



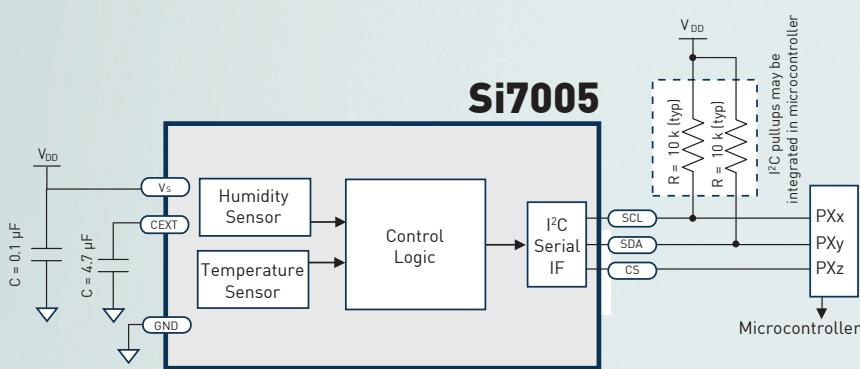
Humidity and Temperature Sensors

www.silabs.com/humidity-sensor



DIGITAL 1²C 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:
 - $\pm 4.5\%$ RH (maximum @ 20–80% RH)
 - Temperature Sensor:
 - $\pm 0.5\text{ }^{\circ}\text{C}$ accuracy (typical)
 - $\pm 1\text{ }^{\circ}\text{C}$ accuracy (maximum @ 0 to $70\text{ }^{\circ}\text{C}$)
 - 0 to 100% RH operating range
 - -40 to +85 $^{\circ}\text{C}$ (-GM)
 - 0 to +70 $^{\circ}\text{C}$ 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/oilophobic)

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



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Si7005 Development Tools

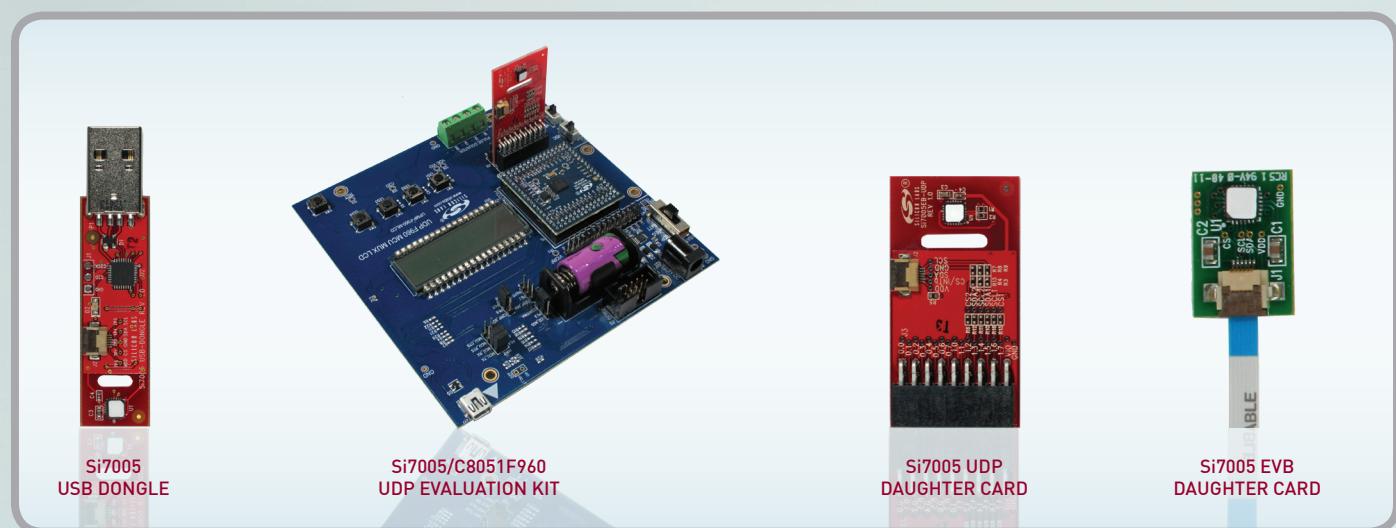
The Si7005 is supported by a suite of hardware and software development tools that facilitate testing/characterization, prototyping and software development.

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.



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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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<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибуторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ Р В 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru
moschip.ru_4

moschip.ru_6
moschip.ru_9