16-Bit, 2.5Gsps DAC Delivers 74dB Spurious Free Dynamic Range

MILPITAS, CA – September 8, 2014 – Linear Technology Corporation announces the LTC2000, a 16-bit 2.5Gsps digital-to-analog converter (DAC) with exceptional spectral purity of 74dBc SFDR at 200MHz output, and better than 68dBc SFDR for output frequencies from DC to 1GHz, a 12dB improvement over alternative 14-bit DACs. The LTC2000 features low phase noise and a wide 2.1GHz -3dB output bandwidth, enabling broadband or high frequency RF synthesis in applications such as high-end instrumentation, broadband communications, test equipment, cable TV DOCSIS CMTS, and radar.

The ±1V compliant outputs feature a 40mA full scale current which can be adjusted as low as10mA or as high as 60mA to suit the application. Data is transferred to the LTC2000 over a parallel LVDS interface port with transfer rates of up to 1.25Gsps using a 625MHz double data rate (DDR) data clock. Dual DDR ports are required to achieve the 2.5Gsps update rate, while a single port can be used to operate at a lower 1.25Gsps update rate. At 2.5Gsps, the LTC2000 consumes 2.2W from dual 1.8V and 3.3V supplies, while at 1.25Gsps the device consumes just 1.3W. Designed for ease of use, the LTC2000 offers an internal pattern generator, LVDS loop out mux, and junction temperature sensing to simplify system development and debug.

The LTC2000 is offered in 16-bit, 14-bit and 11-bit versions in a RoHS compliant 9mm x 15mm BGA package. The LTC2000 is available in production today in commercial and industrial temperature grades, competitively priced, starting at $69.00 each for the LTC2000-16 in 1,000-piece quantities. Demoboards and samples are available via the Linear Technology website www.linear.com/product/LTC2000

Photo Caption: 16-Bit, 2.5Gsps DAC

Summary of Features: LTC2000

- 80dBc SFDR at 70MHz f_{OUT}
- >68dBc SFDR from DC to 1000MHz f_{OUT}
- 40mA Nominal Full-Scale, ±1V Output Compliant
- 10mA to 60mA Adjustable Full-Scale Current Range
- Single or Dual Port DDR LVDS & DHSTL Interface
- Low Latency (7.5 Cycles for Single Port, 11 Cycles for Dual Port)
- >78dBc 2-Tone IMD from DC to 1000MHz
- –165dBc/Hz Additive Phase Noise at 1MHz Offset from 65MHz f_{OUT}
- 170-Lead (9mm x 15mm) BGA Package

The USA list pricing shown is for budgetary use only. International prices may differ due to local duties, taxes, fees and exchange rates.

About Linear Technology

Linear Technology Corporation, a member of the S&P 500, has been designing, manufacturing and marketing a broad line of high performance analog integrated circuits for major companies worldwide for over three decades. The Company's products provide an essential bridge between our analog world and the digital electronics in communications, networking, industrial, automotive, computer, medical, instrumentation, consumer, and military and aerospace systems. Linear Technology produces power management, data conversion, signal conditioning, RF and interface ICs, µModule® subsystems, and wireless sensor network products. For more information, visit www.linear.com

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