



Wide V_{IN} Triple Output 1A Buck-Boost and Dual 600mA Synchronous Buck Converters in 4x4 QFN

MILPITAS, CA – April 13, 2010 – The LTC3521 combines a synchronous 1A buck-boost DC/DC converter with dual 600mA synchronous step-down DC/DC converters to offer three output rails with efficiencies as high as 95%. The LTC3521's input range of 1.8V to 5.5V makes it compatible with all types of PC card slots, USB and single-cell Li-Ion or dual/triple-cell alkaline/NiCd/NiMH applications. The topology incorporated in the LTC3521's synchronous buck-boost channel provides a continuous transition 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. Its buck-boost channel can deliver constant output voltages between 1.8V and 5.25V, whereas each of its synchronous buck channels can deliver outputs between 0.6V and 5.25V, making it ideal for a wide range of handheld applications. The LTC3521's constant 1.1MHz switching frequency offers low noise operation while minimizing the size of the external components. The combination of tiny externals and a 4mm x 4mm QFN-24 or TSSOP-20E package provides a compact solution footprint for space-limited applications.

The LTC3521's synchronous buck-boost channel offers continuous conduction operation to maximize efficiency over a wide input voltage range while minimizing switching noise. The buck converters use current mode control and synchronous rectification to ensure optimal efficiency. The device's selectable Burst Mode[®] operation requires only 30uA of quiescent current and shutdown current is less than 2uA, further extending battery run time. For applications requiring the lowest possible noise, the LTC3521 can be configured to run in fixed frequency PWM mode, reducing noise and potential RF interference. Other features include internal compensation, integrated soft-start and Power Good outputs for each channel.

The LTC3521EUF is available from stock in a 24-lead QFN package and the LTC3521EFE is available in a 20-lead thermally enhanced TSSOP package, priced at \$3.25 and \$3.45 each respectively, for 1,000-piece quantities. For more information, visit www.linear.com.

Photo Caption: 1A (I_{OUT}) Synchronous Buck-Boost Plus Dual 600mA Buck Switching Regulator

Summary of Features: LTC3521

- Three High Efficiency DC/DC Converters:
 - Buck-Boost (V_{OUT} : 1.8V to 5.25V, I_{OUT} : 1A)
 - Dual Buck (V_{OUT} : 0.6V to V_{IN} , I_{OUT} : 600mA)
- 1.8V to 5.5V Input Voltage Range
- Pin-Selectable Burst Mode[®] Operation
- 30uA Total Quiescent Current in Burst Mode Operation
- Independent Power Good Indicator Outputs
- Integrated Soft-Start
- Thermal and Overcurrent Protection
- <2uA Current in Shutdown
- Small 4mm x 4mm QFN-24 & Thermally Enhanced TSSOP-20 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, 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.

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