140V Precision Op Amp Features 3pA Bias Current, 3.5µV_{P-P} Noise for High Gain Applications

MILPITAS, CA – January 30, 2013 – Linear Technology announces the LTC6090, a precision operational amplifier that operates on a supply voltage up to 140V (or ±70V). Its combination of rail-to-rail output, 3pA (typical) input bias current, 1.6mV maximum input offset voltage and 3.5µV_{P-P} low frequency noise delivers the precision required for high performance ATE, piezo driver, and DAC buffer applications. An enhanced slew rate of 19V/µs allows the output to swing 140V in less than 8µs. Gain bandwidth product is 10MHz.

The LTC6090 is optimized both for designs with high impedance inputs and those sensitive to leakage currents. In addition to a standard SO-8 package with exposed pad, the LTC6090 is available in a TSSOP package with guard pins. This allows a guard ring to be easily routed around the input to completely enclose it.

Thermal characteristics are a concern for any high voltage space-constrained system. The LTC6090 is designed with these challenges in mind. Supply current is only 3.9mA max. Output current is typically ±10mA. A thermal flag pin (TFLAG) signals when the device junction temperature exceeds 145°C. This pin can be connected to the Output Disable pin for active thermal management. Both TSSOP-16 and SOIC-8 package versions include an exposed pad to minimize thermal resistance.

The LTC6090 is available in three temperature range grades: 0°C to 70°C, -40°C to 85°C and -40°C to 125°C junction temperature. Prices start at $3.45 each in quantities of 1,000. For more information, visit www.linear.com/product/LTC6090.

Photo Caption: LTC6090 Drives Precision 140V Signals

Summary of Features: LTC6090

- Supply Range: ±4.75V to ±70V (140V)
- 0.1Hz to 10Hz Noise: 3.5μV_{P-P}
- Input Bias Current: 50pA Max
- Low Offset Voltage: 1.6mV Maximum over Temperature
- Rail-to-Rail Output Stage
- Output Sink & Source 10mA
- 10MHz Gain Bandwith Product
- 19V/μs Slew Rate
- 11nV/√Hz Noise Density
- Thermal Shutdown
- Available in Thermally Enhanced SOIC-8E or TSSOP-16E 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, µModule®subsystems, and wireless sensor network products. For more information, visit www.linear.com

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