



15V, 200mA Synchronous Buck-Boost DC/DC Converter with Only 1.3 μ A of Quiescent Current

MILPITAS, CA – March 18, 2013 – Linear Technology announces the [LTC3129](#), a synchronous buck-boost converter that delivers up to 200mA of continuous output current from a wide variety of input sources including single or multiple-cell batteries as well as solar panels and supercaps. Its 2.42V to 15V input range and 1.4V to 15.75V output range provide a regulated output with inputs above, below or equal to the output. The low noise buck-boost topology incorporated in the LTC3129 provides a continuous transition through all of the operating modes, making it ideal for applications that must maintain a constant output voltage, even as the input source voltage transitions through the output voltage. It also includes programmable maximum power point control (MPPC) capability, ensuring maximum power extraction from nonideal power sources such as photovoltaic cells.

Quiescent current of only 1.3 μ A makes the LTC3129 well suited for always on and energy harvesting applications in which extended battery run time is of primary importance. The LTC3129's constant 1MHz switching frequency ensures low noise and high efficiency, while minimizing the size of the external components. The combination of tiny externals and a 3mm x 3mm QFN or MSOP-16E package provides a very small solution footprint.

The LTC3129 includes four internal low $R_{DS(on)}$ N-channel MOSFETs to deliver efficiencies of up to 95%. User selectable Burst Mode[®] operation lowers quiescent current to only 1.3 μ A improving light load efficiency and extending battery run time. For noise sensitive applications, Burst Mode operation can be disabled, offering low noise continuous switching.

Other features include a power good indicator, current-mode control, internal compensation thermal shutdown and output disconnect.

The LTC3129-1 shares all of the features of the LTC3129, but offers eight fixed output voltages from 2.5V to 15V. These outputs are user-programmable and eliminate the resistor divider required on the adjustable version.

Both the LTC3129EUD and LTC3129EUD-1 are available in a 16-lead 3mm x 3mm QFN package, whereas the LTC3129EMSE and LTC3129EMSE-1 are offered in a thermally enhanced 16-lead MSOP package. Pricing starts at \$2.95 each for both versions. Industrial grade versions, the LTC3129IUD, LTC3129IUD-1, LTC3129IMSE and LTC3129IMSE-1, are guaranteed to operate over the -40°C to 125°C operating junction temperature range and are priced at \$3.25 each. All pricing is based on 1,000-piece quantities and all versions are available from stock. For more information, visit www.linear.com/product/LTC3129.


Photo Caption: 15V, 200mA Synchronous Buck-Boost Regulator

Summary of Features: LTC3129

- Regulates V_{OUT} Above, Below or Equal to V_{IN}
- Wide V_{IN} Range: 2.42V to 15V, 1.92V to 15V After Start-Up (Bootstrapped)
- Wide V_{OUT} Range: 1.4V to 15.75V
- 200mA Output Current in Buck Mode
- Single Inductor
- 1.3 μ A Quiescent Current
- Programmable Maximum Power Point Control
- 1.2MHz Ultralow Noise PWM
- Current Mode Control
- Pin-Selectable Burst Mode® Operation
- Up to 95% Efficiency
- Accurate RUN Pin Threshold
- Power Good Indicator
- 10nA Shutdown Current
- Thermally Enhanced 3mm x 3mm QFN & 16-Lead MSOP Packages

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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