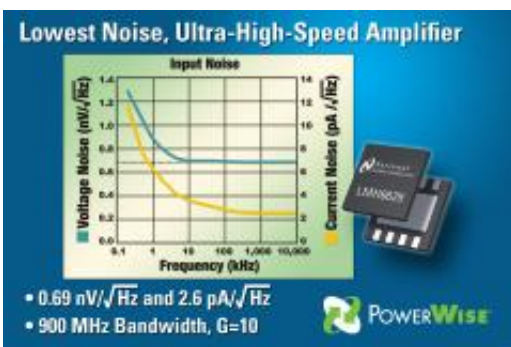


National Semiconductor Introduces Lowest Noise, Ultra-High-Speed Amplifier

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A new ultra-high-speed operational amplifier (op amp) from National Semiconductor Corp. (NYSE: NSM) delivers the industry's lowest noise (0.69 nV/sqrt Hz) with -3 dB bandwidth of 900 MHz at a gain of 10.

The PowerWise LMH6629 provides designers a unique mix of wide bandwidth, high gain and precision amplification for systems where minimal noise addition is a key performance requirement. These include 16-bit systems for communications, test and measurement, medical imaging, industrial, and light detecting and ranging (LIDAR) applications.

The LMH6629 also provides low input current noise (2.6 pA/sqrt Hz) and second and third harmonic distortion ($f = 1$ MHz) performance of

-90 dBc and -94 dBc, respectively. The op amp's low input noise, low distortion and high speed combined with ultra-low DC errors -- 780 uV input offset voltage max at 25 degrees C and +/- 0.45 uV per degree C of TCVoS -- enable precision operation in both AC- and DC-coupled applications.

The LMH6629's input common-mode range extends below ground and the output swings to within 0.8V of either rail with a linear output current of greater than +/- 250 mA. The PowerWise op amp consumes 15.5 mA and features a supply voltage range from 2.7V to 5.5V. Its user selectable internal compensation eliminates the external compensation components and additional design time required with other amplifiers. With the LMH6629, designers can set a minimum gain of 4 or 10 by pulling the minimum gain select pin low or high.

The LMH6629 is manufactured on National's new CBiCMOS8 silicon-germanium (SiGe) complementary bipolar-CMOS process technology. Among the most advanced analog processes in the industry today, CBiCMOS8 features a unique, monolithic combination of SiGe NPN and PNP transistors, as well as low-power CMOS transistors that enable exceptional speed, linearity, circuit density, low power and low noise for demanding high-speed analog applications.

Available now, the LMH6629 is supplied in an 8-pin LLP package and operates over the extended industrial temperature range of -40 degrees C to 125 degrees C. The LMH6629 is priced at \$1.88 each in 1,000-unit quantities.

Source: National Semiconductor

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