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2-Cell Alkaline & USB-Compatible Low Loss PowerPath™ Controller Has Ultra-Low I_Q Plus High Efficiency Buck-Boost & Dual Buck Regulators

MILPITAS, CA – December 15, 2008 – Linear Technology Corporation announces the LTC3101, the latest PMIC in a family of multifunction, compact power management solutions for battery-powered and battery backup applications. The micropower LTC3101 integrates a low loss PowerPath controller, three high efficiency synchronous switching regulators (one buck-boost and two bucks), a current limited 200mA VMAX output (which tracks the higher voltage input supply), a protected 100mA Hot Swap™ output, pushbutton On/Off control, a programmable processor reset generator and an always-on LDO, all in a compact, low-profile 4mm x 4mm QFN-24 package.

The LTC3101 features a wide input operating range of 1.8V to 5.5V, compatible with two or three AA or AAA form factor battery cells in Nickel, Lithium or alkaline chemistries, standard 1-cell Li-Ion/Polymer prismatic batteries, plus USB or 5V wall adapter input power. Additionally, the device's low loss PowerPath control seamlessly and automatically manages power flow between these multiple input sources. The "always-alive" VMAX and LDO outputs provide power for critical functions or additional external regulators. Internal sequencing and independent enable pins provide flexible power-up options.

The LTC3101's buck-boost regulator can deliver up to 800mA continuously for input voltages above 3V and is ideal for efficiently regulating a 3.0V or 3.3V output over the full 1.8V to 5.5V input voltage range. The LTC3101's two buck regulators feature 100% duty cycle

operation and are capable of delivering output currents of 350mA each, with adjustable output voltages down to 0.6V. The LTC3101's internal low $R_{DS(ON)}$ switches enable buck-boost efficiencies up to 95% and buck regulator efficiencies up to 93%, maximizing battery run time. In addition, Burst Mode® operation optimizes efficiency at light loads with a total IC quiescent current of only 38uA with all regulators enabled and only 15uA in standby with the LDO and VMAX outputs active. The high 1.27MHz switching frequency allows the use of tiny low cost capacitors and inductors less than 1mm in height. Furthermore, all regulators are stable with ceramic output capacitors, achieving very low output voltage ripple.

The LTC3101 is available from stock in a compact, low-profile (0.75mm) 4mm x 4mm QFN-24 package. Pricing starts at \$3.95 each for 1,000-piece quantities.


Photo Caption: 2-Cell Alkaline Input Multifunction PMIC with Buck-Boost + Dual Sync Buck + LDO

Summary of Features: LTC3101

- Low Loss PowerPath Control: Seamless, Automatic Transition from Battery to USB or Wall Adapter Power
- Wide V_{IN} Range: 1.8V to 5.5V, Compatible with 2 or 3xAA/AAA Cells & 1-Cell Li-Ion Batteries
- Buck Boost Regulator: V_{OUT} 1.5V to 5.25V, I_{OUT} up to 800mA for $V_{IN} \geq 3.0V$
- Buck Regulators: V_{OUT} 0.6V to V_{IN} , $I_{OUT} = 2 \times 350mA$
- High Efficiency: Up to 95% for Buck-Boost, up to 93% for Dual Bucks
- Ultra-Low Quiescent Current: 38uA (Burst Mode, all regulators enabled), 15uA (Standby)
- Always-ON LDO: 1.8V at 50mA
- Protected 100mA Hot Swap Output for Flash Memory Cards
- Current Limited 200mA VMAX Output
- Pushbutton On/Off Control
- Programmable microprocessor Reset Generator
- Programmable Power Up Sequencing
- Compact (4mm x 4mm x 0.75mm) 24-Pin QFN Package

About Linear Technology

Linear Technology Corporation, a manufacturer of high performance linear integrated circuits, was founded in 1981, became a public company in 1986 and joined the S&P 500 index of major public companies in 2000. Linear Technology products include high performance amplifiers, comparators, voltage references, monolithic filters, linear regulators, DC-DC converters, battery chargers, data converters, communications interface circuits, RF signal conditioning circuits, uModule™ products, and many other analog functions. Applications for Linear Technology's high performance circuits include telecommunications, cellular telephones, networking products such as optical switches, notebook and desktop computers, computer peripherals, video/multimedia, industrial instrumentation, security monitoring devices, high-end consumer products such as digital cameras and MP3 players, complex medical devices, automotive electronics, factory automation, process control, and military and space systems. For more information, visit www.linear.com.

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