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15V_{IN}, 2.5A Synchronous Buck-Boost DC/DC Converter Features Integrated Power MOSFETs, 95% Efficiency & Low Noise Operation

MILPITAS, CA – November 17, 2010 – Linear Technology announces the [LTC3112](#), a synchronous buck-boost converter that delivers up to 2.5A of output current from a wide range of power sources, including single or multiple cell batteries, super capacitor stacks and wall adapters. Its 2.7V to 15V input range and 2.5V to 14V output range provides a regulated output with inputs above, below or equal to the regulated output. The low noise buck-boost topology incorporated in the LTC3112 provides a continuous, jitter-free transition between buck and boost modes, making it ideal for RF and other noise-sensitive applications that must maintain a low-noise constant output voltage with a variable input power source. In many applications, battery run time is significantly extended over step-down only solutions. The LTC3112's default 750kHz switching frequency, that can be synchronized to an external 300kHz to 1.5MHz clock, and proprietary third generation buck-boost PWM circuitry ensure low noise and high efficiency while minimizing the size of external components. The combination of tiny externals and a 4mm x 5mm DFN or TSSOP-20E package provides a compact solution footprint.

The LTC3112 includes four internal low $R_{DS(ON)}$ N-channel MOSFETs to deliver efficiencies of up to 95%. User-selectable Burst Mode[®] operation lowers quiescent current to only 50μA, improving light load efficiency and extending battery run time. For noise-sensitive applications, Burst Mode operation can be disabled. The LTC3112 also offers an integrated output current monitor that enables the load current to be monitored or controlled to a constant

value. Other features include soft-start, overvoltage protection, short circuit protection, thermal shutdown and output disconnect.

LTC3112EDHD is available in a 16-lead 4mm x 5mm DFN package and the LTC3112EFE is available in a thermally enhanced 20-lead TSSOP package. Pricing starts at \$4.00 each and \$4.15 each, respectively for 1,000 piece quantities. Industrial grade versions, the LTC3112IDHD and LTC3112IFE, are guaranteed to operate over the -40°C to 125°C operating junction temperature range and are priced at \$4.40 and \$4.57 each, respectively, in 1,000-piece quantities. All versions are available from stock. For more information, visit www.linear.com/3112.


Photo Caption: 2.5A, 15V Synchronous Buck Boost DC/DC Converter Enables a Multitude of Input Sources

Summary of Features: LTC3112

- 15V, 2.5A Synchronous Buck-Boost Regulator
- Regulated Output with V_{IN} Above, Below or Equal to V_{OUT}
- 2.7V to 15V Input Voltage Range
- 2.5V to 14V Output Voltage Range
- 2.5A Continuous Output Current: V_{IN} = 5V, V_{OUT} = 5V, PWM Mode
- Output Current Monitor
- Up to 95% Efficiency
- 750kHz Switching Frequency, Synchronizable Between 300kHz & 1.5MHz
- Internal N-Channel MOSFETs
- Selectable Burst Mode[®] Operation, I_Q = 50μA
- Shutdown Current < 1μA
- Overvoltage Protection
- Output Disconnect in Shutdown
- Internal Soft-Start
- Small, Thermally Enhanced 16-Lead (4mm x 5mm x 0.75mm) DFN or 20-Lead TSSOP Package

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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Press Contacts:

North America / Worldwide

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

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

UK & Nordic

Alan Timmins
alan@ezwire.com
Tel: +44-1-252-629937