



1.5A, 15V Synchronous Boost Regulator Offers 95% Efficiency, 3MHz Switching & Output Disconnect in a 3mm x 4mm DFN

MILPITAS, CA – August 20, 2015 – Linear Technology Corporation announces the [LTC3121](#), a 3MHz current mode, synchronous boost DC/DC converter with integrated output disconnect. Its internal 1.5A switches deliver output voltages as high as 15V from an input voltage range of 1.8V at start-up (0.5V when running) to 5.5V, making it ideal for battery or standard 3.3V and 5V power sources. The LTC3121 delivers up to 400mA of continuous output current at 12V from a 5V input. Furthermore, its 1.5A current limit makes it well suited for input current constrained applications such as PCI Express while minimizing the size of the required externals. Pin-selectable Burst Mode[®] operation lowers quiescent current to only 25µA, providing extended battery run time in handheld applications. The combination of its thermally enhanced 3mm x 4mm DFN-12 package and a constant switching frequency of up to 3MHz enables the designer to balance PCB solution size with required efficiency.

The LTC3121 has internal synchronous switches with an $R_{DS(ON)}$ of only 121mΩ (N-channel) and 188mΩ (P-channel) to deliver efficiencies as high as 95%. Output disconnect allows the output voltage to be completely discharged in shutdown and also eliminates large inrush currents during start-up, minimizing stress on the input supply. The LTC3121 also regulates the output voltage when the input voltage exceeds the output voltage, making the device compatible with any battery chemistry. For applications demanding the lowest possible noise operation, the LTC3121 can be set via an external pin to operate in constant PWM mode.

Additional features include external synchronization, output overvoltage protection and robust short-circuit protection.

The LTC3121EDE is available from stock in a 12-lead 3mm x 4mm DFN. 1,000-piece pricing starts at \$2.33 each. An industrial-grade version, the LTC3121IDE, is guaranteed to operate over the -40°C to 125°C operating junction temperature range and is priced at \$2.73 each in 1,000-piece quantities. All versions are available from stock. For more information, visit www.linear.com/product/LTC3121.

Photo Caption: Compact, Efficient 1.5A Synchronous Booster Delivers Outputs to 15V

Summary of Features: LTC3121

- V_{IN} Range: 1.8V to 5.5V, 500mV after Start-Up
- Output Voltage Range: 2.2V to 15V
- 400mA Output Current for $V_{\text{IN}} = 5\text{V}$ & $V_{\text{OUT}} = 12\text{V}$
- Output Disconnects from Input when Shut Down
- Synchronous Rectification: Up to 95% Efficiency
- Inrush Current Limit
- Up to 3MHz Adjustable Switching Frequency Synchronizable to External Clock
- Selectable Burst Mode[®] Operation: $25\mu\text{A } I_{\text{Q}}$
- Output Overvoltage Protection
- Soft-Start
- $<1\mu\text{A } I_{\text{Q}}$ in Shutdown
- 12-Lead, 3mm x 4mm x 0.75mm Thermally Enhanced DFN Package

The USA list pricing shown is for budgetary use only. International prices may differ due to local duties, taxes, fees and exchange rates.

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, μ Module[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

 , LT, LTC, LTM, Linear Technology, the Linear logo, Burst Mode and μ Module 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