

ISL95854

Single Phase PWM Regulator for IMVP8™ CPUs

FN8744  
Rev 1.00  
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The [ISL95854](#), fully compliant with Intel IMVP8™ specifications, provides a complete solution for microprocessor core power supply. It also provides a Voltage Regulator (VR) with an integrated gate driver. 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™) 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 ISL95854 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
- Single output VR with integrated gate driver
- 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  $V_{BOOT}$  voltage at start-up
- Resistor programmable  $I_{CCMAX}$  and voltage transition slew rate
- Adaptive body diode conduction time reduction
- System input power monitor

**Applications**

- Notebook computers
- Desktop computers

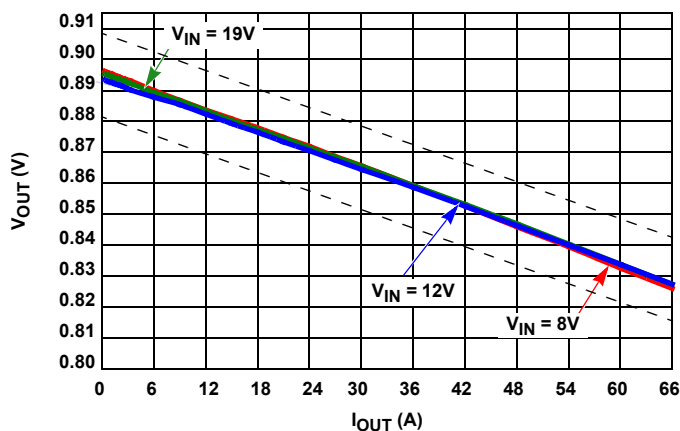


FIGURE 1. LOAD LINE REGULATION

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