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Dual 36V, 2.2MHz Step-Down DC/DC Converter Delivers 0.7A per Channel & Operates up to 150°C

MILPITAS, CA – April 6, 2009 – Linear Technology announces the H-grade version of the LT3509, a dual channel, current mode PWM step-down DC/DC converter with two internal 36V, 1A power switches in an MSOP-16E package. The H-grade version is tested and guaranteed to a maximum junction temperature of +150°C, compared to the E- and I-grade versions' +125°C maximum junction temperature. All electrical specifications are identical for the E-, I- and H-grade versions. The LT3509 H-grade is ideal for automotive and industrial applications which are subjected to high ambient temperatures.

Each channel of the LT3509 is capable of delivering up to 700mA of output current with efficiencies up to 88%. Its wide input range of 3.6V to 36V, with transient protection to 60V, makes it ideal for regulating power from a wide variety of sources, including unregulated wall transformers, 24V industrial supplies and automotive batteries. For automotive applications, the LT3509's minimum input voltage of 3.6V enables it to operate with sub-4V, inputs paramount for automotive cold crank requirements. Similarly, the device's 36V continuous input capability with 60V transient protection enables it to withstand transients found in load-dump scenarios. The LT3509's 300kHz to 2.2MHz switching frequency is user programmable, enabling it to maximize efficiency while using tiny, low cost inductors and ceramic capacitors, resulting in low, predictable output ripple.

The LT3509HMSE is available from stock in a 16-lead thermally enhanced MSOP package. Pricing starts at \$3.76 each for 1,000 piece quantities. For more information, visit www.linear.com.


Photo Caption: 150°C, Dual 36V, 700mA (I_{OUT}), 2.2MHz Step-Down Switching Regulator

Summary of Features: LT3509H

- Two 700mA Switching Regulators with Internal Power Switches
- Wide 3.6V to 36V Operating Range
- Overvoltage Lockout Protects Circuit Through 60V Supply Transients
- Short Circuit Robust
- Low Dropout Voltage – 95% Maximum Duty Cycle
- Adjustable 300kHz to 2.2MHz Switching Frequency
- Synchronizable Over the Full Range
- Uses Small Inductors & Ceramic Capacitors
- Integrated Boost Diodes
- Internal Compensation
- Thermally Enhanced 16-Lead MSOP Packages
- Maximum Junction Temperature of 150°C

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. 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