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World's First Integrated Thermocouple Electromotive Force to Degrees Celsius Converter From Microchip Saves Design Effort, Space and Cost

Industry's First Converter IC to Integrate Precision Instrumentation, Temperature Sensor and High-Res ADC, Along With Math Engine That Supports Most Thermocouple Types

CHANDLER, Ariz., Aug. 31, 2015 /PRNewswire/ -- Microchip Technology Inc. (NASDAQ: MCHP), a leading provider of microcontroller, mixed-signal, analog and Flash-IP solutions, today announced the [MCP9600](#)—the world's first thermocouple-conditioning integrated circuit to combine precision instrumentation, a precision temperature sensor and a precision, high-resolution analog-to-digital converter (ADC), in addition to a math engine preprogrammed with the firmware to support a broad range of standard thermocouple types (K, J, T, N, S, E, B and R). Thermocouples are one of the most ubiquitous temperature-measurement devices, due to their robustness and accuracy in harsh, high-temperature environments, and their ability to measure temperature over an extremely wide range. The MCP9600 simplifies thermocouple designs by integrating a number of discrete devices into one chip, which also lowers board area, cost and power consumption.



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To learn more about Microchip's MCP9600, visit <http://www.microchip.com/MCP9600-Page-063015a>. And, view a brief presentation, here: <http://www.microchip.com/MCP9600-Press-Presentation-063015a>

Thermocouples are widely used to measure temperature by the designers of industrial, consumer, automotive/aerospace and petrochemical applications, among others. The MCP9600 provides them with the world's first plug-and-play solution for creating thermocouple-based designs, because it eliminates the design expertise required for a discrete implementation, such as firmware development using an MCU's math engine.

Designers no longer have to create precision instrumentation circuitry to accurately measure a thermocouple's microvolt-level signals, nor do they have to design ADC circuitry for precise temperature calculations. With the MCP9600's integrated cold-junction compensation, calculating the "Hot" junction temperature of a thermocouple doesn't necessitate thermal design expertise to precisely measure the reference temperature of the thermocouple's "Cold" junction.

"The MCP9600 is the only system-on-a-chip thermocouple-conditioning IC on the market," said Bryan J. Liddiard, marketing vice president of Microchip's Analog and Interface Products Division. "It offers customers a fully integrated, plug-and-play solution for a non-trivial application, saving development time and resources."

Other features of the MCP9600 include a temperature-data digital filter, which minimizes the effects of temperature fluctuations, system noise and electromagnetic interference. Its shutdown modes reduce overall system power consumption, while its four user-programmable temperature-alert outputs reduce the system microcontroller's overhead and code space, while further simplifying designs. Finally, the MCP9600 comes in a 5x5 mm, 20-lead mQFN package, which further reduces board area and manufacturing cost.

Development Support

The [MCP9600 Thermocouple IC Evaluation Board](#) (part # ADM00665) was also announced today, to enable development. It is available now for \$65.00.

Pricing and Availability

The MCP9600 is available today for sampling and volume production, in a 5x5 mm, 20-lead mQFN package. Prices start at \$3.54 each in 5,000-unit quantities. For additional information, contact any Microchip sales representative or authorized worldwide distributor, or visit Microchip's Web site at <http://www.microchip.com/MCP9600-Page-063015a>. To purchase products mentioned in this press release, go to [microchipDIRECT](#) or contact one of Microchip's authorized distribution partners.

Resources

High-res Images Available Through Flickr or Editorial Contact (feel free to publish):

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About Microchip Technology

Microchip Technology Inc. (NASDAQ: MCHP) is a leading provider of microcontroller, mixed-signal, analog and Flash-IP solutions, providing low-risk product development, lower total system cost and faster time to market for thousands of diverse customer applications

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