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Dual 60V_{IN}, 1A(I_{OUT}) Monolithic 2.5MHz Step-Down DC/DC Converter Withstands 80V Transients

MILPITAS, CA – April 19, 2012 – Linear Technology Corporation announces the [LT3988](#), a 60V_{IN} step-down switching regulator that can deliver dual 1A outputs. The LT3988 operates within a V_{IN} range of 4V to 60V, with overvoltage lockout protection against transients as high as 80V, making it ideal for load dump and cold-crank conditions commonly found in automotive applications. The LT3988 can be driven by two separate input rails or by a single input, maximizing design flexibility. Its internal 1.3A switches deliver up to 1A of continuous output current. Switching frequency is user-programmable from 250kHz to 2.5MHz, enabling the designer to maximize efficiency, while avoiding critical noise-sensitive frequency bands. The combination of its thermally enhanced MSOP-16E package and high switching frequency, which keeps the external inductor and capacitors small, provides a compact, thermally efficient footprint.

The LT3988 utilizes dual, high efficiency 1.3A switches, with the necessary boost diodes, oscillator, control and logic circuitry integrated into a single chip. Its catch diode current sense (DA) pins protect the circuit during input voltage transients even at high switching frequencies while adding robust short-circuit protection. Anti-phase switching minimizes both input and output ripple. Special design techniques used in the LT3988 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 2.5MHz), internal loop compensation, thermal shutdown and tracking capability.

Pricing for the LT3988EMSE starts at \$3.65 each. An industrial temperature grade version, the LT3988IMSE, is tested and guaranteed to operate from -40°C to 125°C operating junction temperature and is priced at \$4.20 each. A high temperature version, the LT3988HMSE, is tested and guaranteed to operate from -40°C to 150°C operating junction temperature and is priced at \$4.45 each. All prices are for 1,000-piece quantities and all versions are available from stock. For more information, visit www.linear.com/product/LT3988


Photo Caption: Dual 60V_{IN}, 1A(I_{OUT}) Monolithic 2.5MHz Step-Down DC/DC Converter

Summary of Features: LT3988

- Wide Input Range: Operation from 4V to 60V, Overvoltage Lockout Protects Circuit through 80V Transients
- Two 1A Output Switching Regulators with Internal Power Switches
- Short Circuit Robust
- Adjustable 0.25MHz to 2.5MHz Switching Frequency, Synchronizable Over the Full Range
- Integrated Boost Diodes
- Integrated Loop Compensation
- Anti-Phase Switching Reduces Ripple
- Low Shutdown I_Q (<2μA)
- Uses Small Inductors & Ceramic Capacitors
- Thermally Enhanced, 16-Pin MSOP Package

About Linear Technology

Linear Technology Corporation, a member of the S&P 500, has been designing, manufacturing and marketing a broad line of high performance analog integrated circuits for major companies worldwide for three decades. The Company's products provide an essential bridge between our analog world and the digital electronics in communications, networking, industrial, automotive, computer, medical, instrumentation, consumer, and military and aerospace systems. Linear Technology produces power management, data conversion, signal conditioning, RF and interface ICs, μModule[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

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Press Contacts:

North America / Worldwide

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

UK & Nordic

Alan Timmins
alan@ezwire.com
Tel: +44-1-252-629937