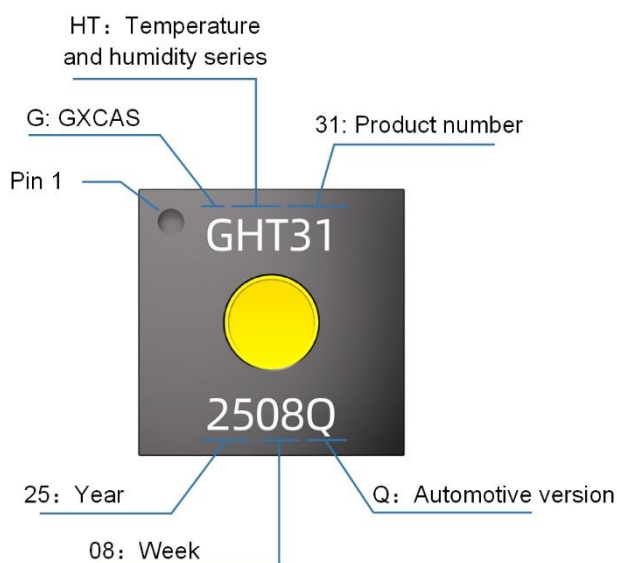
Model Coding:

(1) GXHT31: GX represents the trademark of the company GXCAS, which can also be represented by G; HT represents temperature and humidity series products; 31: represents the chip number

(2) GXHT31C: GX represents the trademark of the company GXCAS, which can also be represented by G; HT represents temperature and humidity series products; 31: represents the chip number; C: Indicates that the chip is covered with a dustproof and breathable film, which cannot be removed and provides protection for the chip.

(3) GXHT31CF: GX represents the trademark of the company GXCAS, which can also be represented by G; HT represents temperature and humidity series products; 31: represents the chip number; CF: Indicates that the chip is coated with a conformal coating film, which needs to be removed after Painting

GXHT31 LOGO description:



Ordering Information:

Purchase Number	Device	Package	SPQ	Note
GXHT31-Q-T&R	GXHT31-Q	DFN8 2.5mm*2.5mm	2000	Tape and reel
GXHT31C-Q-T&R	GXHT31C-Q	DFN8 2.5mm*2.5mm	2000	Tape and reel, covered with a dustproof breathable film
GXHT31CF-Q-T&R	GXHT31CF-Q	DFN8 2.5mm*2.5mm	2000	Tape and reel, covered with a conformal coating film