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Sub-Microvolt Drift 3.5MHz CMOS Amplifiers Feature 1pA Bias Current and Low Noise

MILPITAS, CA – September 25, 2007 – Linear Technology Corporation introduces the LTC6081 and the LTC6082: CMOS Op-Amps that push the limits of precision with 3.5MHz gain-bandwidth and less than 90uV offset over the entire -40°C to +125°C temperature range. Featuring rail-to-rail input and output stages, the dual LTC6081 and quad LTC6082 achieve low frequency noise of just 1.3uVp-p and low input bias current of 1pA max at 25°C, making these amplifiers ideal for precision instrumentation.

The LTC6081 and LTC6082 only consume 330uA per amplifier and offer an optional shutdown feature, allowing the current to be reduced to 0.5uA per amplifier, which provides further savings in battery power. In addition, the amplifiers have an uncompromising gain bandwidth of 3.5MHz and a slew rate of 1V/us. The LTC6081 and LTC6082 offer a CMRR of 105dB and PSSR of 90dB, while the large signal voltage gain of 120dB ensures gain linearity.

“The LTC6081 and LTC6082 rival the best bipolar amplifiers in DC performance while achieving picoampere input bias currents,” says Brian Black, Product Marketing Manager.

“Combining this precision with an excellent speed-power ratio opens up new possibilities for designers of low-power instrumentation systems.”

The LTC6081 dual is offered in the 8-pin MSOP and tiny 3mm x 3mm DFN package.

The LTC6082 quad is available in the 16-pin SSOP and 5mm x 3mm DFN packages.

1,000-piece pricing starts at \$1.74 each for the LTC6081 dual and \$2.97 each for the LTC6082 quad.


Photo Caption: Sub-Microvolt Drift, 3.5MHz, CMOS Amplifiers

Summary of Features: LTC6081 & LTC6082

- Maximum Offset Voltage: 70uV (25°C)
- Maximum Offset Drift: 0.8uV/°C
- Maximum Input Bias: 1pA (25°C) 40pA ($T_A \leq 85^\circ\text{C}$)
- Large Signal Voltage Gain: 120dB typ
- Gain Bandwidth Product: 3.5MHz
- CMRR: 100dB Min
- PSRR: 98dB Min
- 0.1Hz to 10Hz Noise: 1.3uV_{P-P}
- Supply Current: 330uA
- Rail-to-Rail Inputs & Outputs
- Unity Gain Stable
- 2.7V to 5.5V Operation Voltage
- Specified for Operation Over Commercial, Industrial & Extended (-40°C to $+125^\circ\text{C}$) Temperature Ranges
- Dual LTC6081 in 8-Lead MSOP & 10-Lead DFN10 Packages; Quad LTC6082 in 16-Lead SSOP & DFN Packages

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, 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. For more information, visit www.linear.com

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