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[PowerbyProxi Partnership Press Release](#)

400mA Wireless Power Receiver Simplifies Contactless Battery Charging Across a 1.2cm Air Gap

MILPITAS, CA – October 7, 2013 – Linear Technology Corporation introduces the [LTC4120](#), a first for the company in the wireless battery charging space. The LTC4120 combines a wireless power receiver with a constant-current/constant-voltage battery charger, functioning as the receive circuit component in a complete wireless power transfer system comprised of transmit circuitry, transmit coil, receive coil and receive circuitry.

The LTC4120 works reliably with Linear Technology's simple discrete resonant transmitter reference design or with advanced off-the-shelf transmitters designed and manufactured by PowerbyProxi, a New Zealand-based leader in wireless power solutions. PowerbyProxi transmitters offer advanced features, including simultaneous charging of multiple receivers with a single transmitter and foreign object detection to prevent excessive heating during transmit faults.

The LTC4120 accepts a rectified 4.2V to 40V input from the receive coil to power a full-featured constant-current/constant-voltage 400mA battery charger that includes programmable charge current, a programmable 3.5V to 11V battery float voltage with $\pm 1\%$ accuracy, battery preconditioning with half-hour timeout, bad battery fault detection, NTC thermal protection, charge status and a 2-hour safety termination timer.

The LTC4120 features dynamic harmonization control (DHC), a patented technique that enables optimal wireless power transfer across a variety of conditions while providing thermal management and overvoltage protection. This technique modulates the resonant frequency of the receiver tank to provide lossless adjustment of the power received as well as the power transmitted to enable an efficient and robust solution for wirelessly charging battery-powered devices.

Wireless charging with the LTC4120 enables battery powered devices to be recharged without expensive, failure-prone connectors. Products incorporating the LTC4120 may be contained within sealed enclosures, in moving or rotating equipment or used where cleanliness or sanitation is critical. Applications include handheld instruments, industrial/military sensors and similar devices in harsh environments, portable medical devices, physically small devices and electrically isolated devices. LTC4120-based systems offer solutions that are much simpler than those implementing the Qi standard, with additional benefits, including greater transmission distance and no software required.

“The LTC4120 is the first result of an ongoing partnership between Linear Technology and PowerbyProxi, a technology company focused on providing real world wireless power solutions to the market.” according to Don Paulus, VP/GM of Linear Technology’s Power Products Group. Fady Mishriki, Executive Vice President & CTO of PowerbyProxi added, “Linear’s LTC4120 and our supporting transmitters will enable the creation of new products that streamline charging logistics without being hampered by dirty, wet or dangerous environments.”

The LTC4120 is housed in a low profile (0.75mm) 16-pin 3mm x 3mm QFN package with backside metal pad for excellent thermal performance. The device is guaranteed for operation from -40°C to 125°C, in both E and I grades. 1,000-piece pricing starts at \$3.55 each for the E grade. For more information, visit www.linear.com/product/LTC4120

Photo Caption: 40V, 400mA Wireless Charging System with DHC

Summary of Features: LTC4120

- Lossless Dynamic Harmonization Control Optimizes Wireless Charging over a Wide Coupling Range
- Wide Received Voltage Range: 4.2V to 40V
- Adjustable Battery Float Voltage: 3.5V to 11V
- 50mA to 400mA Charge Current Programmed with a Single Resistor
- ±1% Feedback Voltage Accuracy
- Programmable 5% Accurate Charge Current
- No Microprocessor or Software Required
- Wide Distance Operation Achievable with Loosely Coupled Tx/Rx Coils
- Thermally Enhanced, Low Profile 16-Lead (3mm × 3mm × 0.75mm) QFN Package

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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