



## **36V, 2A( $I_{OUT}$ ), 2.2MHz Step-Down DC/DC Converter with Linear Controller in 3mm x 3mm DFN**

MILPITAS, CA – October 23, 2007 – Linear Technology announces the LT3500, a 2A, 36V step-down switching regulator and a linear controller in a 3mm x 3mm DFN package. The LT3500 operates from a  $V_{IN}$  range of 3V to 36V ( $40V_{MAX}$ ), making it ideal for load dump and cold-crank conditions found in automotive applications. Its 2.3A internal switch can deliver up to 2A of continuous output current at voltages as low as 0.8V. Switching frequency is user programmable from 250kHz to 2.2MHz, enabling the designer to optimize efficiency while avoiding critical noise-sensitive frequency bands. The integrated LDO controller, combined with an NPN transistor, ensures very low noise output from the primary channel or as a second channel. The LT3500's 3mm x 3mm DFN-10 package and high switching frequency, which keeps external capacitors and inductor small, provide a very compact, thermally efficient footprint.

The LT3500's main switcher utilizes a high efficiency 2.3A, 450mV $_{CESAT}$  switch, with the necessary oscillator, control, logic circuitry and LDO controller integrated into a single die. Special design techniques 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 a power good flag and soft-start capability.

The LT3500EDD pricing starts at \$3.25 each for 1,000-piece quantities. The LT3500IDD is tested and guaranteed to operate from a -40°C to 125°C operating junction temperature and is priced at \$3.90 each. The LT3500HDD is tested and guaranteed to operate from a -40°C to 150°C operating junction temperature and is priced at \$4.15 each. All versions are available from stock.


**Photo Caption:** 36V, 2A ( $I_{OUT}$ ), 2.2MHz Step-Down Switching Regulator with LDO Controller  
I in 3mm × 3mm DFN

### Summary of Features: LT3500

- Wide Input Range: 3V to 36V Operating, 40V Maximum
- Short-Circuit Protected Over Full Input Range
- 2A Output Current Capability
- Adjustable/Synchronizable Fixed Frequency Operation from 250kHz to 2.2MHz
- Soft-Start/Tracking Capability
- Output Adjustable Down to 0.8V
- Adjustable Linear Regulator/Driver with 13mA Output Capability
- Power Good Comparator with Complementary Outputs
- Low Shutdown Current: 12uA
- 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, 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](http://www.linear.com)

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