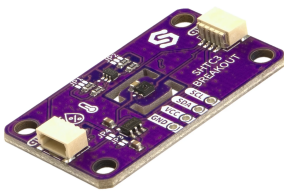


PRODUCT DATASHEET



Temperature and Humidity Sensor SHTC3 Breakout

333032

The SHTC3 breakout board precisely measures temperature and humidity, featuring easy I2C connectivity and low power consumption.

Full product documentation, files and tutorials: solde.red/333032

CORE ATTRIBUTES

SKU 333032

WEIGHT 5 g

BARCODE 732388673209

DESCRIPTION

Want to keep track of both the humidity and temperature in your room? Or maybe in the greenhouse to protect your crops? The SHTC3 breakout board is the solution you're looking for! The digital sensor measures the changes in humidity and temperature very precisely. Since it's very accurate and the temperature range is wide, it is a go-to sensor if you want precise climate information.

The breakout board uses the I2C communication protocol. Thus, it has two Qwiic ports so no soldering, nor distinguishing between SDA and SCL is required. The hardware-defined I2C address is 0x70. The design is 3.3V ready with an onboard regulator for 5V. The board's standard current consumption is low, only 430 μ A.

Product usage tips: If you encounter errors when using the breakout board, see if it's connected properly. First, look at the pinout on the board and your microcontroller. If everything seems OK, look at the connections on the breakout board. If all the wiring is correct, make sure that the breakout board's I2C address is right. It should be 0x70. Everything as it should be so far? Go through your code again. There might be some bugs that are stopping things from working as expected.

The SHTC3 breakout board works wonderfully in combination with [Dasduino Core](#) and [16×2 Qwiic LCD](#). You can display temperature in one row and humidity in the other. Due to the Qwiic connections on all three, hooking all the devices together is as easy as it gets. The SHTC3 breakout board has two mounting holes so it can be attached to the project and won't budge. The pins provided can be soldered if you don't want to use the Qwiic ports.

To keep the longevity of the sensor, keep track of the current going through the circuit. Allowing an excessive amount of current to flow through it may cause the sensor to fail. It is not impact-resistant. When dropped from a high distance or at an odd angle, it can break beyond repair.

TECHNICAL DETAILS

- **Standard current consumption:** 430 μ A
- **Standby current consumption:** 45 μ A
- **Logic voltage level:** 3.3V
- **Operating voltage:** 3.3 (onboard regulator for 5V)
- **Temperature measurement span:** -40°C to 125°C; $\pm 0.2^\circ\text{C}$
- **Relative humidity measurement span:** 0% to 100%; $\pm 2\%$ RH
- **Communication:** I2C (address: 0x70)
- **Connectors:** Qwiicx2
- **Mounting holes:** 2
- **Dimensions:** 22 $\times$ 22 mm / 0.9 $\times$ 0.9 inch

SPECIFICATIONS

INTERFACE	I2C
QWIIC COMPATIBLE	Yes
I2C ADDRESS DEFAULT	0x70
I2C ADDRESS CHANGEABLE	No
BREADBOARD COMPATIBLE	Yes
MEASUREMENT TYPES	Temperature, Humidity
MEASUREMENT RANGE	Temperature -40 to 125 C; Humidity 0 to 100 %RH
MEASUREMENT ACCURACY	Temperature +/-0.2 C; Humidity +/-2 %RH
IC PART NUMBER	SHTC3
SUPPLY VOLTAGE MIN V	3.3
SUPPLY VOLTAGE MAX V	5
LOGIC LEVEL	3V3 Or 5V
OPERATING CURRENT (MA)	0.478 mA
SLEEP CURRENT UA	0.3

LINKS

Arduino Library	https://github.com/SolderedElectronics/Soldered-SHTC3-Temperature-Humidity-Sensor-Arduino-Library
Full Documentation	https://docs.soldered.com/shtc3/overview/
Arduino: Get Started	https://docs.soldered.com/shtc3/arduino/getting-started/
Hardware Details	https://docs.soldered.com/shtc3/hardware/
	https://docs.soldered.com/shtc3/arduino/examples/

**Arduino Library
Documentation**

MicroPython Module	https://github.com/SolderedElectronics/Soldered-MicroPython-Modules/tree/main/Sensors/SHTC3
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Pinout	https://docs.soldered.com/assets/images/SHTC3-pinout-0c7a38f851d288aceb8fc3c4da14ef2c.png
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GALLERY

