



Precision Op Amps Operate on 140V Supply

MILPITAS, CA – August 4, 2014 – Linear Technology announces the [LTC6091](#) and [LTC6090-5](#), additions to the LTC6090 family of precision operational amplifiers which operate on a supply voltage up to 140V ($\pm 70V$). The dual LTC6091 features separate output disable pins, making it useful in high voltage multiplexed applications. The decompensated single LTC6090-5 amplifier offers higher speed and is stable at a gain of 5 or above.

The LTC6090, LTC6090-5, and LTC6091 combine wide supply range, high precision, and low noise. Input offset voltage is 1.25mV max over temperature, and low frequency (1/f) noise is 3.5 μV_{P-P} from 0.1Hz to 10Hz. The CMOS input structure keeps the input bias current to 50pA maximum at 85°C, making the LTC6090 family suitable for sensor circuits and other applications requiring high input impedance.

The decompensated LTC6090-5 offers 24MHz gain-bandwidth product and 37V/ μs slew rate, compared with 12MHz and 21V/ μs for the gain-of-1 stable LTC6090 and LTC6091.

Supply current is 3.9mA per amplifier max. Output short-circuit current is typically $\pm 90mA$. 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.

The LTC6090 and LTC6090-1 are available in 8-pin SOIC and 16-pin TSSOP packages. The LTC6091 is offered in a 16-pin 4mm x 6mm QFN package. Each of these packages includes an exposed pad to minimize thermal resistance. Prices start at \$3.45 each for the LTC6090 and LTC6090-5, and \$6.61 each for the LTC6091 in quantities of 1,000.

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. The LTC6091 is available in –40°C to 85°C and –40°C to 125°C junction temperature grades. For more information, visit www.linear.com/product/LTC6091 and www.linear.com/product/LTC6090

Photo Caption: 140V Op Amp Family

Summary of Features: LTC6091 & LTC6090-5

LTC6091


- Supply Range: $\pm 4.75\text{V}$ to $\pm 70\text{V}$ (140V)
- 0.1Hz to 10Hz Noise: $3.5\mu\text{V}_{\text{P-P}}$
- Input Bias Current: 50pA Maximum
- Low Offset Voltage: 1.25mV Maximum
- Low Offset Drift: $\pm 5\mu\text{V}/^\circ\text{C}$ Maximum
- CMRR: 130dB Minimum
- Rail-to-Rail Output Stage
- Output Sink & Source: 20mA Minimum
- 12MHz Gain Bandwidth Product
- 21V/ μs Slew Rate
- 11nV/ $\sqrt{\text{Hz}}$ Noise Density
- Thermal Shutdown
- 4mm x 6mm 16-Lead QFN Package

LTC6090-5

- Supply Range: $\pm 4.75\text{V}$ to $\pm 70\text{V}$ (140V)
- 0.1Hz to 10Hz Noise: $3.5\mu\text{V}_{\text{P-P}}$
- Input Bias Current: 50pA Maximum
- Low Offset Voltage: 1.25mV Maximum
- Low Offset Drift: $\pm 5\mu\text{V}/^\circ\text{C}$ Maximum
- CMRR: 130dB Minimum
- Rail-to-Rail Output Stage
- Output Sink & Source: 50mA Minimum
- 24MHz Gain Bandwidth Product
- 37V/ μs Slew Rate
- 11nV/ $\sqrt{\text{Hz}}$ 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 over 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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