**SEMTECH**

## POWER MANAGEMENT

### Description

The SC472B is a single-phase chip, high-performance PWM controller designed to power advanced graphic cores. On-chip support is provided for all of the Intel® integrated requirements, including Active Voltage Positioning, Slew-rate controlled VID transitions,  and VID-Controlled Sleep voltage settings.

The SC472B implements hysteretic control technology which provides the fastest possible transient response while avoiding the stability issues inherent to classical PWM controllers.  Eliminating the sense resistors reduces costs and PCB area, plus increases system efficiency. Integrated SmartDriver™ technology initially turns on the high-side driver with 'soft' drive to reduce ringing, EMI, and capacitive turn-on of the low side MOSFET, while also increasing overall efficiency.

Hysteretic operation adaptively reduces the SC472B switching frequency at light loads.  Combined with an automatic "powersave" mode which prevents negative current flow in the low-side FET, system efficiency is significantly enhanced during light loading conditions.

A 5-bit DAC, accurate to 0.85%, sets the output voltage reference, and implements the voltage range required by the processor. The DAC slew rate is externally programmed to minimize transient currents and audible noise.  True differential remote sensing provides accurate point-of-load regulation at the processor die.  Other features include programmable soft-start, an open-drain PWRGD output, dual-level over-voltage and programmable over-current protection.  The SC472B is available in a space-saving 4x4mm, 24-pin MLP package.

### Features

◆ Single-Phase Solution with Integrated Drivers
◆ Hysteretic Control for Fast Transient Response
◆ Active Voltage Positioning
◆ True Differential Remote (die) Sensing
◆ On-Chip Support for all IMVP-6+ Graphics Power Management Features
◆ VID Programmed Deeper Sleep Voltage
◆ Delayed Power Good Signal with Blanking
◆ Programmable Soft-Start and DAC Slew Control
◆ Programmable OCP Threshold
◆ Supports all Ceramic Decoupling Solutions
◆ 24-Pin MLP (4x4)
◆ Lead-Free Package. This product is fully WEEE and RoHS compliant.

### Applications

◆ IMVP-6+ Notebook Graphic Cores
◆ Embedded Applications