



Synchronous 600mA (I_{SW}) Boost & 400mA (I_{OUT}) Buck Regulator with 2.4MHz Switching Frequency in a 3mm x 3mm QFN

MILPITAS, CA – March 24, 2008 – Linear Technology Corporation announces the LTC3523/-2, a combination of a 600mA (I_{SW}) synchronous boost and a 400mA (I_{OUT}) synchronous buck regulator in a 3mm x 3mm QFN-16 package. Both the boost and the buck regulators switch at 2.4MHz in the LTC3523-2 (1.2MHz for the LTC3523), and use current mode, synchronous topologies. The LTC3523/-2 operate from an input voltage range of 1.8V to 5.5V, making them appropriate for single cell Li-Ion/Polymer or dual-cell alkaline/NiMH applications. In particular, the combination of a buck and a boost makes it ideal for dual-cell alkaline applications, in which a processor 3.3V I/O rail and a 1.2V (or lower) V_{CORE} rail are required. Synchronous rectification enables efficiencies of up to 94% and Burst Mode[®] operation lowers quiescent current to only 45uA, providing extended battery run-time in handheld applications. Constant synchronized frequency 1.2MHz (LTC3523) or 2.4MHz (LTC3523-2) operation offers low noise, high efficiency operation. Combined with a 3mm x 3mm QFN-16 package, small inductor and capacitor sizes provide a tiny solution footprint required in handheld applications.

The boost converter in the LTC3523/-2 incorporates an integrated output disconnect function for reliable operation and also regulates when $V_{IN} > V_{OUT}$, extending usable battery run-time. Its output voltage is adjustable between 1.8V and 5.25V. Similarly, the buck converter operates from the same V_{IN} range and can deliver 400mA outputs as low as 0.6V. Both converters offer internal compensation, soft start and have separate Power Good pins. For low noise applications, the Burst Mode feature can be replaced with a lower noise forced continuous mode.

LTC3523EUD and LTC3523EUD-2 are both available from stock in 16-lead QFN packages. 1,000-piece pricing starts at \$2.95 each.


Photo Caption: 600mA Synchronous Boost & 400mA Buck in a 3mm x 3mm QFN Package

Summary of Features: LTC3523/-2

- Dual High Efficiency DC/DC Converters:
 - Step-Up ($V_{OUT} = 1.8V$ to $5.25V$, $I_{SW} = 600mA$)
 - Step-Down ($V_{OUT} = 0.615V$ to $5.5V$, $I_{OUT} = 400mA$)
- 1.8V to 5.5V Input Voltage Range
- Up to 94% Efficiency
- Pin-Selectable Burst Mode Operation
- 45uA Quiescent Current in Burst Mode Operation
- 1.2MHz (LTC3523) or 2.4MHz (LTC3523-2) Switching Frequency
- Independent Power Good Indicator Outputs
- Integrated Soft-Start
- Thermal and Overcurrent Protection
- < 2uA Quiescent Current in Shutdown
- Small 16-Lead 3mm x 3mm x 0.75mm QFN 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.

LT, LTC, LTM, Burst Mode and  are registered trademarks and uModule is a trademark of Linear Technology Corp.

Press Contacts:

John Hamburger, Director Marketing Communications
jhamburger@linear.com
Tel: 408-432-1900 ext 2419

Doug Dickinson, Media Relations Manager
ddickinson@linear.com
Tel: 408-432-1900 ext 2233