



60V Input Step-Down DC/DC Controller Draws Only 40 μ A in Battery-Powered Systems

MILPITAS, CA – November 8, 2012 – Linear Technology Corporation introduces the [LTC3864](#), a high voltage step-down DC/DC controller that draws only 40 μ A quiescent current in standby mode with the output enabled in Burst Mode[®] operation. The 3.5V to 60V input supply range is designed to protect against high voltage transients, to operate continuously during automotive cold crank and covers a broad range of input sources and battery chemistries. The output voltage can be set from 0.8V to V_{IN} due to its 100% duty cycle capability, making it well suited for 12V or 24V automotive, heavy equipment, industrial control, robotics and telecom applications.

The LTC3864 drives an external P-channel MOSFET, operates with a selectable fixed frequency between 50kHz and 850kHz, and is synchronizable to an external clock from 75kHz to 750kHz. The user can select from 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 a sense resistor for highest accuracy. Additional features include programmable soft start or tracking, overvoltage protection, overcurrent and short-circuit protection, a power good output signal and FMEA (failure mode and effects analysis) verified for adjacent pin opens and shorts.

The LTC3864 is offered in 12-pin thermally enhanced MSOP and 4mm X 3mm QFN packages. The LTC3864E and LTC3864I versions operate from -40°C to 125°C junction temperature. The LTC3864H is guaranteed to operate from a -40°C to 150°C operating junction temperature. The LTC3864MP is 100% tri-temperature tested and guaranteed to operate from -55°C to 150°C operating junction temperature. The 1,000-piece price starts at \$2.06 each. For more information, visit www.linear.com/product/LTC3864


Photo Caption: 60V Low I_Q Step-Down Controller

Summary of Features: LTC3864

- V_{IN} Range from 3.5V to 60V
- Wide V_{OUT} Range: 0.8V to V_{IN}
- Low Quiescent Current 40µA in Standby mode
- Selectable Low Ripple Burst Mode[®] Operation or Pulse Skipping at Light Loads
- Selectable Fixed Operating Frequency from 50kHz to 850kHz
- PLL Synchronizable Operating Frequency from 75kHz to 750kHz
- Current-Mode Control for Fast Transient Response & Easy Loop Compensation
- Adjustable Soft-Start or Tracking
- Output Overvoltage & Overcurrent Protection
- Power Good Output Signal
- 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

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

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Press Contacts:

North America / Worldwide

John Hamburger, Director Marketing
Communications
jhamburger@linear.com
Tel: 408-432-1900 ext 2419

Doug Dickinson, Media Relations Manager
ddickinson@linear.com
Tel: 408-432-1900 ext 2233

UK & Nordic

Alan Timmins
alan@ezwire.com
Tel: +44-1-252-629937