



News Release | www.linear.com

33V_{IN}, 3.5A(I_{OUT}), 2.4MHz Step-Down DC/DC Converter Draws Only 75uA of Quiescent Current & Withstands 62V Transients

MILPITAS, CA – October 2, 2008 – Linear Technology Corporation announces the LT3972, a 3.5A, 33V_{IN} step-down switching regulator with Burst Mode[®] operation to keep quiescent current under 75uA. The LT3972 operates within a V_{IN} range of 3.6V to 33V, with overvoltage lockout protection against transients as high as 62V, making it ideal for load dump and cold-crank conditions commonly found in automotive applications. Its internal 4.6A switch can deliver up to 3.5A of continuous output current at voltages as low as 0.79V. Its Burst Mode operation provides ultra-low quiescent current, well suited for applications such as automotive or telecom systems, which have always-on circuits and need to optimize battery life. Switching frequency is user programmable from 200kHz to 2.4MHz, enabling the designer to maximize efficiency while avoiding critical noise-sensitive frequency bands. Its 3mm x 3mm DFN-10 package (or thermally enhanced MSOP-10E) and high switching frequency keep external inductors and capacitors small, providing a compact, thermally efficient footprint.

The LT3972 utilizes a high efficiency 4.6A, 95mOhm switch, with the necessary boost diode, oscillator, control and logic circuitry integrated into a single chip. Low ripple Burst Mode operation maintains high efficiency at low output currents while keeping output ripple below 15mV_{PK-PK}. Special design techniques used in the LT3972 enable high efficiency over a wide input voltage range, and the device's current mode topology enables fast transient response and excellent loop stability. Other features include external synchronization (from 250kHz to 2MHz), a power good flag and soft-start capability.

Pricing for the LT3972EDD and LT3972EMSE starts at \$4.25 and \$4.35 each, respectively for 1,000-piece quantities. The LT3972IDD and LT3972IMSE are guaranteed to

operate from a -40°C to 125°C operating junction temperature, priced at \$5.10 and \$5.22 each, respectively in 1,000-piece quantities. All versions are available from stock.


Photo Caption: 33V_{IN}, 62V Transient Protection Buck Regulator

Summary of Features: LT3972

- Wide Input Range:
- Operation from 3.6V to 33V
- Overvoltage Lockout Protects Circuits Through 62V Transients
- 3.5A Maximum Output Current
- Low Ripple (<15mV_{P-P}) Burst Mode[®] Operation:
- I_Q = 75uA at 12V_{IN} to 3.3V_{OUT}
- Adjustable Switching Frequency: 200kHz to 2.4MHz
- Low Shutdown Current: I_Q < 1uA
- Integrated Boost Diode
- Synchronizable Between 250kHz to 2MHz
- Power Good Flag
- Saturating Switch Design: 95mOhm On-Resistance
- Output Voltage: 0.79V to 30V
- Thermal Protection
- Soft-Start Capability
- Small 10-Pin Thermally Enhanced MSOP & (3mm × 3mm) DFN 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, Burst Mode 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