



16-Bit, 8-Channel ADC Offers Programmable Input Ranges and Fault Protection to $\pm 25\text{V}$

MILPITAS, CA – November 15, 2006 – Linear Technology Corporation introduces the LTC1859, a 16-bit, 8-channel, 100ksps analog-to-digital converter offering software programmable input ranges that are fault-protected to $\pm 25\text{V}$. The LTC1859 is easily programmed via a serial interface to accept 0V-5V, 0V-10V, $\pm 5\text{V}$ and $\pm 10\text{V}$ inputs, allowing a single-board design to accommodate several industrial applications. All channels are fault protected to $\pm 25\text{V}$. An overvoltage fault up to $\pm 25\text{V}$ on one or more unused channels will not corrupt the accuracy of the selected channel. The LTC1859's multiplexer can be configured to accept 4 differential inputs, 8 single-ended inputs or combinations of both. This device offers excellent DC performance of 15-bit no missing codes over temperature and $\pm 3 \text{ LSB}_{\text{MAX}}$ INL. The LTC1859 provides excellent offset, full-scale gain and channel-to-channel matching. The LTC1859 is ideal for multichannel high resolution applications such as instrumentation, data acquisition systems, and industrial process control.

The LTC1859 operates from a single 5V supply, while consuming only 40mW. The LTC1859 also includes a 2.5V internal reference with a temperature coefficient of $\pm 10\text{ppm}/^\circ\text{C}$, which can be externally driven if greater accuracy is required. For power sensitive applications, the LTC1859 offers two power down modes in which the power dissipation drops to 27.5mW (nap mode) with the reference active, or 40uW (sleep mode) with the reference completely powered down.

(more...)

The LTC1857 and LTC1858 are pin-compatible 12- and 14-bit devices, respectively. Each is available in SSOP-28 packages, providing a pin-compatible family for performance/cost optimization in the end product. The entire family is available in commercial and industrial temperature ranges. Pricing begins at \$17.95 each for the LTC1859, \$12.95 each for the LTC1858 and \$8.95 each for the LTC1857 in 1,000-piece quantities.


Photo Caption: $\pm 10V$, 16-Bit, 8-Channel SoftSpan ADC

Summary of Features: LTC1857/LTC1858/LTC1859

- 16-Bit (LTC1859), 14-Bit (LTC1858) and 12-Bit (LTC1857) No Missing Code Resolution over Temperature
- 8-Channel Multiplexer with $\pm 25V$ Protection
- Four Programmable Input Ranges
 - Unipolar Mode: 0V to 5V, 0V to 10V
 - Bipolar Mode: $\pm 5V$, $\pm 10V$
- LTC1859; $\pm 2 \text{ LSB}_{\text{MAX}}$ INL, 87dB SNR
- LTC1858; $\pm 1 \text{ LSB}_{\text{MAX}}$ INL, 83dB SNR
- LTC1857; $\pm 1 \text{ LSB}_{\text{MAX}}$ INL, 74dB SNR
- Single 5V Supply
- On-Board 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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