

LTC News for Immediate Release

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Octal 16-Bit DAC with I²C Interface Fits in Tiny SSOP-16 Package

MILPITAS, CA – June 28, 2005 – Linear Technology Corporation introduces the LTC2605, an octal 16-bit voltage output DAC with an I²C serial interface in a 16-pin SSOP package – the same board area as an SO-8. At 16-bits, the LTC2605 achieves the industry's smallest footprint for octal DACs while improving DC performance over competitive products. The device's guaranteed monotonic performance, small size and low power make it ideal for digital calibration, trim/adjust and level setting applications in a wide variety of products.

The LTC2605's output buffers deliver excellent drive capability over their entire 2.7V to 5.5V supply voltage range. The DAC outputs directly drive capacitive loads up to 1000pF or current loads up to 15mA and maintain good linearity to within millivolts of V_{CC} or ground. The low output offset (9mV max) provides a starting code voltage closer to ground than competing devices. In addition, low output voltage noise (15uVp-p) reduces the need for output filtering. A full-scale transition on seven of the eight DACs causes less than 10uV change in the eighth DAC, effectively eliminating crosstalk as a source of error. The LTC2605's low 250uA supply current per DAC at 3V and 1uA maximum shutdown current are ideal for battery-powered applications.

The 2-wire I2C compatible interface allows independent control of each DAC by means of a flexible input control word. The LTC2605 provides 27 user-selectable slave addresses, allowing several LTC2605s on the same bus and minimizing address conflicts with other components.

The LTC2605 is one device in a family of compact DACs from octals to singles with either I²C or SPI interfaces. The LTC2615/LTC2615-1 and LTC2625/LTC2625-1 are pin-compatible 14-bit and 12-bit octal DACs, offering multiple price/performance options for one design. The "-1" versions power-on and reset to mid-scale, whereas the other versions power-on and reset to zero scale. Quad versions (LTC2609) in the same size package feature separate reference inputs for each DAC and a common zero scale input that allows for offset adjustment. Duals (LTC2607) in the 3mm x 4mm DFN package are also available to complement the previously announced single (LTC2606) in the 3mm x 3mm DFN package.

Pricing starts at \$14.70 each for the LTC2605 in 1,000-piece quantities.

16-Bit I²C Voltage Output DAC Family

Part Number	# of DACs	Total Supply Current (typ. at 3V)	Package
LTC2605	Octal	2mA	SSOP-16
LTC2609	Quad	1mA	SSOP-16
LTC2607	Dual	0.56mA	DFN-12
LTC2606	Single	0.3mA	DFN-10

Summary of Features: LTC2605 Family

- Smallest Pin-Compatible Octal DACs:
 - LTC2605: 16 Bits
 - LTC2615: 14 Bits
 - LTC2625: 12 Bits
- Guaranteed 16-Bit Monotonic over Temperature
- Tiny 16-Lead Narrow SSOP Package
- 400 KHz I²C Interface
- Wide 2.7V to 5.5V Supply Range
- Low Power Operation: 250uA per DAC at 3V
- Individual Channel Power-Down to 1uA, Max
- Ultralow Crosstalk between DACs (<10uV)
- High Rail-to-Rail Output Drive (± 15 mA, Min)
- Double-Buffered Digital Inputs
- 27 Selectable Addresses
- LTC2605/LTC2615/LTC2625: Power-On Reset to Zero Scale
- LTC2605-1/LTC2615-1/LTC2625-1: Power-On Reset to Midscale

COMPANY BACKGROUND: Linear Technology Corporation was founded in 1981 as a manufacturer of high performance linear integrated circuits. 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.

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