To request the full datasheet, please visit www.intersil.com/products/isl88733

SMBus Level 2 Battery Charger

ISL88733

The ISL88733 is a highly integrated Lithium-ion battery charger controller, programmable over the SMBus system management bus (SMBus). The ISL88733 is intended to be used in a smart battery charger (SBC) within a smart battery system (SBS) that throttles the charge power such that the current from the AC-adapter is automatically limited. High efficiency is achieved with a DC/DC synchronous-rectifier buck converter, equipped with diode emulation for enhanced light load efficiency. The ISL88733 charges one to four Lithium-ion series cells, and delivers up to 8A charge current. Integrated MOSFET drivers and bootstrap diode result in fewer components and smaller implementation area. Low offset current-sense amplifiers provide high accuracy with 10mΩ sense resistors. The ISL88733 provides 0.5% end-of-charge battery voltage accuracy.

The ISL88733 is available in a small 5mmx5mm 28 Ld Thin (0.8mm) QFN package.

Features

- Pin compatible with ISL88731
- Over-temp and overcurrent protection
- 0.5% battery voltage accuracy
- 4% adapter current limit accuracy
- 3% charge current accuracy
- SMBus 2-wire serial interface
- Charge current limited by SMBus DAC OR analog voltage at the CCLIM pin
- Monitor outputs
  - Adapter current (3% Accuracy)
  - Adapter overcurrent ALERT#. Threshold set by resistor divider
  - AC-adapter detection
- 11-Bit battery voltage setting
- 6-Bit charge current/adapter current setting
- 8A maximum battery charger current
- 11A maximum adapter current
- +8V to +22V adapter voltage range
- Pb-Free (RoHS compliant)

Applications

- Notebook computers
- Tablet PCs

Typical Operating Performance

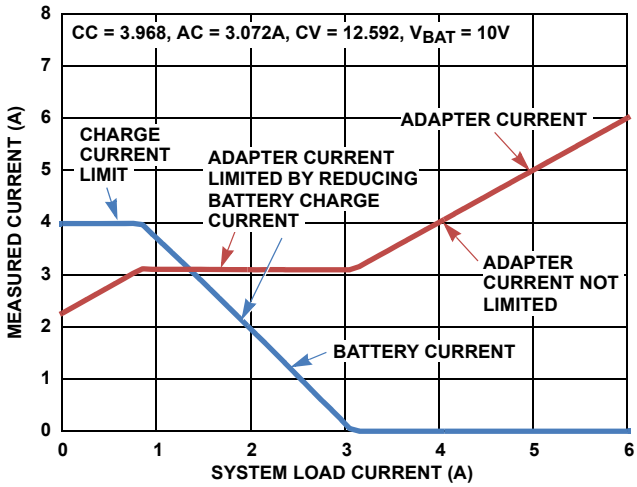

FIGURE 1. ISL88733 CURRENT CONTROL IN 3 MODES