



38V Synchronous Step-Down Controller with 24V Output Capability Draws Only 50 μ A in Standby

MILPITAS, CA – August 21, 2014 – Linear Technology Corporation introduces the [LTC3807](#), a low quiescent current synchronous step-down DC/DC controller that draws only 50 μ A in standby mode with the output voltage in regulation. The 4V to 38V input supply range is designed to protect against high voltage transients, continue operation during automotive cold crank and cover a broad range of input sources and battery chemistries. The output voltage can be set from 0.8V to 24V at output currents up to 25 amps with efficiencies as high as 95%, making it well suited for automotive, heavy equipment, industrial and robotic applications.

The LTC3807 has powerful 1.1 Ohm on-chip MOSFET gate drivers. It operates with a selectable fixed frequency between 50kHz and 900kHz and is synchronizable to an external clock ranging from 75kHz to 850kHz. The user can select from continuous operation, pulse skipping and low ripple Burst Mode[®] operation during light loads. Its current-mode architecture provides easy loop compensation, fast transient response and excellent line regulation. Output current sensing is accomplished by measuring the voltage drop across the output inductor (DCR) for the highest efficiency or by using an optional sense resistor. Current foldback limits MOSFET heat dissipation during overload conditions. Additional features include a low 95ns minimum on-time for high step-down ratios, up to 99% duty cycle for low voltage dropout, an internal LDO that powers the gate drivers and a power good signal.

The LTC3807 is available in 20-pin 3mm x 4mm QFN and 20-lead TSSOP thermally enhanced packages. Four temperature grades are available, with operation from –40 to 125°C for the extended and industrial grades, a high temp automotive range of –40°C to 150°C and a military grade of –55°C to 150°C. The 1,000-piece price starts at \$2.30 each. For more information, visit www.linear.com/product/LTC3807

Photo Caption: Low Quiescent Current Synchronous Step-Down Controller


Summary of Features: LTC3807

- Wide Input Voltage Range: 4V to 38V
- 50µA Quiescent Current
- Wide Output Voltage Range: 0.8V to 24V
- Synchronous Rectification for up to 95% Efficiency
- Low 95ns Minimum On-Time for High Step-Down Ratios
- DCR or R_{SENSE} Current Sense
- Selectable Low Ripple Burst Mode® Operation, Pulse Skipping or Continuous Operation
- Selectable Fixed Operating Frequency from 50kHz to 900kHz
- PLL Synchronizable Operating Frequency from 75kHz to 850kHz
- Current Mode Control for Fast Transient Response & Easy Loop Compensation
- Adjustable Soft-Start or Tracking
- Output Overvoltage & Overcurrent Foldback Protection
- Extended & Industrial Grades: -40°C to 125°C Operating Junction Temp
- Automotive Temp Grade: -40°C to 150°C Operating Junction Temp
- Military Temp Grade: -55°C to 150°C Operating Junction Temp

The USA list pricing shown is for budgetary use only. International prices may differ due to local duties, taxes, fees and exchange rates.

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 over 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, µModule® subsystems, and wireless sensor network products. For more information, visit www.linear.com

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