DIGITAL HIGH ACCURACY RH/T SENSOR

MEAS | MEAS HTU
TE Model # HTU21D
TE Internal #: CAT-HSC0004

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Sensors > Humidity Sensors > Humidity Sensor Components

HTU21D(F) relative humidity sensors provide digital outputs for humidity and temperature in I2C formats.

Product Type: **RHT**

Supply Voltage (Peak):   **3.8 V**

Current Consumption: **.014 mA**

Humidity Operating Range: **0 - 100 %RH**

Operating Temperature Range: **-40 - 125 °C, -40 - 125 °C**

The HTU21D(F) is a digital humidity and temperature sensor for OEM applications.

Setting the standard in terms of size and intelligence, it is embedded in a reflow solderable Dual Flat No leads (DFN) package with a small 3 x 3 x 0.9 mm footprint. This sensor provides calibrated, linearized signals in digital, I²C format. HTU21D(F) digital humidity sensors are dedicated humidity and temperature plug and play transducers for OEM applications where reliable and accurate measurements are needed. Direct interface with a micro-controller is made possible with the module for humidity and temperature digital outputs. These low power sensors are designed for high volume and cost sensitive applications with tight space constraints. Every sensor is individually calibrated and tested. Lot identification is printed on the sensor and an electronic identification code is stored on the chip - which can be read out by command. Low battery can be detected and a checksum improves communication reliability. The resolution of these digital humidity sensors can be changed by command (8/12bit up to 12/14bit for RH/T).

Benefits

- DFN type package
- Relative Humidity and Temperature Digital Output, I²C interface
- Fully calibrated
- Lead free sensor, reflow solderable
- Low power consumption
- Fast response time
- Full interchangeability with no calibration required in standard conditions
- Instantaneous desaturation after long periods in saturation phase
- Compatible with automatized assembly processes, including Pb free and reflow processes
- Individual marking for compliance to stringent traceability requirements

Applications

- Home Appliance
- Medical
- Printers
- Humidifier

■◀ HTU21 Humidity Temperature Sensor

Learn how the HTU21 Humidity Temperature Sensors maintain constant conditions to increase efficiency and reduce waste in appliances like refrigerators.
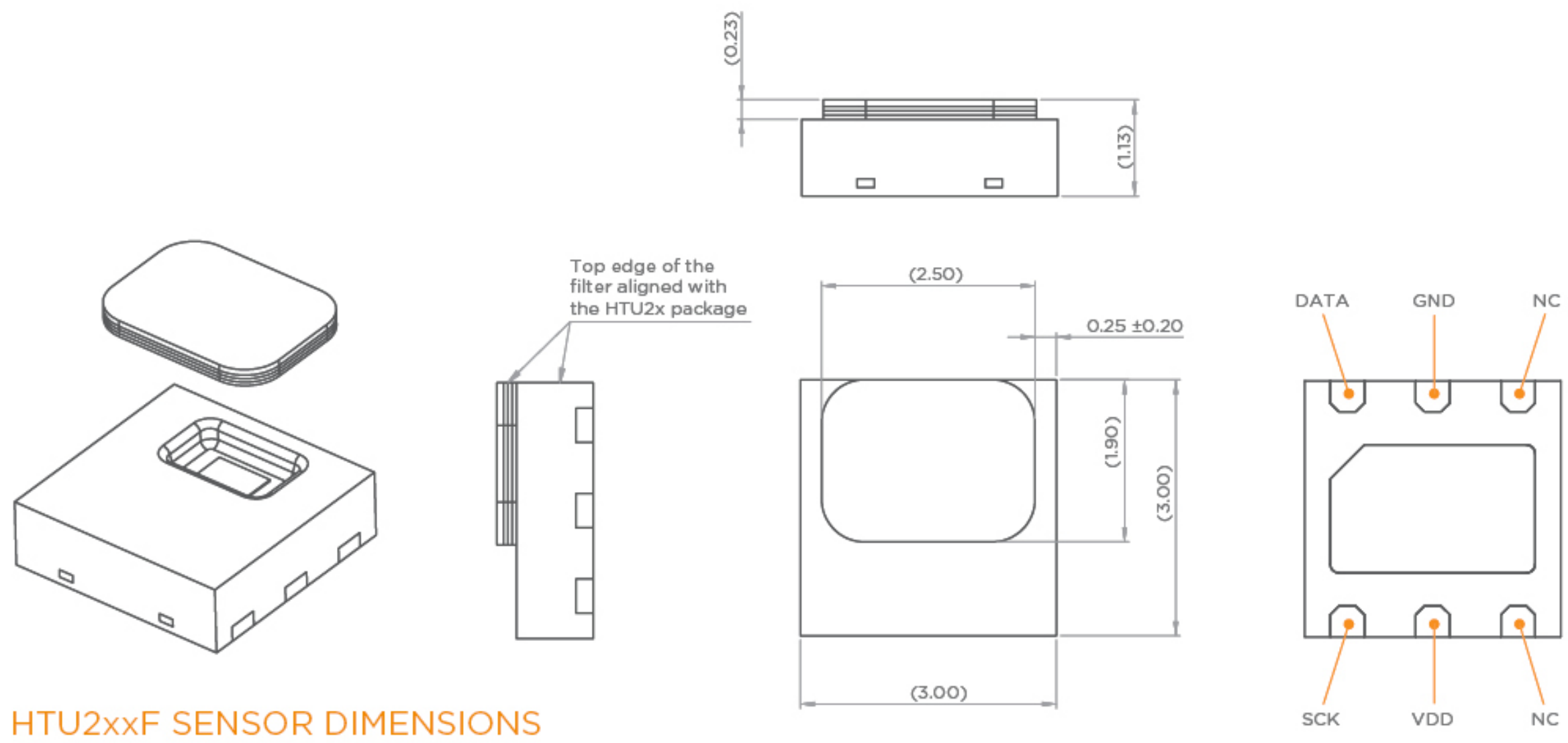
HTU2xxF SENSOR DIMENSIONS

