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36V Input with 60V Transient Protection, 1A(I_{OUT}), 2.2MHz Step-Down DC/DC Converter Offers Quiescent Current of Only 75uA

MILPITAS, CA – December 17, 2008 – Linear Technology Corporation announces the LT3682, a 1A, 36V input step-down switching regulator with input transient protection up to 60V. Its Burst Mode[®] operation keeps quiescent current under 75uA in no load standby conditions. The LT3682's 3.6V to 36V input voltage range, with 60V transient ride through, makes it ideal for load dump and cold-crank conditions commonly found in automotive applications. Its 1.5A internal switch can deliver up to 1A of continuous output current to voltages as low as 0.8V. The LT3682's BurstMode operation offers ultralow quiescent current which is well suited for applications such as automotive or telecom systems, which demand always-on operation and optimum battery life. Switching frequency is user programmable from 250kHz to 2.2MHz enabling the designer to optimize efficiency while avoiding critical noise-sensitive frequency bands. The combination of its 3mm x 4mm DFN-14 package and high switching frequency keeps external inductors and capacitors small, providing a very compact, thermally efficient footprint.

The LT3682 utilizes a high efficiency 1.5A, 480mohm switch, with the boost diode, oscillator, control and logic circuitry integrated into a single die. Low ripple BurstMode operation maintains high efficiency at low output currents while keeping output ripple below 15mV_{PK-PK}. Special design techniques and a new high voltage process enable high efficiency over a wide input voltage range while its current mode topology enables fast transient response and excellent loop stability. Other features include external synchronization (from 300kHz to 2.2MHz), a power good flag and soft-start capability.

The LT3682EDE pricing starts at \$2.95 each for 1,000 piece quantities. The LT3682IDE is tested and guaranteed to operate from a -40°C to 125°C operating junction temperature and is priced at \$3.95 each in 1,000 piece quantities. All versions are available from stock. For more information, visit www.linear.com.


Photo Caption: 36V (60V Transient Protection), 1A (I_{OUT}), 2.2MHz Step-Down Switching Regulator

Summary of Features: LT3682

- Wide Input Range:
Operation from 3.6V to 36V
Overvoltage Lockout Protects Circuits through 60V Transients
- 1A Output Current
- Low Ripple(< 15mV_{P-P}) Burst Mode® Operation: I_Q = 75uA at 12V_{IN} to 3.3V_{OUT}
- Adjustable Switching Frequency: 250kHz to 2.2MHz
- Short-Circuit Protected
- Synchronizable Between 300kHz to 2.2MHz
- 0.8V Feedback Reference Voltage
- Output Voltage 0.8V to 20V
- Soft-Start Capability
- Power Good Flag
- Small 10-Pin Thermally Enhanced 3mm × 3mm DFN Package

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.

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