



## **500mA, 1MHz Synchronous Boost Regulator Offers Output Disconnect & Soft-Start in a 2mm x 2mm DFN**

MILPITAS, CA – August 31, 2006 – Linear Technology Corporation announces the LTC3526, a 1MHz, current mode, synchronous boost DC/DC converter with output disconnect and integrated soft-start capability. Its internal 500mA switches can deliver output voltages as high as 5V from an input voltage range of 0.85V to 4.4V, making it ideal for Li-Ion/Polymer or single/multicell alkaline/NiMH applications. The LTC3526 can deliver up to 100mA of continuous output current (at 3.3V) from a single alkaline cell. Synchronous rectification enables efficiencies of up to 94% while Burst Mode<sup>®</sup> operation lowers quiescent current to only 9uA, providing extended battery run-time in handheld applications. The combination of a 2mm x 2mm DFN-6 package and a constant switching frequency of 1MHz minimize both inductor and capacitor sizes, providing a tiny solution footprint required in handheld applications.

The LTC3526 uses internal switches with an  $R_{DS(ON)}$  of only 0.40 Ohm (N-Channel) and 0.60 Ohm (P-Channel) to deliver efficiencies as high as 94%. The output disconnect feature allows the output to be completely discharged in shutdown. It also limits the inrush of current during start-up, minimizing surge currents seen by the input supply. Additional features include anti-ringing control, short-circuit protection, soft-start, and thermal protection. The LTC3526 delivers an ideal solution for boost applications requiring up to 200mA of output current and where a small solution size and low maximum battery run-time are defining factors.

For applications demanding the lowest possible noise operation, a LTC3526B version is available with the Burst Mode feature disabled. The LTC3526B version runs in continuous mode at all current levels, slightly reducing light load efficiency. However, it minimizes possible interference of switching noise with onboard noise sensitive circuitry.

LTC3526EDC and LTC3526BEDC are both available from stock in 6-lead DFN packages. 1,000-piece pricing starts at \$1.75 each.

**Photo Caption:** 500mA, 1MHz Synchronous Step-Up DC/DC Converter with Soft-Start & Output Disconnect

### Summary of Features: LTC3526/B

- Delivers 3.3V @ 100mA from a Single Alkaline/ NiMH Cell or 3.3V @ 200mA from Two Cells
- $V_{IN}$  Start-Up Voltage: 850mV
- 1.6V to 5.25V  $V_{OUT}$  Range
- Up to 94% Efficiency
- Output Disconnect
- 1MHz Fixed Frequency Operation
- $V_{IN} > V_{OUT}$  Operation
- Integrated Soft-Start
- Current Mode Control with Internal Compensation
- Automatic Burst Mode Operation with 9uA Quiescent Current (LTC3526)
- Low Noise PWM Operation (LTC3526B)
- Internal Synchronous Rectifier
- Logic Controlled Shutdown ( $I_Q < 1\mu A$ )
- Anti-Ringing Control
- Low Profile (2mm x 2mm x 0.75mm) 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)

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