



100V Current Mode Synchronous Step-Down Controller

MILPITAS, CA – May 15, 2007 – Linear Technology Corporation introduces the LTC3810, a high input voltage synchronous step-down switching regulator controller that can directly step down voltages from 100V to output voltages ranging from 0.8V to 93% of V_{IN} . This single inductor design eliminates the need for a transformer. The device employs a constant on-time valley current mode control architecture to deliver very low duty cycles and extremely fast transient response with accurate cycle-by-cycle current limit without requiring a sense resistor. The LTC3810's strong onboard 1 Ohm gate drivers minimize switching transient losses associated with driving MOSFETs at high frequency and high voltage. To optimize the size of inductors and capacitors, the switching frequency is selectable from 100kHz to 1MHz or can be synchronized to an external source over the same range.

The LTC3810 can be configured for pulse skipping operation to maintain high efficiency at light loads. Its 0.8 volt reference has $\pm 0.75\%$ accuracy over the operating temperature range of -40°C to $+85^{\circ}\text{C}$. The adjustable soft-start guarantees safe start-up by eliminating turn on overshoot, and the device has a tracking feature to control the output voltage during power up. Applications include 48V power conversion in telecom and basestation power supplies, networking equipment as well as automotive, industrial and avionics systems susceptible to high voltage surges.


The LTC3810 is offered in a 28-lead SSOP package. Pricing for 1,000-piece quantities begin at \$3.50 each.

Photo Caption: 100V Synchronous Step-Down DC/DC Controller**Summary of Features: LTC3810**

- 100V Input Voltage Operation
- Current Mode Control
- Large 1 Ohm Gate Drivers
- No Current Sense Resistor Required
- Excellent Transient Response and DC Line Regulation
- 100kHz to 1MHz Selectable Fixed Frequency or Synchronizable
- $\pm 0.75\%$ Reference Accuracy over the -40°C to $+85^{\circ}\text{C}$ Operating Temperature Range
- Selectable Pulse Skipping Operation for High Efficiency at Light Loads

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

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