



I²C ADC Guarantees 16-Bit Performance in 3mm x 2mm Package

MILPITAS, CA – November 6, 2007 – Linear Technology Corporation introduces the LTC2453, a 16-bit I²C-compatible delta sigma analog-to-digital converter (ADC) in an ultra-tiny 3mm x 2mm DFN package. Its tiny size, low power and guaranteed 16-bit resolution improves performance of portable instruments and sensors. Operating from a single 2.7V to 5.5V supply, the LTC2453 is capable of measuring a differential input up to $\pm V_{CC}$. This wide input range is ideal for measuring a wide variety of single-ended or differential sensors.

In only 6mm² area, the versatile LTC2453 achieves excellent 16-bit DC performance of 2LSB integral nonlinearity error, 1.4uV_{RMS} transition noise and 0.01% gain error. The LTC2453 has an internal oscillator and allows up to 60 conversions per second, making it easy to measure temperature, pressure, voltage, or other low-frequency sensor outputs. The LTC2453 draws 800uA of supply current at the 60Hz maximum sample rate. After each conversion, supply current is reduced to less than 0.2uA, further preserving battery power. If the user samples the device once a second, the LTC2453 dissipates only 40uW from a 3V supply.

The LTC2453 communicates via a simple I²C-compatible 2-wire interface, reducing the number of I/O lines required to read data, making the LTC2453 ideal for tiny, space-constrained applications. The LTC2453 includes continuous internal offset and full-scale calibration of the input signal, ensuring accuracy over time and over the full operating temperature range. Linear's No Latency Delta SigmaTM design allows the ADC to multiplex several inputs with no delay in reading the output data. The LTC2453 incorporates a proprietary sampling network that reduces the dynamic input current to less than 50nA, making a wide range of external input protection and filter circuits possible.


The LTC2453 is available today in both commercial and industrial temperature grade versions, with prices starting at \$1.25 each in 1,000-piece quantities.

Photo Caption: 16-Bit I²C ADC in 3mm x 2mm DFN Package**Summary of Features: LTC2453**

- $\pm V_{CC}$ Differential Input Range
- I²C-Compatible 2-Wire Interface
- Extremely Low 50nA Dynamic Input Current
- Ultra-Tiny 3mm x 2mm DFN Package
- 2LSB INL, No Missing Codes
- 4LSB Full-Scale Error
- Single Supply 2.7 to 5.5V Operation
- 1.4uV_{RMS} Transition Noise
- Low Power:
 - 800uA at 60Hz Output Rate
 - 15uA at 1Hz Output Rate
 - 0.2uA Sleep Current
- Internal Oscillator – No External Components Required
- Single Conversion Settling Time for Multiplexed Applications
- Single Cycle Operation with Auto Shutdown
- 60Hz Conversion Rate

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

LT, LTC, LTM and  are registered trademarks & No Latency Delta Sigma is a trademark of Linear Technology Corp.

Press Contacts:

John Hamburger, Director Marketing Communications
jhamburger@linear.com
Tel: 408-432-1900 ext 2419

Doug Dickinson, Media Relations Manager
ddickinson@linear.com
Tel: 408-432-1900 ext 2233

