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45V, 50mA Synchronous Buck Converter with Only 12uA Quiescent Current

MILPITAS, CA – November 3, 2008 – Linear Technology announces the LTC3642, a 45V input capable synchronous buck converter that can deliver up to 50mA of continuous output current from a 3mm x 3mm (or MSOP8-E) package. It operates from an input voltage range of 4.5V to 45V with transient protection up to 60V, making it ideal for automotive and industrial 4mA to 20mA control loop applications. The LTC3642 utilizes internal synchronous rectification and a programmable peak current mode design to optimize efficiency in lower current applications. It delivers efficiencies as high as 93% and requires only 12uA of quiescent current, maximizing battery run time. The combination of its 3mm x 3mm DFN package (or MSOP-8E) and only three tiny externals, offers a very compact solution footprint for a wide array of general purpose applications.

The LTC3642 utilizes internal high side and synchronous power switches which draw only 12uA at no load while maintaining output voltage regulation, making it ideal for always on battery-powered applications. Due to the inherent stability of the converter, no external compensation is required, thereby minimizing the solution footprint. It is available with either an adjustable output voltage (down to 0.8V) or fixed 3.3V or 5V output voltages.

Pricing for the LTC3642EDD and LTC3642EMS8E starts at \$2.65 each, respectively for 1,000-piece quantities. The LTC3642IDD and LTC3642IMS8E are tested and guaranteed to operate from a -40°C to 125°C operating junction temperature. They are priced at \$3.05 each, respectively in 1,000-piece quantities. All versions are available from stock.


Photo Caption: 45V, 50mA Synchronous Buck Converter with Only 10uA Quiescent Current

Summary of Features: LTC3642

- Wide Input Voltage Range: 4.5V to 45V, Tolerant of 60V Input Transients
- Internal High Side and Low Side Power Switches
- No Compensation Required
- 50mA Output Current
- High Efficiency: Up to 93 %
- Low Quiescent Current: 12uA
- 0.8V Feedback Voltage Reference
- Adjustable Peak Current Limit
- Internal or Programmable Soft-Start
- Precise RUN Pin Threshold with Adjustable Hysteresis
- 3.3V, 5V and Adjustable Output Versions
- Only Three External Components Required for Fixed Output Versions
- Low Profile (0.75mm) 3mm x 3mm DFN and Thermally-Enhanced MS8E 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.

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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

