

SENSYLINK Microelectronics

(CHT8336A)

Analog Output Humidity & Temperature
Sensor

CHT8336A is an Analog Output Humidity and Temperature Sensor with $\pm 2.0\%RH$ accuracy for humidity and $\pm 0.2^{\circ}C$ accuracy for temperature. The sensor supports multi slope gain of temperature & humidity to Voltage. It is ideally used in HVAC, Refrigerator, environment monitor etc.

Analog Output Humidity and Temperature Sensor

1 Description

The CHT8336A is an analog output humidity and temperature sensor with $\pm 2.0\%RH(Typ.)$ accuracy for humidity and $\pm 0.2\text{ }^{\circ}C(Typ.)$ accuracy for temperature. It provides high accuracy measurement over a wide supply range (1.8 V – 5.5 V), along with ultra-low power consumption. Humidity and Temperature data can be read out directly via different IO pins.

Each chip is specially calibrated for temperature and humidity accuracy in factory before shipment to customers. There is no need for re-calibration anymore.

It includes a high precision band-gap circuit, an analog to digital converter, a calibration unit with non-volatile memory and two DAC outputs.

Available Package: DFN2x2-4 package

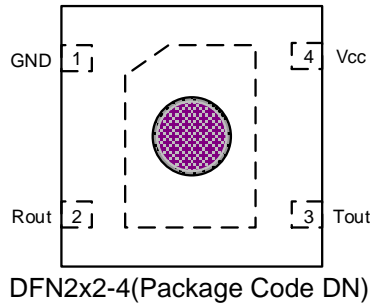
2 Features

- Operation Voltage: 1.8V to 5.5V
- Average Operating Current: 220uA (Typ.)@ 3.3V, 2Con/s for Both temperature and humidity Conversion
- High reliability and long-term stability
- Temperature Accuracy with calibration:
 $\pm 0.2^{\circ}C(Typ.)$, $\pm 0.5^{\circ}C(Max.)$ from $10^{\circ}C$ to $50^{\circ}C$
 $\pm 0.5^{\circ}C(Typ.)$, $\pm 1.0^{\circ}C(Max.)$ from $-40^{\circ}C$ to $125^{\circ}C$
- Humidity Accuracy with calibration:
 $\pm 3\%RH(Max.)$ from 20%RH to 80%RH
- Temperature Range: $-40^{\circ}C$ to $125^{\circ}C$
- Humidity Range: 0%RH to 100%RH
- High process capability
- High signal-to-noise ratio

3 Applications

- Smart HVAC System
- Refrigerator, Washer & dryer
- Industry Thermal Control

4 PIN Configurations (Top View)



5 Typical Application

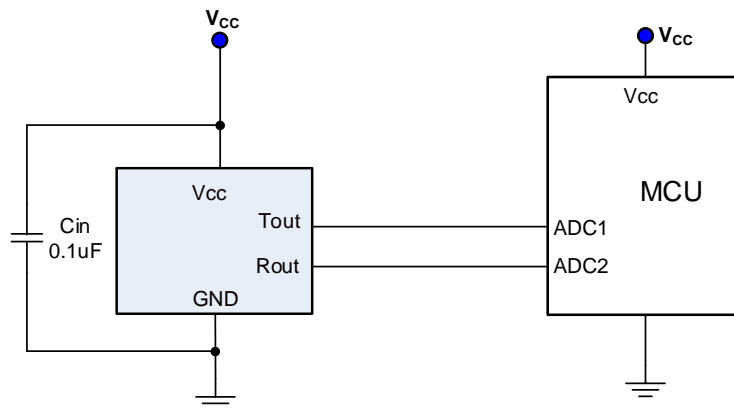


Figure 1 Typical Application of CHT8336A

Analog Output Humidity and Temperature Sensor

6 Pin Description

PIN No.	PIN Name	Description
1	GND	Ground pin.
2	Rout	Analog voltage out; Humidity output
3	Tout	Analog voltage out; Temperature output.
4	Vcc	Power supply input pin, using 0.1uF low ESR ceramic capacitor to ground
	Exposed Thermal PAD	Exposed thermal pad (bottom side).

