

LTC News for Immediate Release

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**Single-IC USB Power Manager, Ideal Diode Controller &
Battery Charger for Portable USB Devices**

MILPITAS, CA – May 25, 2006 – Linear Technology Corporation introduces the LTC4085, a monolithic autonomous power manager, ideal diode controller and standalone battery charger for portable USB devices. The LTC4085 features PowerPath™ control that provides power to the USB peripheral device and charges the peripheral's single-cell Li-Ion battery from the USB V_{BUS} or a wall adapter power supply. To comply with USB current limit specifications, the LTC4085 automatically reduces battery charge current as the system load current increases. To ensure that a fully charged battery remains fresh when the bus is connected, the IC directs power to the load through the USB bus rather than extracting power from the battery. Once the power source is removed, current flows from the battery to the load through an internal 200m Ohm low loss ideal diode, minimizing voltage drop and power dissipation. Onboard circuitry is provided to drive an optional external PFET hookup to reduce the overall ideal diode impedance below 50m Ohm if required by the application.

The LTC4085 has the unique ability to detect the presence of a wall adapter and use it as an alternate power source to charge the battery while providing power to the system load. The LTC4085 also offers the option of charging the battery at a higher rate (up to 1.5A) than USB specifications allow (100mA/500mA) when the wall adapter is present so that the battery can be charged much faster. Additional functions include a charge termination timer, automatic recharge, NTC thermistor input, automatic switchover to battery when the AC adapter input is removed, inrush current limiting, reverse current blocking, undervoltage lockout and thermal regulation.

The LTC4085's float voltage is preset at 4.2V with guaranteed 0.8% accuracy from 0°C to 85°C. Charge current is easily programmed using a resistor. For battery pre-conditioning and qualification, fully discharged cells are automatically trickle charged at 10% of the programmed current until the cell voltage exceeds 2.8V. Total charge time for

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charge termination is programmed by an external capacitor. The LTC4085 is housed in a tiny 14-pin 4mm x 3mm DFN package with a 0.75mm profile.

The LTC4085 is guaranteed for operation from -40°C to 85°C. 1,000-piece pricing starts at \$1.65 each.

Summary of Features: LTC4085

- Single-IC USB Power Manager, Ideal Diode Controller & Battery Charger
- Seamless Transition Between Input Power Sources: Li-Ion Battery, USB, and 5V Wall Adapter
- 200m Ohm Internal Ideal Diode plus Optional External Ideal Diode Controller
- Guaranteed USB Input Current Compliance via Load Dependent Charging
- Thermal Regulation Prevents Overheating
- Integrated Ideal Diode for Low Dropout & Low Power Loss
- Simultaneous Operation from USB & Wall Adapter
- Standalone Charger: Termination, Pre-Charge, Charge Control and Recharge
- Compact 14-Pin 4mm x 3mm DFN Package

About Linear Technology


Linear Technology Corporation, a manufacturer of high performance linear integrated circuits, was founded in 1981, became a public company in 1986 and joined the S&P 500 index of major public companies in 2000. Linear Technology products include high performance amplifiers, comparators, voltage references, monolithic filters, linear regulators, DC-DC converters, battery chargers, data converters, communications interface circuits, RF signal conditioning circuits, and many other analog functions. Applications for Linear Technology's high performance circuits include telecommunications, cellular telephones, networking products such as optical switches, notebook and desktop computers, computer peripherals, video/multimedia, industrial instrumentation, security monitoring devices, high-end consumer products such as digital cameras and MP3 players, complex medical devices, automotive electronics, factory automation, process control, and military and space systems. For more information, visit www.linear.com

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