



$\pm 270\text{V}$ Common Mode Difference Amplifier Features 97dB Min CMRR, $\pm 35\text{ppm}$ Max Gain Error

MILPITAS, CA – January 11, 2016 – Linear Technology introduces the [LT6375](#), a unity-gain difference amplifier with integrated precision matched resistors, which precisely level shifts and buffers small difference signals while rejecting up to $\pm 270\text{V}$ common mode. The A-grade version achieves unprecedented performance: CMRR is 97dB (min), initial gain error is 35ppm (max), gain drift is 1ppm/ $^{\circ}\text{C}$ (max) and gain nonlinearity is 2ppm (max) with a common mode divide ratio of 25:1. The common mode divide ratio is selectable from 7:1 to 25:1, enabling the designer to select the ratio with the best performance for a given common mode input range.

At the heart of the LT6375 is a high precision Over-The-Top[®] amplifier which operates with inputs both within and above the 3.3V to 50V supply voltage. This permits the combination of a wide input range and low voltage supply. Use of a low voltage supply limits power consumption and protects downstream circuitry from high voltage.

“The LT6375 combines a high precision, wide voltage range Over-The-Top amplifier with configurable precision matched resistors,” says Maziar Tavakoli, Design Manager, Signal Conditioning Products. “With seven different divider ratios to choose from, precision, noise and speed can be optimized for specific input range requirements. For example, if the input common mode range is $\pm 80\text{V}$, a resistor divider ratio of seven may be selected to achieve lower noise, lower offset, and wider bandwidth than is achievable with a ratio of 20.”

The LT6375 includes many other useful features, including rail-to-rail outputs, low supply current and a shutdown mode. It is available in a 4mm x 4mm 12-lead DFN and a 4mm long MSOP package with 12 leads. Both packages include skipped leads for extra spacing of high voltage input signals.

The LT6375 is fully specified over the –40°C to 85°C (I-grade) and –40°C to 125°C (H-grade) temperature ranges, priced starting at \$2.95 each in 1,000 piece quantities. For more information, visit www.linear.com/product/LT6375.

Photo Caption: ±270V Input Range Difference Amp Achieves 97dB CMRR

Summary of Features: LT6375

- ±270V Common Mode Voltage Range
- Outstanding Precision:
 - o CMRR
 - 97dB Minimum (A Grade)
 - 90dB Minimum (B Grade)
 - o Gain Error
 - 0.0035% Maximum (35ppm) (A-Grade)
 - 0.006% Maximum (60ppm) (B-Grade)
 - o Gain Error Drift: 1ppm/°C Maximum
 - o Gain Nonlinearity: 2ppm Maximum
 - o Offset Voltage
 - 300μV Maximum (A-Grade, Resistor Divide Ratio = 7)
 - 450μV Maximum (B-Grade, Resistor Divide Ratio = 7)
- Wide Supply Voltage Range: 3.3V to 50V
- Rail-to-Rail Output
- 350μA Supply Current
- Selectable Internal Resistor Divider Ratio
- 575kHz –3dB Bandwidth (Resistor Divider = 7)
- 375kHz –3dB Bandwidth (Resistor Divider = 20)
- –40°C to 125°C Specified Temperature Range
- Low Power Shutdown: 20μA (DFN Package)
- Space-Saving MSOP and DFN Packages

The USA list pricing shown is for budgetary use only. International prices may differ due to local duties, taxes, fees and exchange rates.

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, µModule® subsystems, and wireless sensor network products. For more information, visit www.linear.com

 , LT, LTC, LTM, Linear Technology, the Linear logo, Over-The-Top and µModule are registered trademarks of Linear Technology Corp. All other trademarks are the property of their respective owners.

Press Contacts:

North America / Worldwide

John Hamburger, Director Marketing
Communications
jhamburger@linear.com
Tel: 408-432-1900 ext 2419

Doug Dickinson, Media Relations Manager
ddickinson@linear.com
Tel: 408-432-1900 ext 2233

UK & Nordic

Alan Timmins
alan@ezwire.com
Tel: +44-1-252-629937