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40$V_{IN/OUT}$, 2A Synchronous Buck-Boost DC/DC Converter Offers 2.7V to 40V Input & Output Range

MILPITAS, CA – November 21, 2011 – Linear Technology announces the LTC3115-1, a synchronous buck-boost converter that delivers up to 2A of continuous output current from a wide range of power sources from single-cell Li-Ion to 24V/28V industrial rails to 40V automotive inputs. The LTC3115-1's 2.7V to 40V input and 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 LTC3115-1 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 LTC3115-1's switching frequency is user programmable between 100kHz and 2MHz, and can be synchronized to an external clock. 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 4mm x 5mm DFN or TSSOP-20E package provides a compact solution footprint.

The LTC3115-1 incorporates 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. Additional features include internal soft-start, programmable undervoltage protection, short circuit protection and output disconnect.

LTC3115EDHD-1 is available in a 16-lead 4mm x 5mm DFN package and the LTC3115EFE-1 is available in a thermally enhanced 20-lead TSSOP package. Pricing starts at $5.35 each and $5.55 each, respectively for 1,000 piece quantities. Industrial grade versions, the LTC3115IDHD-1 and LTC3115IFE-1, are guaranteed to operate over the -40°C to 125°C operating junction temperature range and are priced at $5.89 and $6.11 each, respectively, in 1,000-piece quantities. All versions are available from stock. For more information, visit www.linear.com/product/LTC3115-1

Photo Caption: 40$V_{IN/OUT}$, 2A Synchronous Buck-Boost DC/DC Converter

Summary of Features: LTC3115-1

- 40V, 2A, Synchronous Buck-Boost Regulator
- Wide V_{IN} Range: 2.7V to 40V
- Wide V_{OUT} Range: 2.7V to 40V
- 1A Output Current for $V_{IN} \geq 3.6V$, $V_{OUT} = 5V$
- 2A Output Current in Step-Down Operation for $V_{IN} \geq 6V$
- Programmable Frequency: 100kHz to 2MHz
- Supports Synchronization with an External Clock
- Up to 95% Efficiency
- 50µA Burst Mode® Quiescent Current
- Ultralow Noise Buck-Boost PWM
- Internal Soft-Start
- 3µA Supply Current in Shutdown
- Programmable Input Undervoltage Lockout
- Small 4mm × 5mm × 0.75mm DFN Package
- Thermally Enhanced 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 µModule® 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
Tel: 408-432-1900 ext 2233

UK & Nordic

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