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14-Bit, 3.5Msps SAR ADC Dissipates Only 18mW in 10-Pin MSOP

MILPITAS, CA – February 15, 2007 – Linear Technology Corporation introduces the LTC2356-14, a 14-bit analog-to-digital converter (ADC) that communicates via an SPI-compatible serial interface at output rates up to 3.5Msps. The LTC2356-14 operates from a single 3.3V supply, draws only 18mW at the maximum conversion rate, and is available in a tiny 10-pin MSOP package. The LTC2356-14's successive approximation register (SAR) architecture produces a low power ADC with exceptional AC specifications. The combination of speed, low power, and small package makes the LTC2356-14 ideal for high speed, portable applications including communications, medical instrumentation, and data acquisition.

The LTC2356-14 achieves 72.3dB SINAD and 82dB SFDR at 1.4MHz. While measuring $\pm 1.25V$ bipolar inputs differentially, the LTC2356-14's -60dB common mode rejection ratio allows users to eliminate common mode noise. When the ADC is not converting, power dissipation can be reduced to 4mW in Nap mode, with the internal 2.5V reference remaining active, and 13uW with all internal circuitry powered down in Sleep mode.


For applications requiring a unipolar input range, Linear Technology is also introducing the LTC2355-14, a 14-bit SAR ADC that is otherwise identical. The LTC2355-14 measures 0V to 2.5V unipolar input voltages. For lower resolution applications, Linear Technology is also introducing the LTC2356-12 and LTC2355-12, pin- and software-compatible 12-bit versions of the LTC2356-14 and LTC2355-14. The LTC235x-14/-12 ADCs are also pin- and code-compatible with Linear Technology's existing LTC1403 family, allowing users to easily upgrade their designs for faster sample rates. Pricing begins at \$7.95 each for the LTC2356-14 and LTC2355-14, and at \$4.95 each for the LTC2356-12 and LTC2355-12, in 1,000-piece quantities.

Photo Caption: Low Power 14-Bit, 3.5Msps SAR ADC**Summary of Features: LTC2356-14**

- 3.5Msps Conversion Rate
- Low Power Dissipation: 18mW
- 3.3V Single Supply Operation
- Tiny 10-Pin MSOP Package
- 2.5V Internal Reference
- 3-Wire SPI-Compatible Serial Interface
- Nap (4mW) and Sleep (13uW) Power-Down Modes
- 80dB Common Mode Rejection
- +/-1.25V Bipolar Input Range (LTC2356-14, LTC2356-12)
- 0V to 2.5V Unipolar Input Range (LTC2355-14, LTC2355-12)

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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