



News Release | www.linear.com

36V, 1.5A Buck and 1.5A Boost 2MHz Step-Down DC/DC Converters & LDO Controller in 4mm x 4mm QFN

MILPITAS, CA – December 3, 2008 – Linear Technology Corporation announces the LT3570, a 36V, 1.5A(I_{SW}) buck and boost regulator combined with a linear controller packaged in a 4mm x 4mm QFN or TSSOP-20E. The LT3570 operates from a V_{IN} range of 2.5V to 36V ($40V_{MAX}$), making it ideal for the load dump and cold-crank conditions commonly found in automotive applications. Independent input pins can be tied together to run from a single input or can be run from independent input rails. The buck regulator can deliver up to 1A of continuous output current at voltages as low as 0.8V whereas the boost converter can deliver output voltages as high as 38V.

The LDO controller combined with an external NPN transistor can be run from the output of the buck regulator for maximum efficiency or via an independent input pin for design flexibility, either way providing low noise operation. Switching frequency is user programmable from 500kHz to 2MHz, enabling the designer to optimize efficiency while avoiding critical noise-sensitive frequency bands and is synchronizable from 650kHz to 2.5MHz. The combination of its 4mm x 4mm QFN package (or thermally enhanced TSSOP-20) and high switching frequency, which keeps external capacitors and the inductor small, provides a very compact, thermally efficient footprint.

Both the LT3570's buck and boost switchers utilize high efficiency 1.5A, 240mV_{CESAT} switches, with the necessary oscillator, control, logic circuitry and LDO controller integrated into a single die. Special design techniques enable efficiencies of up to 88% over a wide input voltage range while current mode topology enables fast transient response and excellent loop stability. Other features include independent soft-start capability for each channel and thermal shutdown.

The LT3570EUF is packaged in a 4mm x 4mm QFN and pricing starts at \$2.95 each, for 1,000-piece quantities. The LT3570EFE is packaged in a thermally enhanced TSSOP-20 and pricing starts at \$3.05 each, for 1,000-piece quantities. The LT3570IUF and LT3570IFE are

tested and guaranteed to operate from a -40°C to 125°C operating junction temperature and are priced at \$3.39 each and \$3.51 each, respectively for 1,000-piece quantities. All versions are available from stock.


Photo Caption: 36V, 1.5A (I_{SW}), 2MHz Buck & Boost Switching Regulator with LDO Controller

Summary of Features: LT3570

- 2.5V to 36V Input Voltage Range
- Programmable Switching Frequency from 500kHz to 2MHz
- Synchronizable Up to 2.5MHz
- Buck $V_{OUT(MIN)} = 0.8V$
- Boost : $V_{OUT(MAX)} = 38V$
- Independent Soft-Start for Each Converter
- Separate V_{IN} Supplies for Each Converter
- Duty Cycle Range: 0% to 90% at 1MHz
- Available in Thermally Enhanced 24-Lead (4mm x 4mm) QFN & 20-Lead TSSOP Packages

About Linear Technology

Linear Technology Corporation, a manufacturer of high performance linear integrated circuits, was founded in 1981, became a public company in 1986 and joined the S&P 500 index of major public companies in 2000. Linear Technology products include high performance amplifiers, comparators, voltage references, monolithic filters, linear regulators, DC-DC converters, battery chargers, data converters, communications interface circuits, RF signal conditioning circuits, uModule™ products, and many other analog functions. Applications for Linear Technology's high performance circuits include telecommunications, cellular telephones, networking products such as optical switches, notebook and desktop computers, computer peripherals, video/multimedia, industrial instrumentation, security monitoring devices, high-end consumer products such as digital cameras and MP3 players, complex medical devices, automotive electronics, factory automation, process control, and military and space systems. For more information, visit www.linear.com.

LT, LTC, LTM and  are registered trademarks and uModule is a trademark of Linear Technology Corp. All other trademarks are the property of their respective owners.

Press Contacts:

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

