



20dB Gain Broadband Differential Amplifier Delivers 51dBm OIP3 Linearity & 2.9dB Noise Figure

MILPITAS, CA – October 16, 2014 – The [LTC6430-20](#), a 20MHz to 2GHz differential input and output 20dB gain amplifier from Linear Technology, offers outstanding linearity of +51dBm OIP3 (Output Third Order Intercept) and 2.9dB noise figure at 240MHz. It has a best-in-class OP1dB (Output 1dB Compression Point) of +23.9dBm. The LTC6430-20 is offered in an A-grade version, which is 100% tested and guaranteed to a minimum OIP3 of +44.8dBm, with a typical of +48.3dBm at 380MHz. Its gain is also guaranteed at minimum of 19.6dB and maximum of 22.1dB. A B-grade version offers a typical OIP3 of +46.3dBm at the same frequency.

The LTC6430-20 is ideal for amplifying IF and RF signals in low distortion, high dynamic range transmitters or receivers at frequencies to 1.5GHz. Higher frequencies up to 2GHz can be achieved with appropriate impedance matching. The LTC6430-20's linearity characteristics are particularly outstanding when the device is used as an IF amplifier driving differential inputs of high speed A/D converters in main receivers or digital predistortion receivers whose performance relies on low distortion and high dynamic range. In addition, the device is ideal as a low noise amplifier for a wide range of broadband and narrowband radios that operate in the VHF/UHF bands, such as broadcast equipment, cable networks, white space broadband data services and low-band LTE/LTE-Advanced wireless base stations.

Both inputs and outputs of the LTC6430-20 are internally 100Ω matched differential from 20MHz to 1.2GHz, and have a 20.5dB power gain with a frequency response flatness of better than 0.5dB over that frequency range. The internal 100Ω matching simplifies design and allows easy cascading for higher gains, requiring minimum external components. Moreover, the differential configuration produces exceptionally low 2nd order harmonic distortion. For instance, at 380MHz, the 2nd order harmonic spur is –70dBc down from the fundamental.

Produced using an advanced SiGe BiCMOS process, the LTC6430-20 offers inherently stable performance, tolerating wide variations in power supply voltage and temperature. The device is specified for a case operating temperature range from –40°C to 85°C.

The LTC6430-20 is available in a 4mm x 4mm QFN package. It is powered from a single 5V supply at 170mA supply current. The A-grade version is priced starting at \$6.44 each, and the B-grade version starts at \$3.69 each in 1,000-piece quantities. Both products are available from stock. For more information, visit www.linear.com/product/LTC6430-20

Photo Caption: Ultralow Distortion 20dB Gain Differential Amplifier


Summary of Features: **LTC6430-20**

Operating Frequency	20MHz to 2GHz
Output IP3	+51dBm at 240MHz
Power Gain	20.8dB
Noise Figure (NF)	2.9dB
Output P1dB	+23.9dBm

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, μ Module[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

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