Features

Product Type Features

Product Type	RHT
Sensor Type	Digital

Electrical Characteristics

Supply Voltage (Peak) (V)	3.8
Current Consumption (mA)	.014

Usage Conditions

Humidity Operating Range (%RH)	0 - 100
Operating Temperature Range (°C)	-40 - 125, -40 - 125
Operating Temperature Range (°F)	-40 - 257, -40 - 257

Products (1 of 2)
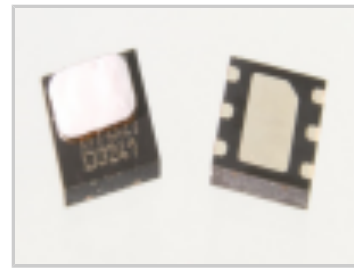
	HTU21DF RH/T SENSOR IC B400	I.C 21D RH/T B400	HTU21DF RH/T SENSOR IC B5000	I.C 21D RH/T B5000
TE Model / Part #	HPP845E131R4	HPP845E031R4	HPP845E131R5	HPP845E031R5
EU RoHS Directive 2011/65 /EU	EU RoHS Compliant	EU RoHS Compliant	EU RoHS Compliant	EU RoHS Compliant
EU ELV Directive 2000/53/EC	EU ELV Compliant	EU ELV Compliant	EU ELV Compliant	EU ELV Compliant
Product Families	MEAS	MEAS	MEAS	MEAS
Series	MEAS HTU	MEAS HTU	MEAS HTU	MEAS HTU
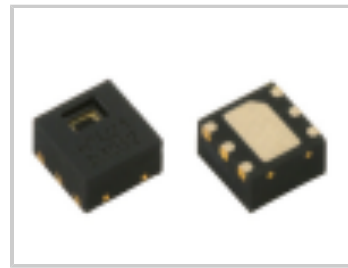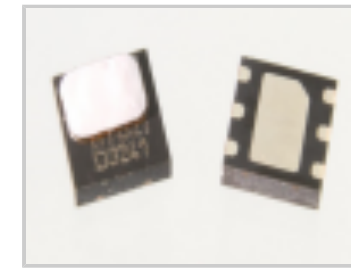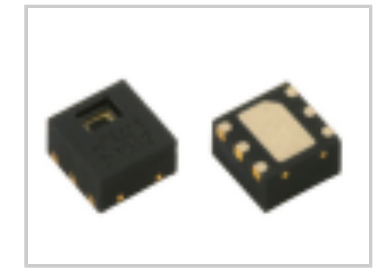
*EU RoHS Directive 2011/65/EU

These products comply with the substance restrictions of the Restriction on Hazardous Substances Directive 2011/65/EU (RoHS2). The RoHS2 Directive requires that certain electrical and electronic equipment products do not contain mercury, cadmium, hexavalent chromium, PBB, PBDE, lead, DEHP, BBP, DBP and DIBP above defined thresholds. Products indicated as 'Compliant' do not contain any of these substances above the prohibition thresholds. Finished electrical and electronic equipment products will be CE marked as required by the Directive. Components may not be CE marked.

**EU ELV Directive 2000/53/EC

These products comply with the substance restrictions of the End of Life Vehicles Directive 2000/53/EC (ELV). The ELV Directive requires that materials and components of vehicles do not contain mercury, cadmium, hexavalent chromium, and lead above defined thresholds. Products indicated as 'Compliant' do not contain any of these substances above the prohibition thresholds.

Products (2 of 2)

	HTU21D RH/T SENSOR	HTU21DF RH/T SENSOR W. FILTER
TE Model / Part #	HPP845E031	HPP845E131
EU RoHS Directive 2011/65/EU	EU RoHS Compliant	EU RoHS Compliant
EU ELV Directive 2000/53/EC	EU ELV Compliant	Not Yet Reviewed for EU ELV
Product Families	MEAS	MEAS
Series	MEAS HTU	MEAS HTU

*EU RoHS Directive 2011/65/EU

These products comply with the substance restrictions of the Restriction on Hazardous Substances Directive 2011/65/EU (RoHS2). The RoHS2 Directive requires that certain electrical and electronic equipment products do not contain mercury, cadmium, hexavalent chromium, PBB, PBDE, lead, DEHP, BBP, DBP and DIBP above defined thresholds. Products indicated as 'Compliant' do not contain any of these substances above the prohibition thresholds. Finished electrical and electronic equipment products will be CE marked as required by the Directive. Components may not be CE marked.

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Related Materials

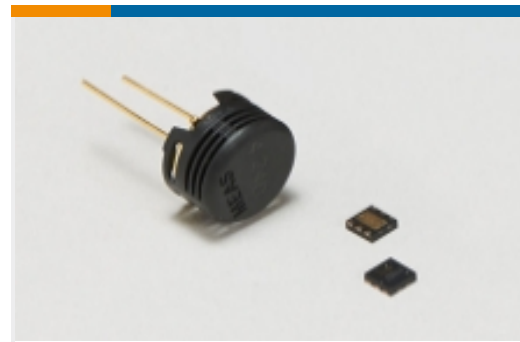### Data Sheet

HTU21D

English

External Link

Generic C Driver - HTU21D

Download the HTU21D Generic C driver from Github.

Also in the Series | MEAS HTU

Humidity Sensor Assemblies(2)

Humidity Sensor Components(21)