



Dual 2.5MHz, 5MHz, 10MHz & 15MHz Lowpass Filter with Differential Amplifier & Guaranteed Matching

MILPITAS, CA – September 9, 2008 – Linear Technology introduces a family of four high performance dual fixed frequency lowpass active filters/amplifiers targeting a wide range of wireless communications and industrial signal processing equipment applications.

- LT6604-2.5 2.5MHz Cutoff Frequency
- LT6604-5 5MHz Cutoff Frequency
- LT6604-10 10MHz Cutoff Frequency
- LT6604-15 15MHz Cutoff Frequency

The LT6604-xx consists of two matched, fully differential amplifiers, combined with 4th order filters approximating a Chebyshev lowpass response. Each device offers guaranteed matched amplitude and phase characteristics, enhancing the performance of current and next generation wireless communication standards such as LTE (Long Term Evolution) and WiMAX, while addressing the challenge of channel matching. These products offer best-in-class low distortion and low noise, supporting a high system signal-to-noise performance. The differential output stage of each filter is designed to drive directly into high-sampling rate A/D converters with minimum distortion and high signal-to-noise performance. Each amplifier has a minimum output swing of 2Vp-p and an adjustable common-mode voltage, allowing it to interface to a wide range of A/D converters. The small 4mm x 7mm package offers significant space savings compared to prior discrete solutions.

The LT6604-xx combines baseband channel filtering and gain matching to form a compact solution for high-performance I/Q demodulators. Additionally, these devices can be used as pre-filters for multichannel A/D converters. Each filter in the LT6604 offers better than 0.9dB of in-band gain flatness right up to the cutoff frequency. The 4th order Chebyshev filter provides sharp roll-off while exhibiting minimum group delay response. The filter characteristics are specified for 3V, 5V and +/- 5V supply operation. Each differential filter/amplifier gain can be set from 0dB to more than 12dB using a pair of external resistors.

The LT6604 draws a total quiescent supply current of 26mA per channel. All four devices are offered in a 34-lead, 4mm x 7mm QFN surface mount package with identical pinouts. Two grades are offered, including a commercial grade with guaranteed operation from 0°C to 70°C, priced at \$6.50 each in 1,000-piece quantities. The industrial grade version is rated for -40°C to 85°C and priced at \$7.45 each in 1,000-piece quantities. The LT6604-xx are available immediately from stock.


Photo Caption: Dual Matched High Performance Broadband Filters / Drivers

Summary of Features: LT6604

	LT6604-2.5	LT6604-5	LT6604-10	LT6604-15
Cutoff Frequency	2.5MHz	5MHz	10MHz	15MHz
Gain Flatness	0.9dB	0.2dB	0.1dB	0.1dB
Max Amplitude Mismatch @ $f_c/2$	0.3dB	0.2dB	0.3dB	0.3dB
Max Phase Mismatch @ $f_c/2$	3.5°	2°	3°	3°
Distortion (2 nd Harmonic)	92dBc	93dBc	88dBc	86dBc
Input-Referred Integrated Noise @ Gain = 4	18uV _{RMS}	24uV _{RMS}	24uV _{RMS}	36uV _{RMS}

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, uModule™ products, 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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