



## **5W AutoResonant Wireless Power Transmitter Offers Foreign Object Detection & Completes LTC's Wireless Charging Solution**

MILPITAS, CA – November 30, 2015 – Linear Technology Corporation introduces the [LTC4125](#), a wireless power transmitter, complementing our wireless receiver ICs for the wireless charging market. The LTC4125 is a simple, high performance monolithic full bridge resonant driver, capable of delivering up to 5W of power wirelessly to a companion receiver. It functions as the transmit circuit component in a complete wireless power transfer system comprised of transmit circuitry, transmit coil, receive coil and receive circuitry.

The LTC4125 wireless power transmitter improves upon a basic transmitter by providing three key features: an AutoResonant™ function that maximizes available receiver power, an Optimum Power Search algorithm that maximizes overall wireless power system efficiency, and Foreign Object Detection (FOD) to ensure safe and reliable operation when working in the presence of conductive foreign objects. The LTC4125 automatically adjusts its drive frequency to match the LC network resonant frequency. This AutoResonant switching enables the device to deliver maximum power from a low voltage input supply (3V to 5.5V) to a tuned receiver such as Linear's LTC4120 wireless receiver and battery charger via loosely coupled coils. Wireless power receivers can also be designed with the LTC4071 shunt battery charger or the LT3652HV multi-chemistry battery charger. To optimize system efficiency, the LTC4125 employs a periodic transmit power search and adjusts the transmission power based on the receiver load requirements. The device stops delivering power in a fault condition, or in the case of a detected foreign object.

Simplifying the wireless power system, these transmit power optimization and foreign object detection features in the LTC4125 do not require any direct communication between the transmitter and receiver circuits. Without digital communication the LTC4125 can work over a wide range of transmit-to-receive coil coupling factors and avoid the need for complicated signal processing hardware and software to support a communication protocol.

The LTC4125 includes a programmable maximum current limit and an NTC input as additional means of foreign object and overload protection. Applications include handheld instruments, industrial/military sensors and similar devices in harsh environments, portable medical devices, and electrically isolated devices. LTC4125-based systems offer robust, standalone solutions capable of large transmission distances up to 10mm and tolerance of poor coil coupling due to misalignment.

The LTC4125 is housed in a low profile (0.75mm) 20-pin 4mm x 5mm QFN package with backside metal pad for excellent thermal performance. The device is specified for operation from -40°C to 125°C, in both E and I grades. 1,000-piece pricing starts at \$4.00 each for the E grade. For more information, visit [www.linear.com/product/LTC4125](http://www.linear.com/product/LTC4125).

**Photo Caption:** 5W AutoResonant™ Wireless Power Transmitter

### **Summary of Features: LTC4125**

- Monolithic 5W Wireless Power Transmitter
- AutoResonant™ Switching Frequency Adjusts to Resonant Capacitor & Transmit Coil Inductance\*
- Transmit Power Automatically Adjusts to Receiver Load\*
- Input Voltage Range: 3V to 5.5V
- Integrated 100mΩ Full Bridge Switches
- Foreign Object Detection
- Programmable Average Input Current Limit & Monitor
- NTC Input for System/Component Temperature Qualified Power Transfer
- Wide Operating Switching Frequency Range: 50kHz to 250kHz
- Thermally Enhanced 4mm × 5mm QFN 20Lead Package

\* The AutoResonant and Auto Load Detect features use patent pending circuits and algorithms.

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,  $\mu$ Module® subsystems, and wireless sensor network products. For more information, visit [www.linear.com](http://www.linear.com)

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