Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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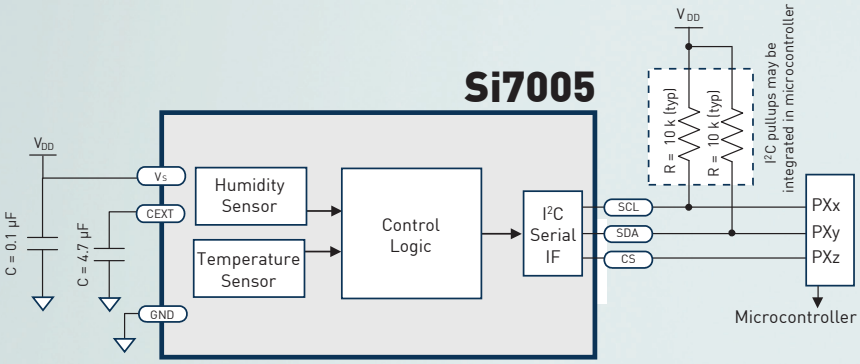
Humidity and Temperature Sensors

www.silabs.com/humidity-sensor

DIGITAL I²C HUMIDITY AND TEMPERATURE SENSORS

The Si7005 is a digital relative humidity and temperature sensor. This monolithic CMOS IC integrates temperature and humidity sensor elements, an analog-to-digital converter, signal processing, calibration data, and an I²C host interface. The patented use of industry-standard, low-K polymeric dielectrics for sensing humidity enables the construction of a low-power, monolithic CMOS sensor IC with low drift and hysteresis and excellent long term stability. Both the temperature and humidity sensors are factory-calibrated and the calibration data is stored in the on-chip non-volatile memory. This ensures that the sensors are fully interchangeable, with no recalibration or software changes required. The Si7005 is packaged in a 4 mm x 4 mm QFN package and is reflow solderable.



FEATURES

- Relative Humidity Sensor:
  - ± 4.5% RH (maximum @ 20–80% RH)
- Temperature Sensor:
  - ±0.5 °C accuracy (typical)
  - ±1 °C accuracy (maximum @ 0 to 70 °C)
- 0 to 100% RH operating range
- –40 to +85 °C (-GM)
- 0 to +70 °C operating range (-FM)
- Wide operating voltage range (2.1 to 3.6 V)
- Low Power Consumption:
  240 µA during RH conversion
- I²C host interface
- Integrated on-chip heater
- 4 mm x 4 mm QFN package
- Excellent long term stability
- Factory calibrated
- Optional factory-installed filter/cover
  - Low-profile
  - Protection during reflow
  - Excludes liquids and particulates (hydrophobic/oleophobic)

APPLICATIONS

- Industrial HVAC/R
- Thermostats/humidistats
- Respiratory therapy
- White goods
- Micro-environments/data centers
- Automotive climate control and de-fogging
- Asset and goods tracking

LOWEST POWER INTEGRATED RH SENSOR

MORE INFORMATION AND DOCUMENTATION DOWNLOADS AT: www.silabs.com/humidity-sensor

SILICON LABS

Engineering for a mixed-signal world.

Humidity and Temperature Sensors

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Si7005 Development Tools

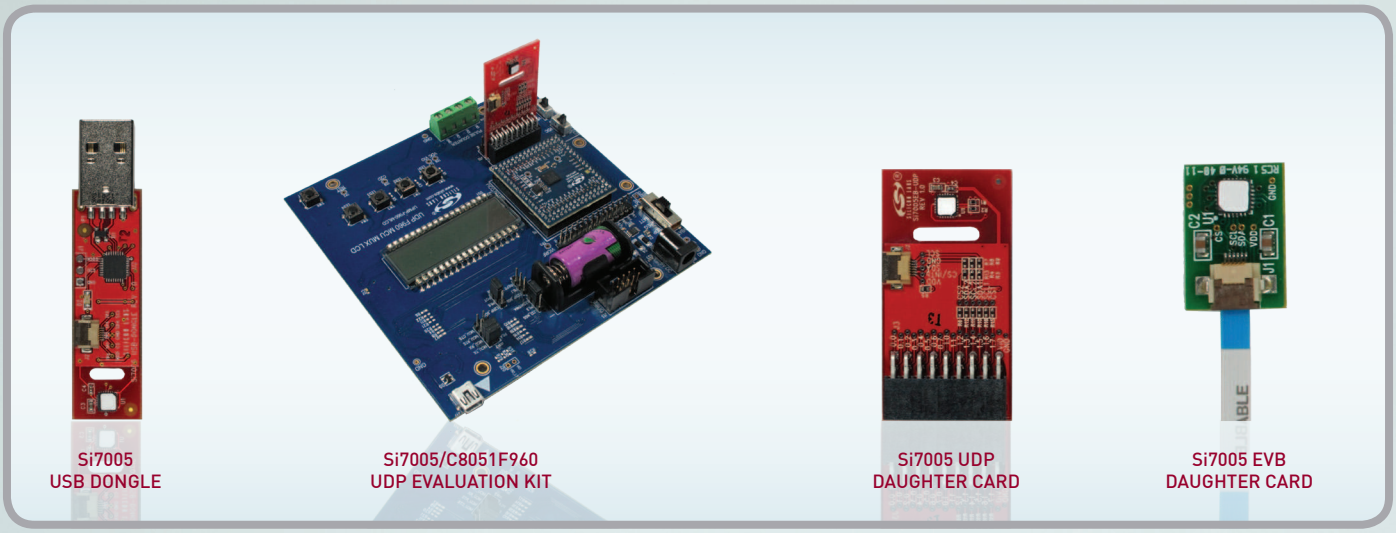
The Si7005 is supported by a suite of hardware and software development tools that facilitate testing/characterization, prototyping and software development.

