October 6, 2020

Microchip Unveils First Low-Power Digital-to-Analog Converter (DAC) that Simplifies Handheld Designs by Including Nonvolatile Memory

Octal 12-bit DAC combines nonvolatile memory with an integrated reference voltage to eliminate processor overhead during power-up while enabling smaller, space-constrained systems

CHANDLER, Ariz., Oct. 06, 2020 (GLOBE NEWSWIRE) -- Implementing multi-channel system control or signal outputs using Digital-to-Analog Converters (DACs) in today's portable and handheld industrial, communications, consumer and medical systems has been difficult to do without significant processor overhead for device configuration during power-up. Microchip Technology Inc. **(Nasdaq: MCHP)** today announced a solution to this problem with its **MCP47/48FxBx8** family of octal 12-bit DACs, the first of their kind to include nonvolatile memory and an integrated Voltage Reference (Vref) source so they can be pre-configured for safe and efficient power-up without relying on the system processor.

"Handhelds and other portable systems are expected to deliver more capabilities in smaller, simpler designs," said Bryan J. Liddiard, vice president of Microchip's mixed-signal and linear business unit. "We help achieve this goal with the first DACs that eliminate processor overhead during power-up and provide the channel density, low power consumption and integrated features that today's compact systems need so they can operate over longer periods using smaller, lighter batteries."

Unlike DACs that do not feature nonvolatile memory, the MCP47/48FxBx8 DACs can store user-customized configuration data even when powered down. At power-up, all eight channels are then configured to the pre-defined state without burdening the system processor with this overhead. Integrating a Vref source into the DACs reduces overall system size and complexity while providing the necessary control to meet critical timing needs for safely driving all power outputs. In addition, the device family offers both SPI and I2C serial interfaces to provide the designer with the most flexibility for device communications.

With an operating voltage range of 1.8V to 5.5V, the DACs' low minimum operating voltage and high level of power efficiency combine to improve thermal performance and reliability. The DACs also provide power-on/brown-out reset protection and one of the industry's fastest settling times at 5 microseconds and operate in the extended (-40 °C to +125 °C) temperature range required for industrial and automotive applications.

Pricing and Availability

The MCP47/48FxBx8 family of DACs is available for volume orders. The family includes 8-, 10- and 12-bit resolution devices in a 20-lead VQFN 5 x 5 mm package and a 20-lead TSSOP package. Pricing starts at $2.47 each, in 5,000-unit volumes.

For additional information, contact a Microchip sales representative, authorized worldwide distributor, or visit Microchip's website. To purchase products mentioned here visit our **purchasing portal** or contact a Microchip authorized distributor.

Resources

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

- Application image: **www.flickr.com/photos/microchiptechnology/50368810662/sizes/l/**
- Chip image: **www.flickr.com/photos/microchiptechnology/50368785612/sizes/l/**

About Microchip Technology
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Source: Microchip Technology Incorporated