

Electrometer-Grade Amplifier Improves Accuracy While Reducing Size of Chemical Analysis Instruments

NORWOOD, Mass.--(BUSINESS WIRE)-- [Analog Devices, Inc.](http://www.analog.com) today introduced an electrometer-grade operational amplifier that enables chemical analysis instruments to achieve the highest level of precision and data repeatability over a wider temperature range in a compact solution that reduces overall bill of materials and design footprint. The ADA4530-1 op amp achieves this with an input bias current that is at least 20 times lower than competing devices. Such low bias current makes the ADA4530-1 ideal for interfacing to sensors that are sensitive to output loading such as photo diodes and other high output impedance sensors often used in precision monitoring/analysis equipment such as spectrophotometers, chromatographs and mass spectrometers, as well as potentiostatic and amperostatic coulometry measurement devices. The new amp also can be used as a front-end amplifier for picoammeter and coulombmeter instrumentation systems, as a transimpedance amplifier for photodiodes, ion chambers, and working electrode measurements, or as a high-impedance buffer for chemical and capacitive sensors.

This Smart News Release features multimedia. View the full release here:

<http://www.businesswire.com/news/home/20151027005040/en/>

- Download the data sheet, view product page and order samples or evaluation boards: <http://www.analog.com/ADA4530-1>
- Get questions answered by ADI engineers on EngineerZone®, ADI's online technical support community: <https://ez.analog.com/community/amplifiers>
- Watch the ADA4350-1 video: <http://www.analog.com/ADA4530-1>
- Click to Tweet: <http://ctt.ec/a5dm4>

The ADA4530-1 op amp's input bias current is 250 fA at 125°C, which is 20 times lower than competitive amplifiers, and drops to 20 fA at 85°C, which is 50 times lower than competing devices. Additionally, the ADA4530-1 is the only op amp able to specify the same input bias current of 20 fA from room temperature to 85°C and is the only amp in its class to be fully production tested for bias current at room temperature and 125°C. The closest competing op amps are rarely specified at 125°C and none are production tested at room temperature for the bias current, which prevents system designers from taking full advantage of the sensitivity of their sensors, because they need to leave some guard band for a wider variation of the bias current.

The ADA4530-1 also incorporates an on-chip guard buffer that tracks the input common-mode voltage and provides an output that is useful for driving PCB guard rings or the guard shield of interconnecting shielding used to reduce the effects of stray capacitance on the sensitive connections between the sensor and the amplifier. This simplifies sensor interface design by removing the need for the customer to design a separate circuit to provide the required output drive, thus reducing design time, cost, and PCB space.

ADA4530-1 Electrometer-Grade Operational Amplifier Key Features

- Ultra-low bias current
 - 20 fA @ 25°C max (Production Tested)
 - 20 fA @ 85°C max
 - 250 fA @ 125°C max (Production Tested)
- Integrated guard buffer
- Wide supply voltage: ± 2.5 to ± 8 V or 5 to 16 V

Pricing and Availability

Product	Production Availability	Price Each In 1,000 Quantities	Packaging
ADA4530-1	NOW	\$11.40	8-lead SOIC

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