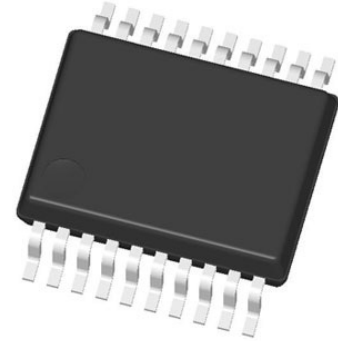


RMS to DC Converter, 0.5 %, 1 MHz, -40 °C, 125 °C, QSOP, 20 Pins

Manufacturers	Analog Devices, Inc
Package/Case	20-SSOP
Product Type	Analog Functions ; RMS to DC Converters
RoHS	Rohs
Lifecycle	



Images are for reference only

Please submit RFQ for AD8436BRQZ or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

General Description

The AD8436 is a new generation, translinear precision, lowpower, true rms-to-dc converter loaded with options. It computes a precise dc equivalent of the rms value of ac waveforms, including complex patterns such as those generated by switch mode power supplies and triacs. Its accuracy spans a wide range of input levels and temperatures. The ensured accuracy of $\leq \pm 0.5\%$ and $\leq 10 \mu\text{V}$ output offset result from the latest Analog Devices, Inc., technology. The crest factor error is $< 0.5\%$ for CF values between 1 and 10.

The AD8436 delivers true rms results at less cost than misleading peak, averaging, or digital solutions. There is no programming expense or processor overhead to consider, and the $4 \text{ mm} \times 4 \text{ mm}$ package easily fits into tight applications. On-board buffer amplifiers enable the widest range of options for any rms-to-dc converter available, regardless of cost. For minimal applications, only a single external averaging capacitor is required. The built-in high impedance FET buffer provides an interface for external attenuators, frequency compensation, or driving low impedance loads. A matched pair of internal resistors enables an easily configurable gain-of-two or more, extending the usable input range even lower. The low power, precision input buffer makes the AD8436 attractive for use in portable multi-meters and other battery-powered applications.

The precision dc output buffer minimizes errors when driving low impedance loads with extremely low offset voltages, thanks to internal bias current cancellation. Unlike digital solutions, the AD8436 has no switching circuitry limiting performance at high or low amplitudes. A usable response of $< 100 \mu\text{V}$ and $> 3 \text{ V}$ extends the dynamic range with no external scaling, accommodating demanding low level signal conditions and allowing ample overrange without clipping.

The AD8436 operates from single or dual supplies of $\pm 2.4 \text{ V}$ (4.8 V) to $\pm 18 \text{ V}$ (36 V). A and J grades are available in a compact $4 \text{ mm} \times 4 \text{ mm}$, 20-lead chip-scale package; A and B grades are available in a 20-lead QSOP package. The operating temperature ranges are -40°C to 125°C for A and B grades and 0°C to 70°C for J grade.

Features

Delivers true rms or average rectified value of ac waveform

Fast settling at all input levels

Accuracy: $\pm 10 \mu\text{V} \pm 0.25\%$ of reading (B grade)

Wide dynamic input range

100 μV rms to 3 V rms (8.5 V p-p) full-scale input range

Larger inputs with external scaling

Wide bandwidth:

1 MHz for -3 dB (300 mV)

65 kHz for additional 1% error

Zero converter dc output offset

No residual switching products

Specified at 300 mV rms input

Accurate conversion with crest factors up to 10

Low power: 300 μA typical at ± 2.4 V

High-Z FET separately powered input buffer

$R_{IN} \geq 1012 \Omega$, $C_{IN} \leq 2$ pF

Precision dc output buffer

Wide power supply voltage range

Dual: ± 2.4 V to ± 18 V; single: 4.8 V to 36 V

4 mm \times 4 mm LFCSP and 8 mm \times 6 mm QSOP packages

ESD protected

Related Products



[ADP3336ARMZ-REEL7](#)

Analog Devices, Inc
MSOP-8



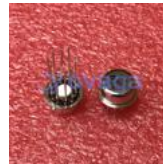
[AD737JRZ](#)

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[ADP3367ARZ](#)

Analog Devices, Inc
SOIC-8



[AD636JH](#)

Analog Devices, Inc
TO-100-10



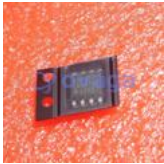
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[ADR3412ARJZ-R7](#)

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