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60V Synchronous Step-Down DC/DC Controller Specified up to 150°C

MILPITAS, CA – January 11, 2011 – Linear Technology Corporation introduces the [LTC3810H-5](#), a high input voltage synchronous step-down DC/DC controller with guaranteed specifications for junction temperatures as high as 150°C. This device employs a constant on-time valley current-mode control architecture, delivering very low duty cycles and extremely fast transient response with accurate cycle-by-cycle current limit without requiring a sense resistor. This rugged controller can directly step down voltages from 60V to an output voltage ranging from 0.8V to 93% of V_{IN} . The powerful 1 Ohm onboard gate drivers minimize switching losses associated with driving N-channel MOSFETs at high frequency and high voltage for output currents up to 25A. Applications include 48V power conversion in telecom and datacom, as well as automotive and industrial systems susceptible to high surge voltages.

The LTC3810-5 features an adjustable minimum on-time that can be set as low as 100ns, enabling a high step-down ratio at high frequency. The operating frequency is selectable from 100kHz to 1MHz or can be synchronized to an external clock over the same range. Pulse skipping operation can be configured to maintain high efficiency at light loads. Additional features include programmable soft start or tracking, adjustable cycle-by-cycle current limit, output overvoltage protection, power good output signal and programmable undervoltage lockout.

The LTC3810H-5 is offered in a 5mm x 5mm QFN-32 package, with 1,000 piece pricing starting at \$3.76 each. For more information, visit www.linear.com/3810


Photo Caption: 60V Synchronous Step-Down Controller Operates up to 150°C

Summary of Features: LTC3810H-5

- -40°C to 150°C Guaranteed Junction Temperature Operation
- Up to 60V Input Voltage Operation
- Wide Output Voltage Range from 0.8V to $0.93V_{IN}$
- Synchronous Rectification
- Adjustable Low Constant On-Time Down to 100ns
- Valley Current-Mode Control
- Large 1 Ohm Gate Drivers
- No Current Sense Resistor Required
- Power Good Output Signal
- Adjustable Cycle-by-Cycle Current Limit
- 100kHz to 1Mhz Selectable Frequency or Synchronizable to an External Clock
- Selectable Pulse Skipping or Continuous Operation

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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