ams' new temperature sensor offers best-in-class combination of accuracy, ultra-low power consumption and small size Der neue Temperatursensor von ams bietet eine branchenführende Kombination aus Präzision, extrem niedrigem Energieverbrauch und geringer Größe

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New AS6200 digital temperature sensor in 1.5 mm x 1mm package is easy to design into IoT, mobile and battery-powered applications

German version

Premstaetten, Austria (22 June, 2016) -- ams AG (SIX: AMS), a leading provider of high performance sensors and analog ICs, today launched an integrated digital temperature sensor which offers an industry-best combination of low power consumption and high accuracy in a small package.

The 1.5mm x 1mm **AS6200**'s typical current is 6µA at a measurement rate of 4 samples per second, and its digital measurement outputs are accurate to ±0.4°C.

The factory calibrated AS6200 integrates in a single chip the functions required in a temperature sensing system, making it easy for users to design the sensor into their space-constrained or battery-powered products.

The device consists of a silicon bandgap sensor, an analog-to-digital converter, a digital signal processor and a serial I²C interface. The on-chip DSP handles all linearization and calibration, produ-cing a 12-bit (0.0625°C resolution) binary output.

Despite its high level of integration, the AS6200 draws very little current. Operating from a supply range of 1.8V-3.6V, the AS6200 draws just 1.5µA at a measurement rate of 1 sample. The conversion rate can be set in a range from 0.25Hz to 8Hz. At lower conversion frequencies, power consumption is lower. In stand-by mode, in which all the chip's functions are turned off except the serial interface, it draws just 0.1µA (typical).

Small and ultra low power, the AS6200 creates new opportunities for manufacturers of battery-powered, mobile and wearable devices to implement digital temperature sensing into new designs without paying a power or space penalty. Industrial process control solutions, and Internet of Things applications such as cold-chain monitoring are significantly enhanced as space and power savings are realized when using the AS6200.

"Backed by ams' proprietary low-power, high-sensitivity analog process, this results in the factory calibrated AS6200's industry-best combination of accuracy (±0.4°C, max between 0°C to 65°C), low power consumption and small size (1.5mm2)", said Christian Feierl, marketing manager at ams.

The sensor's I²C interface allows for two devices to be connected to one bus. The sensor also has a pin dedicated to an Alert function, which triggers an interrupt at the host microcontroller when the measured temperature crosses a high or low temperature threshold set by the user.

The AS6200 is available immediately in production volumes. Unit pricing is US$ 0.62 in order quantities of 1,000.

An evaluation board is available online from the ams ICdirect online store. For more technical information and for sample requests, go to **ams.com/AS6200** and watch our **video**.
In addition ams is demonstrating AS6200 at Sensors Expo in San Jose (US), June 21 – 23, 2016, booth **1016**.