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45V, 100mA Synchronous Buck Converter with Only 12uA Quiescent Current

MILPITAS, CA – May 12, 2009 – Linear Technology announces the LTC3631, a 45V input-capable synchronous buck converter that can deliver up to 100mA of continuous output current. 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 control loop applications. The LTC3631 utilizes internal synchronous rectification and a programmable peak current mode design to optimize efficiency in lower current applications. It delivers efficiencies as high as 92% and requires only 12uA of quiescent current, maximizing battery run time. Its 3mm x 3mm DFN package (or MSOP-8E) and only three tiny externals provides a highly compact solution footprint for a wide array of general purpose applications.

The LTC3631 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 simplifying design and minimizing the solution footprint. It is available as an adjustable output voltage (down to 0.8V) or with fixed 3.3V or 5V output voltages.

Pricing for the LTC3631EDD and LTC3631EMS8E starts at \$2.95 each, respectively for 1,000-piece quantities. The LTC3631IDD and LTC3631IMS8E are tested and guaranteed to operate from a -40°C to 125°C operating junction temperature, priced at \$3.39 each, respectively in 1,000-piece quantities. All versions are available from stock. For more information, visit www.linear.com.


Photo Caption: 45V, 100mA Synchronous Buck Converter with only 12uA

Summary of Features: LTC3631

- Wide Input Voltage Range: 4.5V to 45V, Tolerant of 60V Input Transients
- Internal High Side & Low Side Power Switches
- 100mA Output Current
- Low Dropout Operation: 100% Duty Cycle
- High Efficiency: Up to 92%
- 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 Thermally Enhanced (0.75mm) 3mm x 3mm DFN & 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, 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.

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