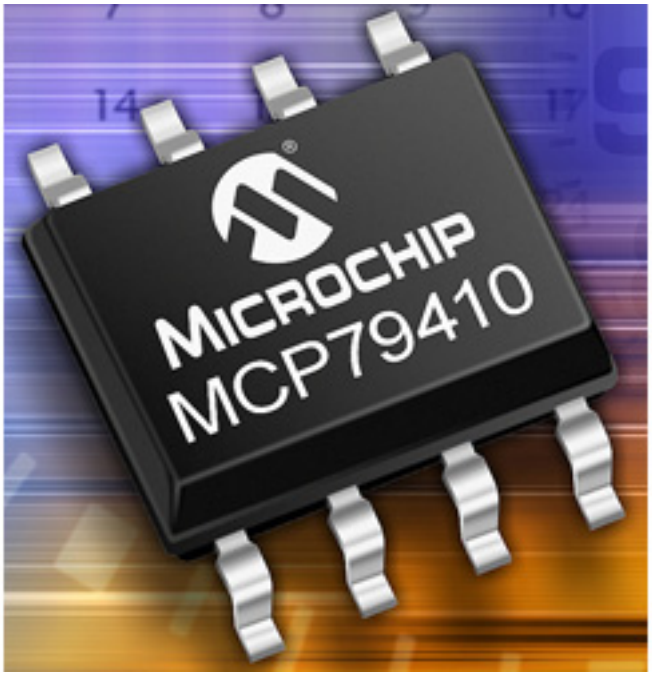
Microchip Announces First Stand-Alone Real-Time Clock-Calendar (RTCC) Family



Microchip Technology today announced its first stand-alone I2C Real-Time Clock/Calendar (RTCC) family. All six MCP794XX devices are highly integrated at a low cost, including ample amounts of on-chip EEPROM and SRAM, as well as a user-lockable section of EEPROM available for a 64-bit reprogrammable unique ID that can be factory-programmed with a MAC address. The devices include digital trimming for time-of-day calibration, and a battery-switchover feature that supports backup power at very low voltage and current levels. By integrating all of these features within a single device at a price of $0.70 each in 10,000-unit quantities, the MCP794XX family reduces component count, and lowers costs for a variety of applications.

Example applications include those in the smart-energy (e.g. thermostats, power meters and commercial refrigeration); home-appliance (e.g. stoves, dishwashers and microwave ovens); automotive (e.g. dashboard controls and car radios); and consumer-electronic markets (e.g. office equipment, irrigation controls and video systems), among others.

Many applications, such as cameras and notebook PCs, require a real-time clock with back-up power to maintain time and alarm settings when the main power is turned off. Other applications, such as commercial refrigeration, point-of-sale equipment and security systems, need a real-time clock with a power-fail monitor to capture and store the timeframes when main power fails. With their on-chip battery-switchover circuit and power-fail timestamp, the MCP794XX RTCC devices deliver this functionality, helping to address system health, safety, and security concerns in applications involving the storage of perishable goods, or monitoring access to secure rooms. The devices can be ordered with a pre-programmed MAC address,

which eliminates a time-consuming step in the production flow, and the digital trimming feature can support software temperature compensation, which lowers costs in comparison to devices where temperature compensation takes place in hardware.

“Having incorporated RTCCs onto our microcontrollers for some time, we are now pleased to introduce our first stand-alone RTCCs,” said David Wilkie, director of Microchip’s Memory Products Division.

“Many applications, such as refrigeration and security systems, require a clock and alarm that operate during power-down situations. The MCP794XX family gives customers a cost-effective and low pin count option for adding this functionality to their designs without significantly increasing design size or cost.”

Development Support

Microchip’s MCP79410 RTCC PICtail™ Plus Daughter Board (part # AC164140, $45) is expected to be available in February 2011. The daughter board will work with Microchip’s Explorer 16 Development Board (part # DM240001, $129.99), PIC18 Explorer Board (part # DM183032, $99.99), PICkit Serial Analyzer (part # DV164122, $49.99), and XLP 16-bit Development Board (part # DM240311, $59.99).

Packaging, Pricing & Availability

All six MCP794XX RTCC devices are available in 8-pin MSOP, SOIC, TSSOP and TDFN packages. The MCP79400 is priced at $0.64 each; the MCP79401, MCP79402 and MCP79410 at $0.70 each; and the MCP79411 and MCP79412 at $0.76 each, all in 10,000-unit quantities. Samples are available today, at http://www.microchip.com/get/M14L [1]. Volume-production quantities can be purchased today, at microchipDIRECT (http://www.microchip.com/get/0DRT). For further information, contact any Microchip sales representative or authorized worldwide distributor, or visit Microchip’s Web site at http://www.microchip.com/get/T2NT [2].

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