

SEPTEMBER 10, 2004



**CONTACTS:**

Rick Davies  
Summit Microelectronics  
+1.408.436.9890 x 315  
rdavies@summitmicro.com

Barbara Kalkis  
*Maestro* Marketing & Public Relations  
+1.408.996.9975  
kkalkis@compuserve.com

**SUMMIT PROGRAMMABLE PRECISION CONTROLLERS  
INTEGRATE ADD-IN-CARD POWER MANAGEMENT TASKS**

**SAN JOSE, CA -- September 10, 2004 -- Summit Microelectronics** has introduced the SMH4046 and SMH4047 Intelligent Power Management Controllers for comprehensively managing power to add-in cards for network communications, storage, server and other host system applications.

Users can choose either the industry-standard I<sup>2</sup>C bus or the MicroWire bus standard for control of an add-in card by the host system, and for reporting status from the add-in card to the host system. The devices are programmable with on-chip non-volatile EEPROM memory.

The devices integrate the capability to control three positive-voltage feed source supplies and three downstream on-card DC-DC converters. (See Figure 1). They combine highly programmable hot-swap protection, cascaded sequencing, precision voltage margining, precision ongoing power-supply voltage control and precision monitoring/reset into a highly functional single-chip device.

Engineers can program the sequence of all six power supplies to cascade in any order during power-up and the same or reverse order during power-down. They can program the delay time from the prior channel in the sequence becoming valid to start of the next channel's transition. This ensures that a given power supply is not turned on until the previous supply in the sequence has reached its desired level.

Summit's proprietary ADOC™ (active DC output control) of the three downstream DC/DC converters maintains their accuracy to within +/-0.5% of the user-programmable setpoint using a voltage reference that is internal to the chip. ADOC is used both during voltage margining and in ongoing operation to achieve this very high level of precision. ADOC is the technology breakthrough used in the Summit SMM665 – the 2003 “Analog Zone” *Product of the Year* award winner.

The SMH4046 and SMH 4047 perform the above tasks once they sense proper add-in card insertion and sense the presence of the three upstream source voltages (typically +12V, +5V and +3.3V) in specification at the host platform interface. After they switch power on, they continue to monitor this upstream power from the host platform, and also monitor downstream power being fed to the add-in card being controlled. When programmed to do so, they immediately assert the RESET outputs and power-down the add-in card if any of these power supplies go outside user-defined under- or over-voltage limits.

Other features include an on-chip EEPROM memory for storing identification numbers or other pertinent information. A temperature sensor circuit is provided. Universal FPGA pins are provided for loading pre-written application-specific program code to an FPGA over the I<sup>2</sup>C or MicroWire bus.

Complete details of the SMH4046 family are available at [www.summitmicro.com](http://www.summitmicro.com), including datasheets. The SMH4046 has an I<sup>2</sup>C interface and the SMH4047 has a MicroWire interface.

### **DESIGN SOFTWARE AND PROGRAMMER FOR PROTOTYPE DEVELOPMENT**

To speed user product development, the SMX3200 design kit can be used for the SMH4046 and the SMX3199 design kit is available for the SMH4047. The design kits are complete development tools that let designers easily manipulate the characteristics of their system. They include menu-driven Microsoft Windows® graphical user interface (GUI) software to automate programming tasks and also includes all necessary hardware to interface to the parallel port of a laptop or PC.

Once a user completes design and prototyping, the SMX3200 and SMX3199 automatically generate 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)).

### **DESIGN KIT FOR AUTOMATED PROTOTYPE DEVELOPMENT**

An evaluation card is available containing the SMH4046 or SMH4047 controller, all required associated circuitry, and a port for "plug and play" programming via the SMX3200 or SMX3199 dongle interface.

### **PRICING AND AVAILABILITY**

Available in volume quantities today, the SMH4048 and SMH4047 come in a 48-lead TQFP package. Each device is priced at \$5.50 in 10,000 unit quantity for commercial (0 to 70C) temperature range operation, and \$8.10 for industrial temperature range (-40 to 85C).

### **ABOUT SUMMIT**

Summit Microelectronics supplies semiconductors that manage 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.

###

Summit Microelectronics  
1717 Fox Drive  
San Jose, CA 95131  
T: 1.408.436.9890  
[www.summitmicro.com](http://www.summitmicro.com)

Figure 1

