



May 16, 2012

Four-channel, 16-bit, 125-MSPS A/D Converter Delivers Superior Dynamic Performance and Industry's Lowest Power and Package Size for its Class

NORWOOD, Mass.--(BUSINESS WIRE)-- [Analog Devices Inc.](#) (NASDAQ: ADI), a global leader in high-performance signal processing technology, introduced today the addition of a 4-channel high-speed [A/D converter](#) to its market-leading [data converter](#) product portfolio. The [AD9653](#) A/D converter is designed for medical imaging and communications applications where the combination of high channel density, low power and small size provide systems engineers with greater design flexibility and lower per-channel cost for data conversion. The AD9653 16-bit A/D converter joins previously-released 12-bit and 14-bit versions to form a pin-compatible, power- and size-optimized series of high-speed converter products.

Download data sheets and order samples: AD9653 16-bit, 4-channel A/D converter: www.analog.com/AD9653.

Get your questions answered by ADI engineers on EngineerZone™, ADI's online technical support community for high-speed converters: http://ez.analog.com/community/data_converters/high-speed_adcs.

Find application notes and technical articles on communications and health care topics:

Communications: <http://communications.analog.com/en/segment/cmmn.html>

Healthcare: <http://healthcare.analog.com/en/segment/health.html>

Data Conversion for Medical Imaging

The AD9653 16-bit quad A/D converter supports the higher channel densities of MRI (magnetic resonance imaging) systems, medical ultrasound and other high-end imaging applications, such as industrial visual inspection systems and non-destructive ultrasound. It is offered in a non-magnetic package and can be used safely within the magnetic field of an MRI system. This allows the converter to be placed closer to the signal of interest, which can increase the image quality and throughput while reducing the overall component count.

Complementary components for the AD9653 in [MRI](#) applications include the [ADL5202 variable gain, wide bandwidth amplifier](#), and the [ADA4937](#) or [ADL5562](#) ultra-low-distortion differential A/D converter driver.

Data Conversion for Communications

The new quad A/D converter is also well-suited to MIMO- (multiple-input, multiple-output) based radios, 3G infrastructure equipment and other wireless communications applications. Its small package size, low power dissipation, and power-scaling functionality are ideal for femto and pico-cell basestation designs.

Complementary components for this high-speed converter in [communications](#) applications include the [ADL5202 variable gain, wide bandwidth amplifier](#), [AD8376 ultralow distortion IF dual VGA](#) and [ADA4937 ultralow distortion differential A/D converter driver](#).

For low jitter performance in all applications, the [AD9510](#), [AD9511](#), [AD9512](#), [AD9513](#), [AD9514](#), and [AD9515](#) clock distribution ICs, or the [AD9516](#) or [AD9517](#) series of multiple output clock generators are recommended.

AD9653 High-Speed Four-Channel A/D Converter Key Features

- Low power: 164 mW per channel at 125 MSPS with scalable power option
- High dynamic range:

SNR = 76.5 dBFS @ 70 MHz (VREF = 1.0 V)

SNR = 77.5 dBFS @ 70 MHz (VREF = 1.3 V)

SFDR = 90 dBc (to Nyquist)

- 650-MHz full power analog bandwidth
- Serial LVDS digital output (ANSI-644 or reduced power mode similar to IEEE-1596.3)
- Small package outline: 7-mm x 7-mm, 48-pin LFCSP
- Pin-compatible with the AD9253 14-bit quad A/D converter and AD9633 12-bit quad A/D converter enabling easy system performance migration

Pricing and Availability

Product	Sample Availability	Full Production	Signal-to-Noise Ratio	Sample Rates (MSPS)	Price Each In 1,000 Quantities	Packaging
AD9653-125	Now	Now	77.5 dBFS @ 70 MHz	125	\$250.00	48-pin LFCSP non-magnetic package, PB-free

Find additional high-speed converters at the [high-speed converter category page](http://www.analog.com/en/analog-to-digital-converters/products/index.html): <http://www.analog.com/en/analog-to-digital-converters/products/index.html>.

Data Converters: Bridging the Analog and Digital Worlds

More designers turn to Analog Devices than any other supplier for the high-performance conversion technology required to bridge the analog and digital worlds in today's myriad electronic systems. With the industry's leading portfolio of A/D Converters (analog-to-digital converters) and D/A Converters (digital-to-analog converters), Analog Devices' converter products feature the right combination of sampling rates, accuracy, and reduced noise, power, price, and package size required in industrial and instrumentation, medical equipment, automotive systems, communications infrastructure, and consumer electronics. Online evaluation tools help customers quickly validate, select, and design in the optimal data converters to reduce design complexity, development schedules, and bill-of-material costs. To view ADI's A/D converter selection guide, visit www.analog.com/ADCsearch. For A/D converters drivers, visit www.analog.com/ADCdrivers. To view ADI's D/A converters selection guide, visit www.analog.com/DACsearch.

About Analog Devices

Innovation, performance, and excellence are the cultural pillars on which Analog Devices has built one of the longest standing, highest growth companies within the technology sector. Acknowledged industry-wide as the world leader in data conversion and signal conditioning technology, Analog Devices serves over 60,000 customers, representing virtually all types of electronic equipment. Analog Devices is headquartered in Norwood, Massachusetts, with design and manufacturing facilities throughout the world. Analog Devices is included in the S&P 500 Index.

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