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## **36V, 2A( $I_{OUT}$ ), 2.4MHz Step-Down DC/DC Converter with 60V Transient Protection**

MILPITAS, CA – June 26, 2007 – Linear Technology Corporation announces the LT3685, a 2A, 36V step-down switching regulator with input transient protection up to 60V. The LT3685's 3.6V to 36V operating input voltage range and 60V transient protection make it ideal for load dump and cold-crank conditions found in automotive applications. Its 3A internal switch can deliver up to 2A of continuous output current at voltages as low as 0.79V. Switching frequency is user programmable from 200kHz to 2.4MHz, optimizing efficiency while avoiding critical noise-sensitive frequency bands. Its high switching frequency keeps the external capacitors and inductor small, and the 3mm x 3mm DFN-10 package (or thermally enhanced MSOP-10E) provides a very compact, thermally efficient footprint.

The LT3685 utilizes a high efficiency 3A, 0.25 Ohm switch, with the necessary boost diode, oscillator, control and logic circuitry integrated on-chip. Special design techniques and a new high voltage process enable high efficiency over a wide input voltage range while the LT3685'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.

The LT3685EDD and LT3685EMSE are priced starting at \$3.05 each and \$3.15 each, respectively, for 1,000-piece quantities. The LT3685IDD and LT3685IMSE, tested and guaranteed to operate from a -40°C to 125°C operating junction temperature, are priced at \$3.66 and \$3.78 each, respectively in 1,000-piece quantities. All versions are available from stock.

**Photo Caption:** 36V, 2A (I<sub>OUT</sub>) Step-Down DC/DC Converter with 60V Transient

**Summary of Features: LT3685**

- Wide Input Range:
  - Operation to 36V
  - Overvoltage-Lockout Protects Circuits through 60V Transient
- 2A Maximum Output Current
- Adjustable Switching Frequency: 200kHz to 2.4MHz
- Low Shutdown Current: I<sub>Q</sub> < 1uA
- Integrated Boost Diode
- Synchronizable Between 250kHz to 2MHz
- Power Good Flag
- Saturating Switch Design: 0.25 Ohm On-Resistance
- 0.790V Feedback Reference Voltage
- Output Voltage: 0.79V to 20V
- Soft-Start Capability
- Small 10-Pin Thermally Enhanced MSOP & (3mm x 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, 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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