



Monitor Temperature at Multiple Locations with Low-power 1.8V Temperature Sensor Family

Measure temperature fluctuation with industry's first rate-of-change reporting feature

CHANDLER, Ariz., October 15, 2018 —Temperature measurement is central to the functionality of Internet of Things (IoT) and personal computing devices, making it imperative that developers integrate temperature sensors that reduce power consumption and lower system voltage in applications. To meet these needs, Microchip Technology Inc. (**NASDAQ: MCHP**) today announced five new 1.8V temperature sensors, including the industry's smallest five-channel temperature sensor with standard lead spacing. The [EMC181x temperature sensor family](#) also introduces system temperature rate-of-change reporting, a feature that provides advanced warning on how the temperature of a system is fluctuating.

Monitoring temperature at multiple locations with a single, integrated temperature sensor reduces board complexity and simplifies design. The EMC181x temperature sensor family offers a variety of remote channels at 1.8V operation to fit different design needs, ranging from two to five channels. The family is ideal for applications migrating from 3.3V systems to lower voltage rails, such as battery operated IoT applications, personal computing devices, Field-Programmable Gate Arrays (FPGAs) and Graphics Processing Units (GPUs). Additionally, the EMC181x family is register and voltage compatible with Microchip's popular 3.3V EMC14xx temperature sensors, making migration to 1.8V testable and achievable. With the three-channel sensor available in an 8-pin 2 x 2 mm footprint and the five-channel in a 10-pin 2 x 2.5 mm footprint, the sensors can also reduce the number of devices needed for remote temperature monitoring.

With the ability to measure the system temperature rate of change, the EMC181x devices are the industry's first to offer two-dimensional temperature sensing. In addition to reporting on the regular temperature, the feature notifies customers of the rate of temperature change in a system and shares data that can help better regulate applications. Ideal for closed control loop systems and other applications that prioritize lower voltage rails, the system provides an early notification of rising or falling temperatures, protecting against potential system failure.

"As customers migrate to lower voltage rails, the demand for multi-channel, low-voltage temperature sensors continues to grow," said Bryan Liddiard, vice president of Microchip's Mixed-Signal and Linear Division. "The EMC181x family exemplifies Microchip's leadership in thermal

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management, offering customers flexible design choices and a new feature in rate-of-change reporting.”

At 1.8V, the EMC181x multi-channel sensor family is compatible with Microchip’s extensive portfolio of low-voltage and low-power microcontrollers.

Development Tools

The ADM00773 evaluation board provides everything needed to demonstrate the 1.8V three-channel two-wire EMC1833 temperature sensor and gives functional insight into the other EMC181x family members. It facilitates evaluation of programmable features such as rate of change, temperature alert limits and Resistance Error Correction (REC), in addition to providing off-board temperature measurements and data logging. The evaluation board connects to a PC through a USB interface board and comes with the Microchip Thermal Management Software Graphical User Interface (GUI).

Pricing and Availability

The EMC181x family consists of five devices, all available today for sampling and volume production. Pricing begins at \$0.44 USD per 10,000 units for the EMC1812T two-channel sensor.

For additional information, contact any Microchip sales representative or authorized worldwide distributor, or visit Microchip’s website. To purchase products mentioned here, visit our [purchasing portal](#) or contact one of Microchip’s authorized distribution partners.

Resources

High-res images available through Flickr or editorial contact (feel free to publish):

- Application image: <https://www.flickr.com/photos/microchiptechnology/44633767052>
- Chip graphic: <https://www.flickr.com/photos/microchiptechnology/44633766792>
- Video available through YouTube or editorial contact (feel free to post): <https://youtu.be/AnfuSs33d4Q>

About Microchip Technology

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