



Standalone 1.2A Li-Ion Battery Chargers Automatically Select Between USB and Wall Adapter Inputs

MILPITAS, CA – November 9, 2006 – Linear Technology Corporation introduces the LTC4096/X standalone dual-input linear battery chargers. These devices charge single-cell Li-Ion/Polymer batteries from wall adapter or USB power sources. The LTC4096/X use a constant-current/constant-voltage algorithm for charging, with programmable charge current up to 1.2A from a wall adapter supply or up to 1A from a USB supply while automatically sensing the presence of voltage at each input. Applications include PDAs, MP3 players, digital cameras, lightweight portable medical and test equipment and large color screen cell phones.

The LTC4096/X feature a final float voltage accuracy of $\pm 0.6\%$ and are equipped with a patented thermal regulation scheme that maximizes the charging rate without the risk of overheating. The devices are extremely flexible with the following features programmable via a single resistor: wall adapter charge current, USB charge current and charge termination current. As standalone chargers, they do not require an external microcontroller to terminate charge, simplifying design. Other features include trickle charge for battery pre-conditioning ("X" versions disable trickle charge), undervoltage lockout, automatic recharge, charge status indicators and an input power present output (PWR) pin with 120mA drive capability. To preserve battery energy, the LTC4096/X draws $<50\mu\text{A}$ from the battery terminal in standby and $<20\mu\text{A}$ in shutdown mode.

The LTC4096/X are offered in a low profile (0.75mm) 10-lead 3mm x 3mm DFN package. The total solution footprint is very compact since no external MOSFET, sense resistors or blocking diodes are required. They are rated for operation from -40°C to 85°C . 1,000-piece pricing begins at \$1.50 each.


Photo Caption: Dual Input Standalone Li Battery Chargers

Summary of Features: LTC4096/X

- Charges Single Cell Li-Ion/Polymer Batteries from Wall Adapter & USB Inputs
- Standalone Operation: No External uController Required to Terminate Charge
- Automatic Input Power Detection
- Programmable Charge Current up to 1.2A from Wall Adapter Input via Resistor
- Programmable USB Charge Current up to 1A via Resistor
- Thermal Regulation Maximizes Charge Rate without Risk of Overheating
- No MOSFET, Sense Resistor or Blocking Diode Required
- "X" Version Disables Trickle Charge
- Low-Profile (0.75mm) 3mm x 3mm DFN-10 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, 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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