



16-Bit, 8-Channel $\pm 10\text{V}$ Input ADC Offers Fault Protection to $\pm 30\text{V}$

MILPITAS, CA – May 30, 2007 – Linear Technology Corporation introduces the LTC1856, a 5V, 16-bit, 8-channel, 100ksps analog-to-digital (ADC) converter with $\pm 10\text{V}$ input ranges and additional fault protection. An overvoltage fault up to $\pm 30\text{V}$ on one or more unused channels will not corrupt the accuracy of the selected channel and guarantees protection on 24V ($\pm 10\%$ tolerance) industrial supply lines. The LTC1856's multiplexer can be configured to accept 4 differential inputs, 8 single-ended inputs or combinations of both. This ADC offers DC performance of 15-bit no missing codes over temperature and ± 3 LSB (max) INL. The LTC1856 also achieves stellar AC performance of 87dB SINAD, -101dB THD and is optimized for multichannel high-resolution applications such as instrumentation and industrial process control.

Operating from a single 5V supply, the LTC1856 consumes only 40mW at 100ksps. The LTC1856 includes a 2.5V internal reference with a typical temperature coefficient of $\pm 10\text{ppm}/^\circ\text{C}$, which can also be externally driven for improved accuracy. For power sensitive applications, the LTC1856 offers two power down modes in which the power dissipation drops to 27.5mW in nap mode with the reference active, or 40uW in sleep mode with the reference powered down.


The LTC1856 is part of a pin- and software-compatible family available in SSOP-28 packages that includes the LTC1855 (14-bit) and LTC1854 (12-bit) for performance/cost optimization. The entire family is available today in commercial and industrial temperature ranges. Pricing begins at \$12.95 each for the LTC1856, \$7.95 each for the LTC1855 and \$5.60 each for the LTC1854 in 1,000-piece quantities.

Photo Caption: 16-Bit, 8-channel $\pm 10\text{V}$ Input ADC**Summary of Features: LTC1856/LTC1855/LTC1854**

- Single 5V Supply
- 8-Channel Multiplexer with $\pm 30\text{V}$ Fault Protection
- $\pm 10\text{V}$ Bipolar Input Range: Single-Ended or Differential
- 100ksps Sample Rate
- Power Dissipation: 40mW at 100ksps, 27.5mW Nap Mode, 40uW Sleep Mode
- LTC1856: ± 3 LSB (max) INL, 87dB SINAD
- LTC1855: ± 1.5 LSB (max) INL, 83dB SINAD
- LTC1854: ± 1 LSB (max) INL, 74dB SINAD
- Internal 2.5V Reference
- Auto Shutdown Between Conversions Reduces Power Consumption
- True Differential Inputs Reject Common Mode Noise
- SPI Compatible Serial I/O
- Pin-Compatible SSOP-28 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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