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15V, 300mA Synchronous Buck Converters with Only 1.8 μ A Quiescent Current

MILPITAS, CA – November 28, 2011 – Linear Technology announces the [LTC3103](#) and the [LTC3104](#), 15V, fixed frequency synchronous buck converters capable of delivering 300mA of continuous current to output voltages from 0.6V to 13.8V. The LTC3103 consumes just 1.8 μ A of quiescent current, while the LTC3104 (which offers a 10mA programmable LDO output) requires only 2.6 μ A of quiescent current. These devices are ideal for a wide range of battery-powered applications including industrial control power, remote sensor networks, low power wireless systems and energy harvesting applications. Both devices operate from an input voltage range of 2.5V to 15V facilitating operation from a wide range of input sources, including single- or multi-cell batteries, supercapacitors and system rails.

The LTC3103 and LTC3104 operate at a fixed 1.2MHz switching frequency and utilize synchronous rectification to deliver efficiencies as high as 95%. For applications that demand low noise, both the LTC3103 and LTC3104 can operate in a “forced continuous mode” where the part will operate at the 1.2MHz switching frequency. The device can also be commanded to automatically transition from fixed frequency to Burst Mode[®] operation to achieve high efficiency over an extremely wide range of load currents. Internal compensation, small-footprint DFN and MSOP packages and fixed 1.2MHz switching frequency enable the use of just a few tiny external components to offer very compact solution footprints. An accurate, programmable RUN comparator offers the user flexibility in programming at what input voltage the part will be

enabled. Other features include Power Good, integrated soft-start, and over-temperature protection.

Pricing for the LTC3103EDD and LTC3103EMSE starts at \$2.45 each, for 1,000-piece quantities. Industrial grade versions, the LTC3103IDD and LTC3103IMSE, are tested and guaranteed to operate from a -40°C to 125°C operating junction temperature, and are priced at \$2.70 each, in 1,000-piece quantities.

Pricing for the LTC3104EDE and LTC3104EMSE starts at \$2.70 each, for 1,000-piece quantities. Industrial grade versions, the LTC3104IDE and LTC3104IMSE, are tested and guaranteed to operate from a -40°C to 125°C operating junction temperature, priced at \$2.96 each, in 1,000-piece quantities. All versions are available from stock. For more information, visit www.linear.com/product/LTC3104 and www.linear.com/product/LTC3103


Photo Caption: 15V, 300mA Buck Converter with $I_Q=1.8\ \mu\text{A}$

Summary of Features: LTC3103 & LTC3104

- Ultralow Quiescent Current: 1.8 μ A (LTC3103), 2.6 μ A (LTC3104)
- Synchronous Rectification: Efficiency Up to 95%
- Wide V_{IN} Range: 2.5V to 15V
- Wide V_{OUT} Range: 0.6V to 13.8V
- 300mA Output Current
- 10mA LDO (LTC3104) with 1 μ A I_Q
- User-Selectable Automatic Burst Mode® or Forced Continuous Operation
- Accurate & Programmable RUN Pin Threshold
- 1.2MHz Fixed Frequency PWM
- Internal Compensation
- Power Good Status Output for V_{OUT}
- LTC3103 Available in Thermally Enhanced 3mm \times 3mm \times 0.75mm, 10-Pin DFN & 10-Pin MSOP Packages
- LTC3104 Available in Thermally Enhanced 3mm \times 4mm \times 0.75mm, 14-Pin DFN & 16-Pin 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, and µModule[®] subsystems.

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