



15V Input & Output, 1.5A Monolithic Synchronous Buck-Boost DC/DC Converter Features 95% Efficiency & Low Noise Operation

MILPITAS, CA – January 22, 2014 – Linear Technology announces the [LTC3111](#), a synchronous buck-boost converter that delivers up to 1.5A of output current from a wide range of power sources, including single or multiple cell batteries, supercapacitor stacks and wall adapters. The device's 2.5V to 15V input and output voltage range provides a regulated output from inputs above, below or equal to the regulated output. The low noise buck-boost topology incorporated into the LTC3111 delivers 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 LTC3111's default 800kHz switching frequency can be synchronized to an external 600KHz to 1.5MHz clock, and its proprietary third-generation buck-boost PWM circuitry ensures low noise and high efficiency while minimizing the size of external components. The combination of tiny externals and a 3mm x 4mm DFN or MSOP-16E package provides a compact solution footprint.

The LTC3111 includes four internal low $R_{DS(ON)}$ N-channel MOSFETs and uses a single inductor to deliver efficiencies of up to 95%. User-selectable Burst Mode[®] operation lowers quiescent current to only 49μA, improving light load efficiency and further extending battery run time. For noise-sensitive applications, Burst Mode operation can be disabled. Other features

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

The LTC3111EDE is available in a 14-lead 3mm x 4mm DFN package and the LTC3111EMSE is offered in a thermally enhanced 16-lead MSOP package. Pricing starts at \$3.50 each and \$3.60 each, respectively. Industrial grade versions, the LTC3111IDE and LTC3111IMSE, are guaranteed to operate over the -40°C to 125°C operating junction temperature range and are priced starting at \$3.85 each and \$3.96 each, respectively. High temperature grade versions, the LTC3111HDE and LTC3111HMSE, are guaranteed to operate over the -40°C to 150°C operating junction temperature range and are priced starting at \$4.16 each and \$4.21 each, respectively. Finally, High reliability grade versions, the LTC3111MPDE and LTC3111MPMSE, are guaranteed to operate over the -55°C to 150°C operating junction temperature range and are priced starting at \$10.40 each and \$10.69 each, respectively. All pricing is for 1,000 piece quantities and all versions are available from stock. For more information, visit www.linear.com/product/LTC3111

Photo Caption: 1.5A, 15V Synchronous Buck-Boost DC/DC Converter Offers Extended Battery Run Time

Summary of Features: LTC3111

- 15V, 1.5A, Synchronous Buck-Boost Regulator
- Regulated Output with V_{IN} Above, Below or Equal to V_{OUT}
- 2.5V to 15V Input & Output Voltage Range
- 1.5A Continuous Output Current: $V_{IN} \geq 5V, V_{OUT} = 5V$, PWM Mode
- Single Inductor
- Accurate RUN Threshold
- Up to 95% Efficiency
- 800kHz Switching Frequency, Synchronizable Between 600kHz & 1.5MHz
- 49 μ A No-Load Quiescent Current in Burst Mode® Operation
- Output Disconnect in Shutdown
- Shutdown Current < 1 μ A
- Internal Soft-Start

- Small, Thermally Enhanced 14-Lead (3mm × 4mm × 0.75mm) DFN & 16-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 over 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, µModule[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

 , LT, LTC, LTM, Linear Technology, the Linear logo, Burst Mode and µModule are registered trademarks of Linear Technology Corp. All other trademarks are the property of their respective owners.

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
Tel: 408-432-1900 ext 2233

UK & Nordic

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