



News Release | www.linear.com

3A Output, 2MHz Synchronous Buck-Boost DC/DC Converter Offers Low Noise Operation & Extended Run Time from Batteries or Supercapacitors

MILPITAS, CA – December 14, 2010 – Linear Technology announces the [LTC3113](#), a synchronous buck-boost converter that delivers 3A of output current from a nominal 3.3V power source, Li-Ion/Polymer battery or up to 1A from dual cell alkaline/NiCad/NiMH batteries. The LTC3113's 1.8V to 5.5V input range and 1.8V to 5.5V output range provides a regulated output from an input voltage above, below or equal to the output. The LTC3113 is also an ideal regulator solution to maximize the energy available from a two supercapacitor stack. The proprietary buck-boost topology incorporated in the LTC3113 delivers a continuous transition through all operating modes, making it ideal for demanding applications that must maintain a constant, low noise output voltage even as the input voltage declines below the output. In many cases, this can add up to 25% more battery run time compared to a buck regulator. The LTC3113's constant switching frequency is user programmable from 300kHz up to 2MHz in order to optimize the balance between efficiency and external component size. The combination of tiny externals and a 4mm x 5mm DFN or TSSOP-20E package provides unprecedented power density, typically required in many high performance applications.

The LTC3113 includes two N-channel MOSFETs and two P-channel MOSFETs ($R_{DS(ON)}$ of 29mOhm and 40mOhm, respectively) to deliver efficiencies of up to 96%. User-selectable Burst Mode[®] operation lowers quiescent current to only 40uA, improving light load efficiency

and further extending battery run time. For noise sensitive applications, the Burst Mode operation can be disabled, offering the lowest noise operation. Other features include soft-start, current limiting, thermal shutdown and output disconnect.

LTC3113EDHD is available in a 16-lead 4mm x 5mm DFN package and the LTC3113EFE is in a thermally enhanced 20-lead TSSOP package. Pricing starts at \$3.95 each and \$4.15 each, respectively for 1,000 piece quantities. Industrial grade versions, the LTC3113IDHD and LTC3113IFE, are guaranteed to operate over the -40°C to 125°C operating junction temperature range and are priced at \$4.35 each and \$4.57 each, respectively in 1,000-piece quantities. All versions are available from stock. For more information, visit www.linear.com/3113.


Photo Caption: 2MHz, 3A (I_{OUT}) Synchronous Buck-Boost Switching Regulator

Summary of Features: LTC3113

- 3A Synchronous Buck-Boost Regulator
- Regulated Output with Input Voltage Above, Below or Equal to the Output Voltage
- 1.8V to 5.5V Input & Output Voltage Range
- Up to 3A Continuous Output Current
- Single Inductor
- Low Noise Buck-Boost Architecture
- Up to 96% Efficiency
- Programmable Frequency from 300kHz to 2MHz
- Selectable Burst Mode[®] Operation
- Output Disconnect in Shutdown
- Shutdown Current: <1uA
- Internal Soft-Start
- Small, Thermally Enhanced 16-Lead (4mm x 5mm x 0.75mm) DFN Package 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.

LT, LTC, LTM, μ Module and  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
408-432-1900 ext 2233

UK & Nordic

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