



## **36V, 3.5A( $I_{OUT}$ ), 2.4MHz Step-Down DC/DC Converter in 3mm x 3mm DFN or MSOP-10E Package**

MILPITAS, CA – October 8, 2007 – Linear Technology Corporation announces the LT3693, a 3.5A, 36V step-down switching regulator packaged in either a 3mm x 3mm DFN or MSOP-10E. The LT3693 operates within a  $V_{IN}$  range of 3.6V to 36V, making it ideal for both load dump and cold-crank conditions found in automotive applications. Its 4.6A internal switch can deliver up to 3.5A of continuous output current at voltages as low as 0.79V. The LT3693's switching frequency is user programmable from 200kHz to 2.4MHz, enabling the designer to optimize efficiency while avoiding critical noise-sensitive frequency bands while keeping externals small. The combination of its high switching frequency and tiny 3mm x 3mm (or MSOP-10E) package ensure a very compact solution foot print.

The LT3693 utilizes a high efficiency 4.6A, 95mOhm switch which can deliver up to 90% efficiency. The necessary boost diode, oscillator, control and logic circuitry are integrated into a single chip. Special design techniques used in the LT3693 enable high efficiency over a wide input voltage range, and the devices's current mode topology enables fast transient response and excellent loop stability. Other features include external synchronization (from 200kHz to 2MHz), a power good flag and soft-start capability.

Pricing for the LT3693EDD and LT3693EMSE starts at \$3.85 and \$3.95 each, respectively for 1,000-piece quantities. The LT3693IDD and LT3693IMSE are tested and guaranteed to operate from a -40°C to 125°C operating junction temperature, priced at \$4.62 and \$4.74 each, respectively in 1,000-piece quantities. All versions are available from stock.


**Photo Caption:** 36V, 3.5A ( $I_{OUT}$ ), 2.4MHz Step-Down Switching Regulator

**Summary of Features: LT3693**

- Wide Input Range: 3.6V to 36V
- 3.5A Maximum Output Current
- Adjustable Switching Frequency: 200kHz to 2.4MHz
- Low Shutdown Current:  $I_Q < 1\mu A$
- Integrated Boost Diode
- Synchronizable Between 250kHz to 2MHz
- Power Good Flag
- Saturating Switch Design: 95mOhm On-Resistance
- 0.790V Feedback Reference Voltage
- Output Voltage: 0.79V to 30V
- Thermal Protection
- Soft-Start Capability
- Small 10-Pin Thermally Enhanced MSOP and (3mm x 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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