



18-Bit DAC Achieves ± 1 LSB INL & DNL

MILPITAS, CA – January 19, 2010 – Linear Technology Corporation introduces the LTC2757, the industry's first 18-bit digital-to-analog converter (DAC) to offer precision DC specifications of ± 1 LSB INL (max) and ± 1 LSB DNL (max). The LTC2757 is 18-bit accurate over a ± 10 V output range, offering a full-scale settling time of 2.1 μ s and low 1.4nV•s glitch impulse. Fast settling and low glitch reduce harmonic distortion, making it possible to produce higher frequency, lower noise output waveforms. This unique combination of DC and AC accuracy will enable the design of higher performance instrumentation, automated test equipment, data acquisition systems, and medical devices.

Six unique output voltage ranges (0V to 5V, 0V to 10V, ± 10 V, ± 5 V, ± 2.5 V, and -2.5V to +7.5V) can be selected using software or pin-strapping, eliminating the need to add precision gain stages and allowing customers to improve production logistics and adjust inventory mix on the fly.

The current-mode output enables users to choose their own external amplifier to optimize speed, accuracy, noise, power, or other parameters, and allows the voltage output to swing beyond the DAC supply rails. Alternative 18-bit DACs with internal amplifiers cannot swing beyond 0V to 5V and limit the output near the supply rails.

The LTC2757 uses a bidirectional parallel input/output interface that allows readback of any internal register, as well as the DAC output span setting. Voltage controlled offset and gain adjustment pins enable users to null system offset, gain error, or reference errors.


The LTC2757 DAC is available today in a 7mm x 7mm 48-pin LQFP package. Pricing begins at \$25.50 each in 1,000-piece quantities. For more information, visit www.linear.com.

Photo Caption: 18-Bit Current Output DAC Guarantees ± 1 LSB INL & DNL**Summary of Features: LTC2757**

- 18-bit ± 1 LSB INL, ± 1 LSB DNL Over Temperature
- Guaranteed Linearity for Six Software Programmable Output Ranges:
 - Unipolar 0V to +5V, 0V to +10V
 - Bipolar ± 10 V, ± 5 V, ± 2.5 V, -2.5 to +7.5V
- Guaranteed Monotonic Over Temperature
- Low 1 μ A(max) Supply Current
- Low 1.4nV•s Glitch Impulse
- 18-bit Settling Time: 2.1 μ s
- 2.7V to 5.5V Single Supply Operation
- Voltage Controlled Offset & Gain Trims
- Parallel Interface with Readback of All Registers
- Clear and Power-On Reset to 0V Regardless of Output Range
- 48-Pin 7mm x 7mm LQFP 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, uModule[®] products, 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.

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Press Contacts:**North America / Worldwide**

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

UK & Nordic

Alan Timmins
alan@ezwire.com
Tel: +44-1-252-629937

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