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## **1.2A( $I_{OUT}$ ), 1.5MHz High Input Voltage Pre-Regulator with Output Current Limit for Battery Charger Applications**

MILPITAS, CA – August 25, 2008 – Linear Technology Corporation announces the LT3653, a 1.2A, 1.5MHz monolithic current mode step-down switching regulator with a programmable output current limit. Typically, it is used with battery charger power path controllers to pre-regulate the output and optimize battery charger efficiency. Its wide operating input voltage of 7.5V to 30V makes the LT3653 ideal for a variety of input sources including unregulated 12V wall adapters, 24V industrial supplies and Firewire as well as automotive applications. Onboard input overvoltage lockout protects the device through input transients as high as 60V, such as those commonly found in automotive applications.

The LT3653's control pin, VC is available for external battery tracking, known as Bat-Track™ control. This function keeps the output voltage only 300mV above the Li-Ion battery voltage, which minimizes thermal issues while simultaneously optimizing charger efficiency. Similarly, the LT3653 offers an adjustable output current limit which can be set between 400mA and 1.2A via an external resistor. The LT3653 does not allow reverse discharge from the battery to  $V_{IN}$ , eliminating the need for a blocking FET. It also utilizes a 1.5MHz oscillator, internal compensation and an internal boost diode to minimize the overall solution footprint. Combined with a 2mm x 3mm DFN package, the LT3653 offers a very compact high voltage input regulator for battery charger applications.

The LT3653EDCB pricing starts at \$2.50 each for 1,000 piece quantities. An industrial grade, the LT3653IDCB is tested and guaranteed to operate from a -40°C to 125°C operating junction temperature and are priced at \$2.88 each for 1,000 piece quantities. Both versions are available from stock.


**Photo Caption:** 30V (60V<sub>MAX</sub>), 1.2A (I<sub>OUT</sub>) Input Regulator with Output Current Limit

### Summary of Features: LT3653

- Wide Input Range:
  - Operation from 7.5V to 30V
  - Overvoltage Lockout Protects Circuit through 60V Transients
- Operates with LTC Bat-Track™ Li-Ion Battery Chargers to Maximize Efficiency
- No Reverse Discharge Path from V<sub>OUT</sub> to V<sub>IN</sub>
- Programmable Output Current Limit
- Integrated BOOST Diode
- Thermal Protection
- Small Application Size
- Thermally Enhanced 2mm × 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, uModule™ products, 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).

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