7 Function Block

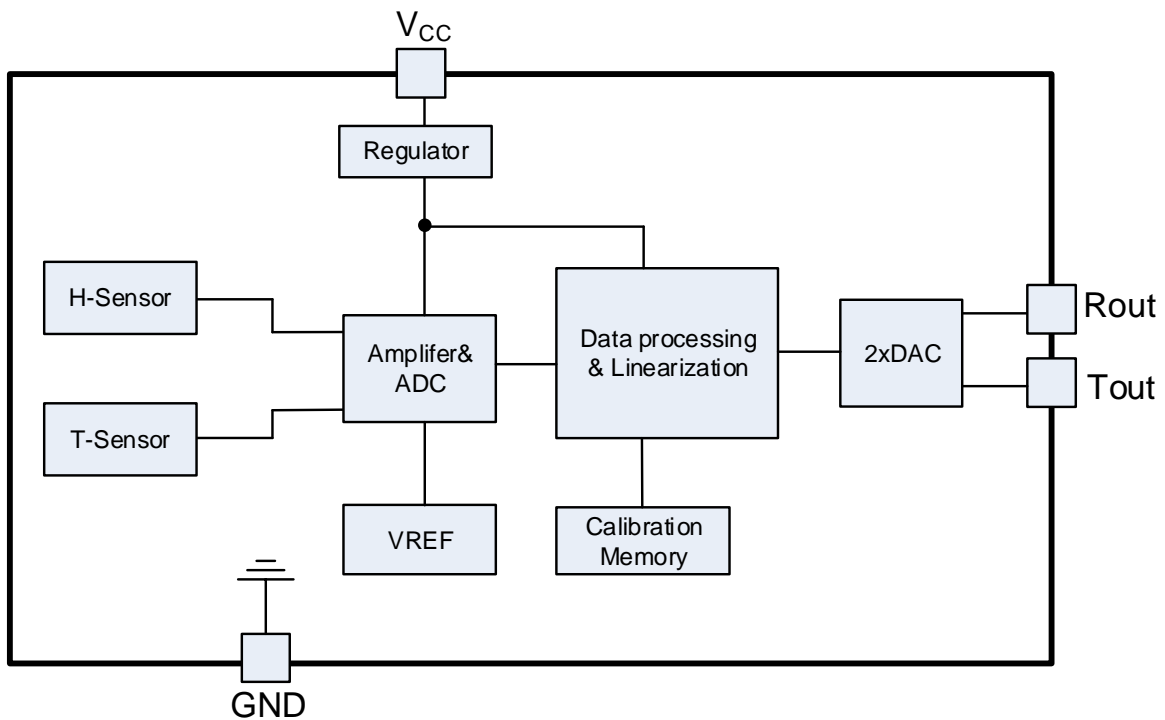
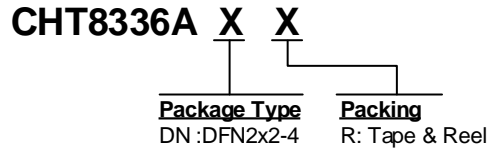


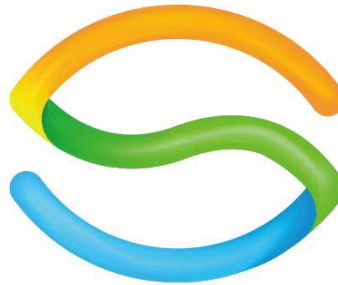
Figure 2 CHT8336A function block

Analog Output Humidity and Temperature Sensor
8 Ordering Information


Order PN	Accuracy	Green ¹	Package	Marking ID ²	Packing	MPQ	Operation Temperature
CHT8336ADNR	±0.2°C ±2%RH	Halogen free	DFN2X2-4	HT YWXA	Tape & Reel	3,000	-40°C~+125°C

Notes

1. Sensylink can meet RoHS 2.0/REACH requirement. So most package types Sensylink offers only states halogen free, instead of lead free.
2. Marking ID includes 2 rows of characters. In general, the 1st row of characters are part number, and the 2nd row of characters are date code plus production information.



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