600mA, Synchronous Buck-Boost DC/DC Converter Offers Extended Battery Run-Time for Li-Ion and Dual Cell Alkaline Powered Handhelds

MILPITAS, CA – December 12, 2006 – Linear Technology announces the LTC3530, a synchronous buck-boost converter that delivers up to 600mA of output current to a regulated output voltage with inputs above, below or equal to the output. Its input range of 1.8V to 5.5V and output range of 1.8V to 5.25V is compatible with single cell Li-Ion or dual-cell alkaline/NiCad/NiMH applications. The topology incorporated in the LTC3530 provides a continuous transfer mode through all operating modes, making it ideal for applications that must maintain a constant output voltage even as the battery voltage declines below the output. In many cases this can add up to 20% more battery run-time. The LTC3530's constant switching frequency provides low noise and is user programmable from 300kHz up to 2MHz, allowing optimization between efficiency and solution size. The combination of compact externals and a 3mm x 3mm DFN or MSOP-10 package provide a tiny solution footprint, usually required in handheld applications.

The LTC3530 includes two N-Channel MOSFETs and two P-Channel MOSFETs (0.21 Ohm and 0.24 Ohm, respectively) to deliver efficiencies of up to 96%. Programmable Burst Mode® operation allows the user to adjust the load current at which Burst Mode initiates. Burst Mode operation requires only 40uA of quiescent current while shutdown current is less than 1uA, further extending battery run-time. Other features include soft-start, current limiting, thermal shutdown and output disconnect.

The LTC3530EDD is available from stock in a 10-lead DFN package and the LTC3530EMS is available in a 10-lead MSOP package. Pricing for both versions is $2.75 each for 1,000-piece quantities.

Photo Caption: 2MHz, 600mA (I_{OUT}) Synchronous Buck-Boost Switching Regulator in 3mm x 3mm DFN

Summary of Features: LTC3530

- Regulated Output with Input Voltages Above, Below or Equal to the Output
- 1.8V to 5.5V Input and 1.8V to 5.25V Output Range
- 250mA Continuous Output Current from 1.8V V_{IN}
- 600mA Continuous/1A Peak Output Current from Li-Ion
- Single Inductor
- Synchronous Rectification: Up to 96% Efficiency
- Programmable Automatic Burst Mode Operation
- Output Disconnect in Shutdown
- Pin Compatible with the LTC3440
- Programmable Frequency from 300kHz to 2MHz
- <1uA Shutdown Current
- Small Thermally Enhanced 10-Lead (3mm x 3mm) DFN and 10-Lead MS Packages

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

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