



50mA Synchronous Buck-Boost DC/DC Converter with Integrated Coulomb Counter Consumes Only 680nA of Quiescent Current

MILPITAS, CA – September 22, 2015 – Linear Technology announces the [LTC3335](#), a nanopower high efficiency synchronous buck-boost converter with an onboard precision coulomb counter. It delivers up to 50mA of continuous output current. With only 680nA of quiescent current and programmable peak input currents from 5mA up to 250mA, the device is ideal for a wide variety of low power battery applications. Its 1.8V to 5.5V input range and eight user-selectable outputs between 1.8V and 5V can provide a regulated output supply with input voltage above, below or equal to the output. In addition, the device's integrated precision coulomb counter ($\pm 5\%$ battery discharge measurement accuracy) provides accurate monitoring of accumulated battery discharge in long-life primary cell applications that have extremely flat battery discharge curves. Typical applications include remote sensors and monitors, and Linear Technology's Dust Networks® SmartMesh® wireless sensor network systems.

The LTC3335 includes four internal low $R_{DS(on)}$ MOSFETs and can deliver efficiency of up to 90%. Other features include a programmable discharge alarm threshold, an I²C interface for accessing coulomb count and device programming, a power good output, and eight selectable peak input currents. The LTC3335 is available in both an E and I grade with an operating junction temperature range from -40°C to 125°C in a thermally enhanced, 20-lead 3mm x 4mm QFN package. Pricing starts at \$3.35 each for the E-grade at 1,000-piece quantities and all versions are available from stock. For more information, visit

www.linear.com/product/LTC3335.

Photo Caption: 680nA IQ 50mA Buck-Boost with Coulomb Counter


Summary of Features: LTC3335

- 680nA Input Quiescent Current (Output in Regulation at No Load)
- 1.8V to 5.5V Input Operating Range
- Selectable Output Voltages of 1.8V, 2.5V, 2.8V, 3V, 3.3V, 3.6V, 4.5V, 5V
- Integrated Coulomb Counter Measures Accumulated Battery Discharge
- $\pm 5\%$ Battery Discharge Measurement Accuracy
- Programmable Peak Input Current of 5mA, 10mA, 15mA, 25mA, 50mA, 100mA, 150mA & 250mA
- Up to 50mA of Output Current
- Up to 90% Efficiency
- Programmable Coulomb Counter Prescaler for Wide Range of Battery Sizes
- Programmable Discharge Alarm Threshold
- I²C Interface
- Low Profile (0.75mm) 20-Lead 3mm \times 4mm QFN Package

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

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