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Microchip Technology Unveils Industry's First Operational Amplifiers (Op Amps) with On-Chip, One-Shot Calibration Circuit

High-Speed (50 MHz) Op Amps Enable Extremely Low Offset and Drift

CHANDLER, Ariz.--(BUSINESS WIRE)-- Microchip Technology Inc. (NASDAQ: MCHP), a leading provider of microcontroller and analog semiconductors, today announced the world's first and only op amps to include mCal, an on-chip calibration circuit that calibrates offset voltage at power-up using an internal power on-reset detector, or based upon the state of an external pin. The result is a low initial voltage offset and a means to minimize drift over time and temperature, which are extremely important for applications involving instrumentation and sensor conditioning. The high-bandwidth (50 MHz), low-power MCP651/2/5 (MCP65X) op amps provide low bias and quiescent currents, high output-drive capability and a rail-to-rail output for better performance across the entire operating-voltage range. This feature set makes the op amps ideal for even the most demanding applications--including those in the consumer, industrial and medical markets.

The MCP65X op amps feature a high output-drive current of 95 milliamperes, which enables them to drive heavy loads and results in better performance across a wide range of applications. With their rail-to-rail output, the op amps provide greater dynamic range--even at lower operating voltages--for more accurate performance across the entire operating-voltage range.

Susie Inouye, research director and principal analyst with Databeans, Inc., said, "Real-time control is gaining momentum in the electronics market, resulting in a rejuvenation of demand for high-speed amplifiers. We expect overall high-speed amplifier revenue to outpace the overall amplifier market, growing at close to 10 percent on average annually each year for the next five years. Microchip's mCal technology provides customers with an innovative precision and high-speed solution that can be calibrated in the field, allowing greater flexibility and performance in equipment designs."

"The MCP65X is the industry's first op amp family to feature an on-chip, one-shot calibration circuit that is active upon power-up or controlled via an external hardware pin," said Bryan Liddiard, vice president of marketing with Microchip's Analog and Interface Products Division. "This unique mCal feature leverages Microchip's expertise in both analog and digital to provide an innovative solution for high-speed, high-precision applications."

Kevin Tretter, senior product marketing manager with Microchip's Analog and Interface Products Division, continued, "This new amplifier family is expected to enable new markets for Microchip by expanding its CMOS op amp portfolio into higher-speed applications."

Applications requiring high speed and precision are appropriate for the MCP65X op amps. Examples include those in the Consumer Electronic (microphone preamplifiers, optical

detector circuitry, digital scales); Industrial (instrumentation, H-bridge drivers, barcode scanners, transmission-line drivers); and Medical markets (patient monitoring, ultrasound equipment, instrumentation).

Development Support

Microchip also announced the MCP651 Evaluation Board (Part # MCP651EV-VOS) today, to provide a simple means for measuring the MCP651 op amp's input offset voltage under a variety of conditions. The measured input offset voltage includes the input offset voltage specified in the MCP651 datasheet, plus changes due to power-supply voltage, common-mode voltage, output voltage, input offset-voltage drift over temperature and 1/f noise. The board is priced at $30, and is available today at http://www.microchipdirect.com.

Additionally, like all Microchip op amps, the MCP65X family is supported by the FilterLab(R) Analog Filtering Software Tool and the Mindi(TM) Online Simulator Tool. Available for free from Microchip's Web site at http://www.microchip.com/filterlab, the FilterLab Analog Filtering Software Tool provides full schematic diagrams of the filter circuit with component values, and displays the frequency responses. Also available for free, the interactive Mindi Online Simulator Tool (http://www.microchip.com/mindi) enables designers to quickly generate circuit diagrams, simulate circuits and specify passive components for a variety of active-filter, amplifier and power-management applications. Circuits developed using the Mindi tool can be downloaded to a PC or workstation, and are often ported directly into system diagrams.

Op Amp Packaging, Pricing & Availability

The MCP651 op amp is available in an 8-pin SOIC package for $1.21 each, in 10,000-unit quantities. The MCP652 is also available in an 8-pin SOIC package for $1.49 each in 10,000-unit quantities, and in a 3 x 3 mm DFN package for $1.55 each in 10,000-unit quantities. The MCP655 is available in 10-pin MSOP and 3 x 3 mm DFN packages for $1.58 each in 10,000-unit quantities, for both package options.

Samples can be ordered today at http://sample.microchip.com. Volume production orders can be placed today at http://www.microchipdirect.com. For further information, contact any Microchip sales representative or authorized worldwide distributor, or visit Microchip's Web site at http://www.microchip.com/mcp65x.

Microchip Customer Support

Microchip is committed to supporting its customers by helping design engineers develop products faster and more efficiently. Customers can access four main service areas at http://www.microchip.com. The Support area provides a fast way to get questions answered; the Sample area offers evaluation samples of any Microchip device; microchipDIRECT provides 24-hour pricing, ordering, inventory and credit for convenient purchasing of all Microchip devices and development tools; finally, the Training area educates customers through webinars, sign-ups for local seminar and workshop courses, and information about the annual MASTERs events held throughout the world.

About Microchip Technology

Microchip Technology Inc. (NASDAQ: MCHP) is a leading provider of microcontroller and analog semiconductors, providing low-risk product development, lower total system cost and

faster time to market for thousands of diverse customer applications worldwide. Headquartered in Chandler, Ariz., Microchip offers outstanding technical support along with dependable delivery and quality. For more information, visit the Microchip website at http://www.microchip.com.

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