

## NEWS RELEASE

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## Summit Releases World's First Multi-Output Power IC with Fully Programmable Battery Charging

*Unmatched integration reduces cost while flexibility and programmability shorten time-to-market for portable consumer devices*

**San Jose, Calif. – August 24, 2005 - Summit Microelectronics** has announced the next generation of Programmable Power Manager multi-output power supply ICs. Following the widely acclaimed first generation products, the new SMB122 focuses on portable power applications, adding key features such as *programmable battery management* and integrated FET's. The SMB122 also provides enhanced flexibility and programmability compared to the first generation as users can now change *functionality* of several outputs in addition to parametric adjustment. With Summit's easy to use development environment users digitally program the entire multiple output power supply and associated power management functions with a few clicks of a mouse. Compared to the tedious iterative hardware design of conventional analog power IC's the Summit solution can significantly improve development cycle time.

Incorporating a level of integration not available in conventional power IC's the SMB122 effectively combines *power regulation* and *advanced power control* into one integrated solution. In addition to the step-down, step-up, inverting, LDO outputs and the Li-Ion charger the SMB122's power control functions include: individual channel enable/shutdown, power up/down sequencing, power up

slew rate control, static and dynamic output voltage control (Dynamic Voltage Management). The battery charger is likewise fully programmable for all the Li-Ion CC/CV parameters with 0.5% float voltage accuracy. Additionally, complete power system diagnostics and monitoring is provided via the I<sup>2</sup>C serial interface and digital status outputs. These include input and output monitoring for under/over-voltage/over-current (UV/OV/OC) with integrated system RESET control, low/missing battery detection and AC/DC adapter detection. All configuration data for the SMB122 is programmed via the easy to use PC-based graphical user interface (GUI) and is stored in on-chip EEPROM memory, of which 96 bytes are available for user data storage. Enhancing flexibility ever further, the device can be programmed during development and then used in a “fixed” configuration or it may be re-programmed in-system via the I<sup>2</sup>C interface.

“The SMB122 Programmable Power Manager extends Summit’s leadership in consumer applications where power subsystem complexity has created a design bottleneck”, stated Abid Hussain, Summit’s Director of Marketing. “OEMs are under intense pressure to develop high performance, feature-packed products with shorter development cycles than ever before. The SMB122 offers unequaled flexibility needed to speed development while providing the highest integration to meet the cost metrics of high volume production.”

Of the eight programmable regulators four are also *functionally configurable*: Three PWM/PFM step-down (buck) converters, one configurable PWM/PFM step-up (boost) OR step-down (buck) converter, three configurable PWM/PFM step-up (boost) OR inverting (buck-boost) converters, and one low-dropout linear LDO regulator. All outputs are programmable for sequencing/enable, output voltage (static and dynamic to 1.5% accuracy) and UV/OV/OC monitoring. Automatic PWM/PFM operation is provided to enhance light load efficiency with PWM override for noise sensitive RF or audio application. Programmable phase

interleaving for the switching regulators also reduces noise and peak battery loading. Short circuit current limiting and thermal protection safety circuits are also built-in to enhance reliability.

The SMB122's 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), portable LCD TV's, 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 SMB122 operates directly from +2.7V to +6.0V input making it ideally suited for 1-cell Li-Ion (+3.0V to +4.2V) battery applications though line-powered applications are easily supported as well. Higher input voltages (2-cell Li-Ion, +12V) can be accommodated in many cases with simple applications configuration. The operating temperature range is +0°C to +70°C or -40°C to +85°C and is available in the 64-pad QFN package that is lead-free and RoHS-standard compliant. Available now in production quantities, the device is priced at \$6.12 each in quantities of 10,000 units.

### **Design Software and Programmer for Prototype Development**

To speed user product development, Summit offers customers the SMB122EV companion evaluation board and a graphic user interface (GUI) software so designers can quickly see the features and benefits and design a prototype power supply with the SMB122. This is a complete development tool that lets designers easily manipulate the characteristics of their systems. The SMB122EV 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 SMB122EV 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](http://www.summitmicro.com)).

**About Summit Microelectronics: *"Programmable Power for a Digital World"*.**

Summit Microelectronics supplies semiconductors that manage and provide power functions in networking/communications, storage/computing, industrial, military, and consumer products. Customers can very rapidly tailor Summit's programmable analog technology to multiple applications by programming the same part.

Founded in 1997, Summit is headquartered in San Jose, California. The Company is ISO 9001 certified.

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