



## **100V High Speed Synchronous N-Channel MOSFET Driver Operates from -55°C to 125°C**

MILPITAS, CA – December 4, 2008 – Linear Technology Corporation announces a new high reliability (MP) grade version of the LTC4444-5, a high-speed, high input supply voltage (100V), synchronous MOSFET driver designed to drive upper and lower power N-Channel MOSFETs in synchronous rectified converter topologies. This driver, combined with power MOSFETs and one of Linear Technology's many DC/DC controllers, forms a complete high efficiency synchronous regulator. The LTC4444MP-5 operates, and is 100% tested over a junction temperature range of -55°C to 125°C, compared to the "I" grade version's -40°C to 85°C operating temperature range.

This powerful driver can source up to 1.4A with a 1.5 Ohm pull-down impedance for driving the top MOSFET and a source current of 1.75A with a 0.75 Ohm pull-down impedance for the bottom MOSFET, making it ideal for driving high gate capacitance, high current MOSFETs. The LTC4444MP-5 can also drive multiple MOSFETs in parallel for higher current applications. Switching losses are minimized by the fast 8ns rise, 5ns fall time of the top MOSFET and 6ns rise, 3ns fall time of the bottom MOSFET when driving a 1,000 pF load. Adaptive shoot-through protection is integrated to minimize dead time while preventing both the upper and lower MOSFETs from conducting simultaneously.

The LTC4444MP-5 is configured for two supply-independent inputs. The high-side input logic signal is internally level-shifted to the bootstrap supply, which can function at up to 114V above ground. Furthermore, this part drives both upper and lower MOSFET gates over a range of 4.5V to 13.5V.

The LTC4444MP-5 is offered in a thermally enhanced MSOP-8 package with a \$2.88 1000-piece price.


**Photo Caption:** High Reliability 100V Synchronous MOSFET Driver for DC/DC Converters

### **Summary of Features: LTC4444MP-5**

- High Speed/High Voltage Synchronous N-Channel MOSFET Driver
- 100V Maximum Supply Voltage
- Military Plastic Grade Operating Temp Range of -55°C to +125°C
- High Drive Current – 0.75Ohm Pull-Down Impedance
- 4.5V to 13.5V Gate Drive Voltage
- Adaptive Shoot-Through Protection
- Drive both Upper & Lower MOSFETs
- Top Gate-8ns Rise, 5ns Fall Times when Driving 1,000 pF
- Bottom Gate-6ns Rise, 3ns Fall Times when Driving 1,000 pF
- Undervoltage Lockout for Gate Drive Voltage
- Thermally Enhanced MSOP-8 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, uModule™ products, 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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