



100V High Speed Synchronous N-Channel MOSFET Drivers Operate from -40°C to 150°C

MILPITAS, CA – February 17, 2011 – Linear Technology Corporation announces the H-grade version of the [LTC4444/-5](#), a high-speed, high input supply voltage (100V), synchronous MOSFET gate 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 LTC4444H/-5 operates over a junction temperature range of -40°C to 150°C, compared to the I-grade version's -40°C to 125°C operating temperature range.

Adaptive shoot-through protection is integrated to minimize dead time while preventing both the upper and lower MOSFETs from conducting simultaneously. These powerful drivers can source up to 1.4A with a 1.5Ohm pull-down impedance for driving the top MOSFET and a source current of 1.75A with a 0.75Ohm pull-down impedance for the bottom MOSFET, making it ideal for driving high gate capacitance, high current MOSFETs. The LTC4444H/-5 can 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 1,000pF load.

The LTC4444H/-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. The LTC4444-5 drives both upper and lower MOSFET gates over a range of 4.5V to 13.5V and the LTC4444 drives both upper and lower MOSFET gates over a range of 7.2V to 13V.

Both parts are available in a thermally enhanced MSOP-8 package. Pricing starts at \$2.00 each in 1,000-piece quantities. For more information, visit www.linear.com/4444


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

Summary of Features: LTC4444H/-5

- High Speed/High Voltage Synchronous N-Channel MOSFET Driver
- 100V Maximum Supply Voltage
- Military Plastic Grade Operating Temp Range of -40°C to +150°C
- High Drive Current – 0.75Ohm Pull-Down Impedance
- 4.5V/7.2V to 13.5V Gate Drive Voltage
- Adaptive Shoot-Through Protection
- Drive both Upper & Lower MOSFETs
- Top Gate – 8ns Rise, 5ns Fall Times when Driving 1,000pF
- Bottom Gate – 6ns Rise, 3ns Fall Times when Driving 1,000pF
- Undervoltage Lockout for Gate Drive Voltage
- Thermally Enhanced MSOP-8 Package

About Linear Technology

Linear Technology Corporation, a member of the S&P 500, has been designing, manufacturing and marketing a broad line of high performance analog integrated circuits for major companies worldwide for three decades. The Company's products provide an essential bridge between our analog world and the digital electronics in communications, networking, industrial, automotive, computer, medical, instrumentation, consumer, and military and aerospace systems. Linear Technology produces power management, data conversion, signal conditioning, RF and interface ICs, and μ Module[®] subsystems.

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