### DATASHEET

# **inter<sub>sil</sub>**"

To request the full datasheet, please visit www.intersil.com/products/isl95853

## Multiphase PWM Regulator for IMVP8™ CPUs

#### ISL95853

The ISL95853, fully compliant with Intel IMVP8™ specifications, provides a complete solution for microprocessor core power supply. It also provides a Voltage Regulator (VR) with two integrated and one external gate drivers. The VR can be configured as 3-, 2- or 1-phase, providing maximum flexibility. The VR uses the serial control bus (SVID) to communicate with the CPU and achieves lower cost and smaller board area.

Based on Intersil's Robust Ripple Regulator (R3<sup>™</sup>) technology, the PWM modulator compared to traditional modulators, has faster transient settling time, variable switching frequency during load transients and has improved light load efficiency with its ability to automatically change switching frequency.

The ISL95853 has several other key features. The output supports DCR current sensing with single NTC thermistor for DCR temperature compensation or accurate resistor current sensing. The output comes with remote voltage sense, programmable  $V_{BOOT}$  voltage, programmable  $I_{CCMAX}$ , programmable voltage transition slew rate, adjustable switching frequency, overcurrent protection and power-good output.

#### **Features**

- Serial data bus
- Output configurable 3-, 2- or 1-phase using two integrated gate drivers
- Precision core voltage regulation
  - 0.5% system accuracy over temperature
  - Enhanced load line accuracy
- · Supports multiple current sensing methods
  - Lossless inductor DCR current sensing
  - Precision resistor current sensing
- · Differential remote voltage sensing
- Programmable V<sub>BOOT</sub> voltage at start-up
- Resistor programmable  $I_{\ensuremath{\mathsf{CCMAX}}}$  and voltage transition slew rate
- Adaptive body diode conduction time reduction
- · System input power monitor

#### Applications

- Notebook computers
- Desktop computers

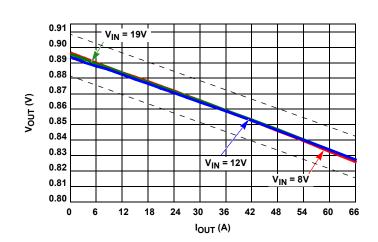


FIGURE 1. LOAD LINE REGULATION

For additional products, see <u>www.intersil.com/en/products.html</u>

Intersil products are manufactured, assembled and tested utilizing ISO9001 quality systems as noted in the quality certifications found at <u>www.intersil.com/en/support/gualandreliability.html</u>

Intersil products are sold by description only. Intersil Corporation reserves the right to make changes in circuit design, software and/or specifications at any time without notice. Accordingly, the reader is cautioned to verify that data sheets are current before placing orders. Information furnished by Intersil is believed to be accurate and reliable. However, no responsibility is assumed by Intersil or its subsidiaries for its use; nor for any infringements of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Intersil or its subsidiaries.

For information regarding Intersil Corporation and its products, see www.intersil.com

2