The **Si7005USB-DONGLE** Evaluation kit comes with everything developers need to demonstrate and evaluate the Si7005. The board plugs into a PC via a USB socket. It has a connector for adding the Si7005USB-EVB.

The optional **Si7005-EVB** is a small daughter card that permits evaluation of the Si7005 at the end of a flex cable. It is a useful add-on to the Si7005USB-DONGLE (it plugs right in) if the user wants to put a sensor in a temperature/humidity chamber or a product prototype.

The **Si7005EVB-UDP** is a small daughter card that permits evaluation of the Si7005 in conjunction with certain Unified Development Platform (UDP) components such as the C8051F960 Ultra-Low Power Microcontroller Development Kit It plugs directly into UDP MCU cards for fast prototyping and software development. In addition to an on-board Si7005, there is a connector for adding an Si7005-EVB via its flex cable, allowing the user to place the Si7005 in a temperature/humidity chamber or a product prototype.

The **Si7005EVB-UDP-F960** Development Kit combines the C8051F960 Ultra-Low Power Microcontroller Development Kit and the Si7005EVB-UDP daughter card with data logger demonstration code. It is a complete package designed to support hardware and software development using the Si7005 and Silicon Lab's ultra-low power MCUs. It ships with example software that implements a portable, battery-powered data logger/asset tracker.



Si7005
USB DONGLE

Si7005/C8051F960
UDP EVALUATION KIT

Si7005 UDP
DAUGHTER CARD

Si7005 EVB
DAUGHTER CARD

Digital I²C Humidity and Temperature Sensors

PART NUMBER	DESCRIPTION	TYP ACCURACY		TEMPERATURE RANGE	FILTER COVER	PACKAGE FORMAT	PACKAGE
		TEMP.	RH				
Si7005-B-FM	Compact digital relative humidity (RH) and temperature sensor IC, commercial grade	±0.5 °C	±3%	0 to 70 °C		Tube	QFN24
Si7005-B-FM1	Compact digital relative humidity (RH) and temperature sensor IC, commercial grade with pre-installed protective cover	±0.5 °C	±3%	0 to 70 °C	•	Tray	QFN24
Si7005-B-FM1R	Compact digital relative humidity (RH) and temperature sensor IC, commercial grade with pre-installed protective cover on tape and reel	±0.5 °C	±3%	0 to 70 °C	•	Tape-and-Reel	QFN24
Si7005-FMR	Compact digital relative humidity (RH) and temperature sensor IC, commercial grade on tape and reel	±0.5 °C	±3%	0 to 70 °C		Tape-and-Reel	QFN24
Si7005-B-GM	Compact digital relative humidity (RH) and temperature sensor IC, industrial grade	±0.5 °C	±3%	–40 to 85 °C		Tube	QFN24
Si7005-B-GM1	Compact digital relative humidity (RH) and temperature sensor IC, industrial grade with pre-installed protective cover	±0.5 °C	±3%	–40 to 85 °C	•	Tray	QFN24
Si7005-B-GM1R	Compact digital relative humidity (RH) and temperature sensor IC, industrial grade with pre-installed protective cover on tape and reel	±0.5 °C	±3%	–40 to 85 °C	•	Tape-and-Reel	QFN24
Si7005-GMR	Compact digital relative humidity (RH) and temperature sensor IC, industrial grade on tape and reel	±0.5 °C	±3%	–40 to 85 °C		Tape-and-Reel	QFN24

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