

NEWS RELEASE

Contacts:

Marketing:

Abid Hussain, Summit Microelectronics, Inc.: T: 1 408 523 1000,
ahussain@summitmicro.com

Media:

Barbara Kalkis, *Maestro* Marketing & Public Relations, T: 1 408 996 9975,
kkalkis@compuserve.com



Summit Introduces Industry's Smallest Programmable 500mA Battery Charger

Tiny chip size with just two external components reduces cost and design complexity for Li-Ion and Li-Polymer systems.

Sunnyvale, Calif. – April 6, 2009 – Summit Microelectronics has introduced a new addition to its family of programmable battery charger integrated circuits (IC) for single-cell Li-Ion and Li-Polymer powered systems. The SMB239 is the industry's smallest charger IC and solution, enabling slimmer industrial designs for portable consumer electronics. The device's battery charging parameters are fully programmable via the I2C interface and non-volatile memory, allowing easy system design, without any hardware changes. Additionally, a class-leading set of safety features are incorporated, offering the highest system reliability and protection and eliminating the need for expensive, external safety components.

Features

The SMB239 comprises a highly integrated, 500mA linear charging solution that utilizes a fully programmable algorithm for single-cell Li-Ion and Li-Polymer cells. All charging parameters - pre-charge/fast-charge/charge termination current, cell float/pre-charge voltage, battery temperature/timer safety limits - are configurable via the I²C/SMBus interface, enabling a wide variety of algorithms without hardware changes. Default (custom)

configuration in non-volatile memory allows the same product to be used in different system designs and/or with different battery types and technologies, resulting in significantly lower qualification/inventory costs and sourcing risks. Host/software control capability allows in-system adjustment of the charging profile, minimizing charging time and enhancing safety.

The SMB239 is offered in a tiny 2.1mm x 1.3mm CSP package and requires just two small external chip capacitors for a complete battery charging system design. Unlike other linear chargers offered in packages with a limited number of pins -- most of which need to be used for hardware-based "programming" -- the SMB239's chip-scale package allows the integration of a higher number of features, including critical charging protection functionality. Furthermore, the device eliminates the need for multiple external components necessary for setting charging parameters, thereby reducing system cost and size.

"The SMB239 sets new standards for reduced solution footprint, increased design flexibility and maximum system safety, and does so cost-effectively," stated George Paparrizos, Summit marketing director. "The SMB239's programmability also enables system designers to meet emerging and future battery technology requirements."

The SMB239 integrates the industry's most complete set of safety features to meet the strictest safety standards, including IEEE1725™. These include input and battery over-voltage protection and blocking (+10V), current limit, chip and battery thermal protection, safety timers, battery missing detection and a variety of status and fault registers. A STATUS output pin is also available for indicating charge status and fault conditions. Furthermore, the SMB239 allows the system to initiate battery charging only when battery voltage is below a certain threshold, thereby eliminating frequent charge cycles that may affect battery life.

Applications

The SMB239 is ideal for a wide range of portable devices, including Bluetooth™ mono/stereo headsets and other accessories, mobile phones, digital cameras, portable music players, portable GPS navigation, and handheld medical equipment. The features, size and integration of the SMB239 make it especially suited for devices that include a USB interface because it allows a tiny, low-cost, industry-standard micro USB connector to be the primary data and power/charging interface.

The SMB239 operates with an input range from +4.35V to +6.5V input and safely withstands continuous input over-voltage up to +10V (non-operating), while protecting downstream circuitry. Ensuring long battery life when not connected to a DC power source, the device's reverse leakage current is less than 2microA. The SMB239 is offered in a tiny 2.1mm x 1.3mm, 8-ball, lead-free chip-scale (CSP) package (0.5mm ball pitch) with an operating temperature range of -30C to +85C.

Pricing and Availability

Available now in production quantities, the SMB239 is priced at \$0.81 each in quantities of 10,000 units.

Design Software and Programmer for Prototype Development

To speed user product development, Summit offers customers the SMB239EV companion evaluation board and a graphical user interface (GUI) software so designers can quickly see the features and benefits and design a prototype battery charging solution with the SMB239. This is a complete development tool that lets designers easily manipulate the characteristics of their systems. The SMB239EV design kit includes menu-driven Microsoft Windows (R) GUI software to automate programming tasks and also includes all necessary hardware to interface to the USB port of a laptop or PC.

Once a user completes design and prototyping, the SMB239EV automatically generates a HEX data file that can be transmitted to Summit for review and approval. Summit then assigns a unique customer identification code to the HEX file and programs the customer's production devices prior to final electrical test operations. This ensures that the device will operate properly in the end application.

About Summit Microelectronics

Summit Microelectronics is the leader in flexible, highly integrated power management solutions combining precision power regulation with sophisticated digital control in a single chip. The Company's devices are found in a variety of consumer, communications and computing applications.

Summit's unique programmable, non-volatile mixed-signal IC technology combined with a convenient GUI development environment allows for unparalleled functional and parametric

flexibility in power supply design. This flexibility applied to common problems such as dynamic voltage/current control and intelligent battery charging, allows for significant system performance improvement while realizing drastic reductions in design effort.

Digital programmability enables high integration and system flexibility in a single chip - impossible with conventional "hard-wired" analog power ICs. Additionally, this integration reduces the bill-of-materials yielding the lowest total system cost and size. Summit solutions address the biggest challenges facing OEM developers today: increasing system functionality, performance and complexity accompanied by shrinking development time cycles.

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http://www.summitmicro.com/prod_select/summary/SMB239/SMB239.htm

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Summit Microelectronics
757 N. Mary Avenue
Sunnyvale, CA 94085
T: 1.408.523.1000
WWW.SUMMITMICRO.COM