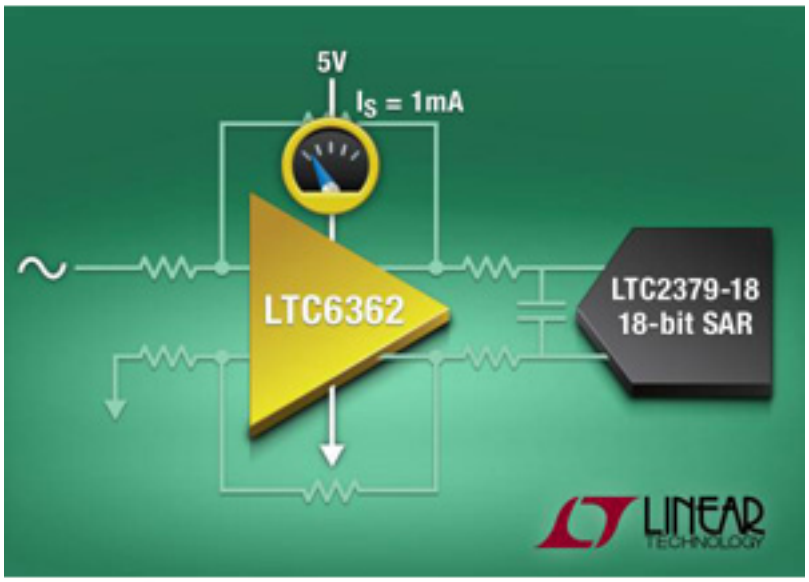
Fully differential amplifier drives 18-bit ADCs & consumes only 5mW



Linear Technology announces the LTC6362 [1], a low-power fully differential amplifier that can drive high precision 16- and 18-bit SAR ADCs at only 1mA supply current. With 200µV max input offset voltage and 3.9nV/√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 8VP-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 [1].

Source URL (retrieved on *10/26/2014 - 2:13am*):
http://www.ecnmag.com/product-releases/2012/05/fully-differential-amplifier-drives-18-bit-adcs-consumes-only-5mw?qt-recent_content=0

Links:
[1] http://r20.rs6.net/tn.jsp?e=001pgGH2wN2NwV1QDRM5YurT_wk2tM61JyE3ml5DP_lVlfE2Ts_dw7rfH7ywZYC4WREVOkZOwTQ_Rz6RJ9iVG04p_ZPG4k3gZW4xxCJeG8ldPsX-aJE9FZeh9HbrZi8BHqtY9TbUyna304=