

LTC News for Immediate Release

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**Dual Input Li-Ion Battery Charger with
Adjustable Output 600mA Synchronous Buck Converter**

MILPITAS, CA – April 20, 2006 – Linear Technology Corporation announces the LTC3550, an efficient, compact power management solution for handheld applications. The device incorporates a dual input Li-Ion/Polymer battery charger and a high efficiency synchronous buck regulator in a low-profile 16-lead 3mm x 5mm DFN package. The linear battery charger automatically selects the appropriate power source to efficiently charge single-cell Li-Ion batteries via a wall adapter up to 8V (10V abs max) or a USB port. Standalone operation simplifies design, eliminating the need for an external microprocessor for charge termination. Using a constant-current/constant-voltage algorithm, the charger can deliver up to 950mA of charge current from a wall adapter supply, or up to 500mA of charge current from a USB supply. The final float voltage accuracy is $\pm 0.6\%$. The LTC3550's battery charger is equipped with a patented thermal regulation scheme that maximizes the charge rate without the risk of overheating. To preserve battery energy, it draws $<6\mu\text{A}$ from the battery terminal in standby and $<1\mu\text{A}$ in shutdown mode.

The LTC3550's integrated synchronous buck regulator features an adjustable output voltage from 5.5V to as low as 0.6V, delivering up to 600mA of continuous output current. It uses internal switches with an $R_{\text{DS(ON)}}$ of only 0.40 Ohm to deliver efficiencies as high as 96%, maximizing battery run time. In addition, automatic Burst Mode[®] operation optimizes efficiency at light loads, featuring a quiescent current of only 20 μA ($<1\mu\text{A}$ in shutdown). Using a constant frequency current mode architecture, the buck regulator operates from an input voltage range of 2.5V to 5.5V. Its 1.5MHz switching frequency allows the utilization of tiny low cost capacitors and inductors less than 1mm in height. Furthermore, the regulator is stable with ceramic output capacitors, achieving low output voltage ripple.

The LTC3550 is available from stock in a compact 5mm x 3mm x 0.75mm DFN-16 package. Pricing starts at \$2.00 each for 1,000-piece quantities.

(more...)

Summary of Features: LTC3550

- Charges Single-Cell Li-Ion Batteries from Wall Adapter & USB Inputs
- 10V Compliance for Wall Adapter Input
- Automatic Input Power Detection & Selection
- Charge Current Programmable up to 950mA from Wall Adapter Input
- High Efficiency 600mA Synchronous Buck Regulator
- Buck Regulator Adjustable Output Voltage: 0.6V to 5.5V
- No External MOSFET, Sense Resistor or Blocking Diode Needed
- Thermal Regulation Maximizes Charging Rate without Overheating
- Preset Charge Voltage with $\pm 0.6\%$ Accuracy
- Programmable Charge Current Termination
- 1.5MHz Constant Frequency Operation (Buck Converter)
- 18uA USB Suspend Current in Shutdown
- Charge Status Output
- Automatic Recharge
- Thermally-Enhanced, Low Profile (0.75mm) 16-Lead 3mm x 5mm DFN Package

Company Background

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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<http://www.linear.com>

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