



News Release | [www.linear.com](http://www.linear.com)

## **Single Inductor High Efficiency Synchronous Buck-Boost Controller Operates from -55°C to 125°C**

MILPITAS, CA – March 30, 2009 – Linear Technology Corporation announces a new high reliability (MP) grade version of the LTC3780, a very high efficiency synchronous buck-boost switching regulator DC/DC controller that operates from input voltages above, below or equal to the output voltage. High power buck-boost circuits typically rely on transformers or two DC/DC converters, one for step-up (boost) and the other for step-down (buck) conversion. The LTC3780MP operates using a single inductor and can deliver output power up to 150W with a single device. Higher power can be achieved when multiple circuits are paralleled. With 4-switch synchronous rectification, it can deliver efficiencies up to 98%.

The LTC3780MP operates with a selectable fixed frequency between 200kHz and 400kHz, and can be synchronized to an external clock over the same range with its phased-locked loop (PLL). Its wide 4V to 36V input range, 0.8V to 30V output range and seamless transitions between operating modes make it ideal for military, automotive and battery-powered systems. The LTC3780MP employs a proprietary current control architecture for constant frequency operation in buck or boost mode and has powerful on-board MOSFET gate drivers. Fault protection is provided for overvoltage, overcurrent and short circuit conditions in all operating modes. The output voltage turn-on time can be adjusted with the device's programmable soft-start. A power good output signals whether the output voltage is within regulation. The user can select from continuous operation, pulse skipping and Burst Mode<sup>®</sup> operation during light loads, which safely powers pre-biased loads.

The LTC3780MP operates and is 100% tested over an operating junction temperature range of -55°C to 125°C and is offered in a 24-lead SSOP package. 1,000-piece pricing starts at \$7.24 each. For more information, visit [www.linear.com](http://www.linear.com).


## **Photo Caption: Synchronous Buck-Boost Controller**

### **Summary of Features: LTC3780MP**

- Single Inductor Architecture
- Operation with Input Voltages Above, Below or Equal to the Output Voltage
- 4V to 36V Input Voltage Range
- 0.8V to 30V Output Voltage Range
- Wide -55°C to +125°C Operating Junction Temperature Range
- Synchronous Rectification
- Up to 98% Efficiency
- On-Board MOSFET Gate Drivers
- 150 Watts Output Power
- Selectable Fixed or PLL Synchronizable Operating Frequency from 200kHz to 400kHz
- Power Good Output Signal
- Current Mode Control for Fast Transient Response and Easy Loop Compensation
- Overvoltage and Overcurrent Protection

### **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.

LT, LTC, LTM, Burst Mode and  are registered trademarks and uModule is a trademark of Linear Technology Corp. All other trademarks are the property of their respective owners.

#### **Press Contacts:**

John Hamburger, Director Marketing Communications  
[jhamburger@linear.com](mailto:jhamburger@linear.com)  
Tel: 408-432-1900 ext 2419

Doug Dickinson, Media Relations Manager  
[ddickinson@linear.com](mailto:ddickinson@linear.com)  
Tel: 408-432-1900 ext 2233

