

***LTC News for Immediate Release***

For more information, tel. 408-432-1900  
Doug Dickinson, Media Relations Mgr., ext. 2233  
John Hamburger, Dir., Mktg Comm., ext. 2419  
[www.linear.com](http://www.linear.com)

**500mA Standalone Li-Ion Battery Charger plus  
Synchronous Buck Converter in 3mm x 3mm DFN**

MILPITAS, CA – June 15, 2006 – Linear Technology Corporation introduces the LTC4080, a multi-function IC featuring a standalone linear battery charger and a highly-efficient synchronous buck converter. The USB-compatible battery charger can charge a single-cell Li-Ion battery up to 500mA without overheating the device or surrounding components. The 300mA buck converter features selectable mode operation and synchronous rectification to achieve efficiencies up to 96%. The device is designed to work with supplies up to 5.5V, including those within USB specifications and from 5V wall adapters. Its 3mm x 3mm DFN package ensures a tiny solution footprint for space-constrained, smaller battery capacity powered handheld applications such as wireless headsets, Bluetooth devices, portable MP3 players, and multi-function wristwatches.

The LTC4080's battery charger requires no external MOSFET, sense resistor or blocking diode. A patented thermal regulation scheme prevents the junction temperature of the IC from exceeding 115°C by reducing charge current during high power or high ambient temperature operation. This fully-featured charger offers timer termination, recharge, and C/10 detection. Other features of the LTC4080 include a charge status indicator, a 4.2V 0.5% accurate float voltage, 5% charge accuracy, and an open drain AC Present status pin to indicate the presence of an input supply such as a wall adapter. Charge current is adjustable with a standard off-the-shelf resistor. During shutdown, the supply current is only 5uA and battery drain current is less than 1uA.

The highly-efficient synchronous step-down converter features a 2.7V to 5.5V input operating voltage range (powered from the BAT pin) with corresponding output voltage range from 0.8V to  $V_{BAT}$ . Burst Mode<sup>®</sup> operation reduces supply current to only 23uA to maximize light load efficiency, but can be disabled via an external pin in favor of fixed constant frequency (2.25MHz) operation if very low switching noise is required.

The LTC4080 is housed in a tiny 10-lead 3mm x 3mm DFN package and is rated for operation from -40°C to 85°C. Pricing starts at \$1.90 each in 1,000-piece quantities.

### **Photo Caption: Standalone Li-Ion Charger with Synchronous Buck Converter**

#### **Summary of Features: LTC4080**

- Standalone Linear Charger with Integrated Buck Converter in 3mm x 3mm DFN Package
- Programmable Charge Current up to 500mA with  $\pm 5\%$  Accuracy
- Safety Timer Termination with C/10 Charge Current Detection Output
- Thermal Regulation Maximizes Charge Rate without Risk of Overheating
- Charge Status and AC Present Indicators
- No External MOSFET, Sense Resistor or Blocking Diode Required
- High Efficiency Synchronous Buck Converter: up to 96%
- Buck Converter Output Current: 300mA
- Buck Converter Input Voltage Range: 2.7V to 5.5V (powered from BAT pin)
- Buck Converter Output Voltage Range: 0.8V to  $V_{BAT}$
- Buck Mode Selection: Low Quiescent Current Burst Mode or Constant Frequency
- Tiny Low-Profile (0.75mm) 10-Lead 3mm 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](http://www.linear.com)

Contact:

Doug Dickinson, Media Relations Manager

**Linear Technology Corporation**

1630 McCarthy Boulevard


Milpitas, CA 95035-7417

[ddickinson@linear.com](mailto:ddickinson@linear.com)

408-432-1900

READER SERVICE: Call toll-free 1-800-4-LINEAR (for literature only), or go to the company's web site:

<http://www.linear.com>

**Note:** LT, LTC, LTM, Burst Mode and  are registered trademarks of Linear Technology Corp.