



1A, Low Noise Synchronous Buck-Boost DC/DC Converter Offers Extended Battery Run Time for Li-Ion & Alkaline-Powered Devices

MILPITAS, CA – August 3, 2011 – Linear Technology announces the [LTC3536](#), a synchronous buck-boost converter that delivers up to 1A of output current from a Li-Ion/Polymer source or 300mA from dual cell alkaline/NiCd/NiMH sources. Its 1.8V to 5.5V input and output voltage range achieves a +/-1% accurate output with inputs above, below or equal to the regulated output. The latest generation single inductor buck-boost pulse width modulation (PWM) topology incorporated in the LTC3536 provides a continuous transition through all of the operating modes, making it ideal for noise-sensitive applications that must maintain a constant output voltage even as the battery voltage declines below the output. In many cases, this can increase battery run time 25% versus a buck regulator. The LTC3536's switching frequency is user programmable from 300kHz to 2MHz and can be synchronized to a system clock, optimizing the trade-off between efficiency and external component size. The combination of 1% output voltage accuracy, low noise, tiny externals and a 3mm x 3mm DFN package provides a very small solution footprint, typically required in many handheld RF and precision measurement applications.

The LTC3536 includes two N-channel MOSFETs and two P-channel MOSFETs ($R_{DS(ON)}$ of 0.06 Ohm and 0.08 Ohm, respectively) to deliver efficiencies up to 95%. Burst Mode[®] operation is user programmed to improve efficiency at light loads and requires only 28uA of quiescent current. Shutdown current is less than 1uA, further extending battery run time. Other features include soft-start, short circuit protection, current limiting and thermal shutdown.

LTC3536 is available from stock in thermally enhanced 10-lead 3mm x 3mm DFN and 12-lead MSOP packages in both E and I grades. Pricing starts at \$2.75 each in 1,000-piece quantities. For more information, visit www.linear.com/product/LTC3536

Photo Caption: 1A Buck-Boost Offers 25% Longer Battery Run Time

Summary of Features: LTC3536

- 1.8V to 5.5V Input & Output Voltage Range
- 1A Continuous Output Current: $V_{IN} > 3V$
- 0.3A Continuous Output Current: $V_{IN} > 1.8V$
- Single Inductor
- Synchronous Rectification: Up to 95% Efficiency
- Programmable Frequency from 300kHz to 2MHz
- Adjustable Burst Mode[®] Operation; $I_Q=28\mu A$
- Short Circuit Protection
- $<1\mu A$ Shutdown Current
- Small Thermally Enhanced 10-Lead (3mm x 3mm x 0.75mm) DFN & 12-Lead MSOP Packages

About Linear Technology

Linear Technology Corporation, a member of the S&P 500, has been designing, manufacturing and marketing a broad line of high performance analog integrated circuits for major companies worldwide for three decades. The Company's products provide an essential bridge between our analog world and the digital electronics in communications, networking, industrial, automotive, computer, medical, instrumentation, consumer, and military and aerospace systems. Linear Technology produces power management, data conversion, signal conditioning, RF and interface ICs, and μ Module[®] subsystems.

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