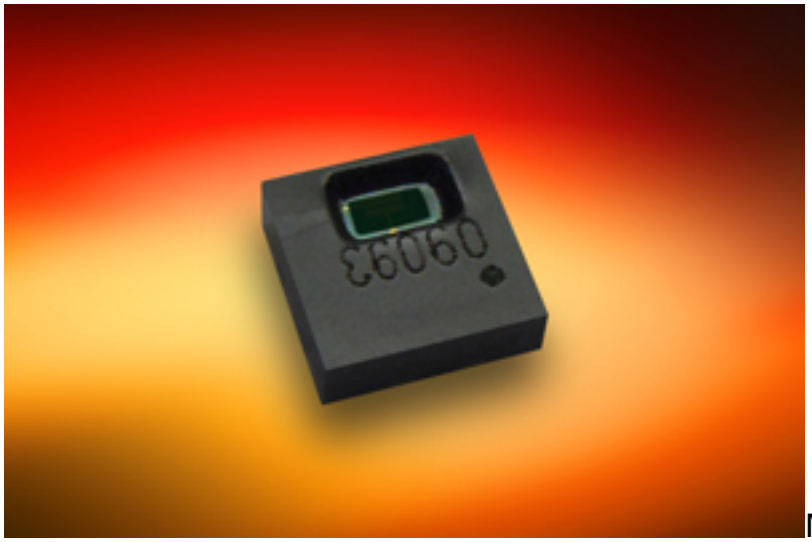
Digital, 1.8-V humidity sensor touts compact size



Measurement Specialties announced the HTU21D, an ultra-compact, low power digital humidity/temperature sensor. The self-contained sensor interfaces directly with a microcontroller, ensuring a better signal path as well as reducing costs, space requirements and power consumption, according to the company. The HTU21D, which requires only 1.8 V for operation, offers an adjustable resolution for humidity and temperature of 8/12-bit or 12/14-bit, depending on needed response time. Data transfer rates are as high as 400 kHz with a typical measurement accuracy of ±2 percent with a 0 to 100 percent relative humidity (RH) measuring range, and the sensor can withstand repeated condensation. Measuring 3 mm x 3 mm x 0.9 mm in a DFN (dual flat no leads) package, the HTU21D is ideal for a variety of demanding OEM applications found in the automotive, security, medical and home appliance industries. The typical draw of only 2.7 µW makes it useful in battery-powered equipment.

A unique laser-etched tracking code on each sensor, also included in the ASIC for ultimate traceability, helps maintain product quality through simplified part traceability. The HTU21D is also compatible with standard reflow assembly processes. Designed for exceptional reliability, the sensor accurately measures temperature to 0.4°C across an extended range of -40°C to +125°C. Even after 150 hours of condensation, the sensor needs only 10 seconds to recover and resume full operation. The lead-free HTU21D comes standard with an I2C interface and is available in PWM and SDM packaging upon request. No external components are required and as little as 0.08 µA is consumed in sleep mode, with a power dissipation of up to 1.1 µAW. Long term drift is typically of ±5 percent RH per year.

Pricing for an HTU21D is $1.50 per unit in quantities of 100,000.

Measurement Specialties, www.meas-spec.com [1]

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Links:
[1] http://www.meas-spec.com