News Release

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Summit's Multi-Output Programmable Power Manager Combines Digital Power Management and Battery Charging

Single-chip solution targets consumer electronics, maximizing system performance and battery life while reducing system cost, size and design effort.

San Jose, Calif. – January 5, 2006 - **Summit Microelectronics** has announced the newest addition to the company's second generation of multi-output Programmable Power Manager ICs. As a true "one-chip solution" the SMB118 integrates six precision programmable regulators and programmable battery charging to reduce system size and cost in portable consumer electronics. Like the previously announced SMB122, the SMB118 combines analog power regulation and programmable digital power management, providing design flexibility for parametric adjustment and functional configuration.

Summit's easy-to-use PC-based graphical (GUI) development environment allows system designers to digitally program the entire multiple output power supply and associated power management functions with a few clicks of a mouse. In high-volume production Summit provides product that is pre-programmed with the customer's "custom configuration" at no extra cost. Compared to inflexible conventional analog power ICs, the SMB118 yields optimized power system designs in significantly less development time.

Features

The SMB118 incorporates three synchronous step-down converters, one step-up converter, one configurable step-up or step-down converter, and one low-dropout (LDO) linear regulator. Also included is a fully programmable battery charger for single-cell Li-Ion and Li-Polymer cells. All charging parameters are configurable, enabling the utilization of a wide variety of battery packs without hardware changes.

The SMB118 offers an output voltage accuracy of +/-1.5% for all DC-DC outputs and a float voltage accuracy of +/-1.0% for the battery charger. DC-DC Power conversion efficiency of up to 95% reduces thermal dissipation and improves battery life in portable systems. Further enhancing battery life, a shutdown mode reduces current consumption to 0.1uA while automatic PWM/PFM operation improves light load efficiency. For noise-

sensitive radio-frequency (RF) or audio applications the SMB118's oscillator frequency is selectable between 500kHz and 1MHz in 250kHz steps and fixed-frequency PWM override inhibits PFM mode. Short circuit current limiting and thermal protection safety circuits are also built-in to enhance reliability.

The SMB118 operates directly from +2.7V to +6.0V input making it ideally suited for 1-cell Li-Ion or Li-Polymer (+3.0V to +4.2V) battery applications, though line-powered applications are easily supported as well. Higher input voltages (2-cell Li-Ion, +12V, etc.) can be accommodated in many cases with simple applications configuration.

Programmability

The SMB118 provides Digital Power Management via an I^2C interface and non-volatile memory allowing the user to configure power functions and parameters for each channel: individual channel enabling/disabling, power-up/down sequencing, power-up slew rate control, static and dynamic output voltage control (Dynamic Voltage Management). A broad range of intelligent power system diagnostics and monitoring functions are also provided, which can be easily accessed via the I2C serial interface. These include input and output monitoring for under/over-voltage/over-current (UV/OV/OC), integrated RESET control, low/missing battery detection and AC/DC battery detection.

"The SMB118 Programmable Power Manager further extends Summit's leadership in programmable power management, providing an ideal solution for applications that require both high-performance power regulation and sophisticated digital power control," stated Abid Hussain, Summit director of marketing. "The integration of regulators and programmable battery charging in a space-saving 7mm x 7mm QFN package makes the SMB118 a complete, one-chip, solution for today's feature-packed, space-constrained designs. "

Applications

The SMB118 is well suited for powering components commonly found in digital consumer electronics such as digital still cameras/camcorders (DSC/DCC), portable MP3/MEPG4 players, GPS terminals, personal digital assistants (PDAs), as well as the next generation of "smart" mobile phones. The Dynamic Voltage Management feature is particularly useful in Xscale™ and ARM™ CPU applications and where LED backlight brightness control is desired.

The SMB118 has an operating temperature range of $+0^oC$ to $+70^oC$ or -40^oC to $+85^oC$ and is available in the 7mm x 7mm 48-pad QFN package that is lead-free and RoHS-standard compliant.

Price and Availability
Available now in production quantities, the device is priced at $4.89 each in quantities of 10,000 units.

The URL for this product is
http://www.summitmicro.com/prod_select/summary/SMB118/SMB118.htm

Design Software and Programmer for Prototype Development
To speed user product development, Summit offers customers the SMB118EV companion evaluation board and a graphical user interface (GUI) software so designers can quickly see the features and benefits and design a prototype power supply with the SMB118. This is a complete development tool that lets designers easily manipulate the characteristics of their systems. The SMB118EV design kit includes menu-driven Microsoft Windows® graphic user interface (GUI) software to automate programming tasks and also includes all necessary hardware to interface to the parallel or USB port of a laptop or PC.

Once a user completes design and prototyping, the SMB118EV 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. The design kit software can be downloaded today from Summit's website (www.summitmicro.com).

About Summit Microelectronics: "Programmable Power for a Digital World"
Summit Microelectronics is the leader in flexible, multiple-output power management solutions, for the consumer, communications and computing markets, integrating precision power regulation with sophisticated digital control in a single chip.

Summit's unique programmable, non-volatile mixed-signal IC technology combined with a convenient graphical (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 – i.e. entire multi-output power supplies designed via GUI.

Digital programmability enables high integration and system flexibility in a single chip - impossible with conventional "hard-wired" analog power IC's. Additionally, this integration reduces the bill-of-materials (BOM) 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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