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Fully Differential Amplifier Drives 18-bit ADCs & Consumes only 5mW

MILPITAS, CA – May 2, 2012 – Linear Technology announces the [LTC6362](#), a low power fully differential amplifier that can drive high precision 16- and 18-bit SAR ADCs at only 1mA supply current. With 200 μ V max input offset voltage and 3.9nV/ $\sqrt{\text{Hz}}$ input-referred noise, it is well suited for precision industrial and data acquisition applications.

The LTC6362 has an output common-mode pin with a 0.5V to 4.5V range, and 18-bit settling time of 550ns with an 8V_{P-P} output step, making it ideal for driving ADCs such as the LTC2379-18 in multiplexed input and control loop applications. This 18-bit SAR ADC features digital gain compression, which sets its full scale input range to 10% to 90% of the reference voltage. Together with the rail-to-rail output stage of the LTC6362, this feature eliminates the need for a negative supply rail, simplifying the circuit and minimizing power consumption.

The flexible architecture of the LTC6362 can convert single-ended DC-coupled, ground-referenced signals to differential, or DC level shift differential input signals. The low input bias current, low offset voltage and rail-to-rail inputs of the LTC6362 also enable its use in a high-impedance configuration to interface directly to sensors early in the signal chain.


The LTC6362 is available in MSOP-8 and 3mm x 3mm DFN packages, with fully guaranteed specifications over the 0°C to 70°C, -40°C to 85°C and -40°C to 125°C temperature ranges. Prices start at \$1.59 each in 1,000-piece quantities. For more information, visit www.linear.com/product/LTC6362

Photo Caption: 1mA I_S Precision ADC Driver**Summary of Features: LTC6362**

- 1mA Supply Current
- Single 2.8V to 5.25V supply
- 200 μ V Max Offset Voltage
- 260nA Max Input Bias Current
- Fast Settling: 550ns to 18-Bit, 8V_{P-P} Output
- Rail-to-Rail Inputs & Outputs
- 3.9nV/ $\sqrt{\text{Hz}}$ Input-Referred Noise
- 8-Lead MSOP, 8-Lead 3mm x 3mm DFN Packages

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 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, μ Module[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

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