# OVAGA

# AD7946BRMZRL7

14-Bit, 500 kSPS PulSAR® ADC in MSOP; Package: MSOP; No of Pins: 10; Temperature Range: Industrial

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|---|---|
| Manufacturers | Analog Devices, Inc |
| Package/Case | MSOP-10 |
| Product Type | Data Conversion ICs |
| RoHS | Rohs |
| Lifecycle | |

Images are for reference only

Please submit RFQ for AD7946BRMZRL7 or Email to us: sales@ovaga.com We will contact you in 12 hours.          RFQ

## General Description

The AD7946 is a 14-bit, 500 kSPS, charge redistribution successive-approximation Analog-to-Digital Converter which operates from a single 5V power supply, VDD. It contains a very low power high-speed 16-bit sampling ADC with no missing codes, an internal conversion clock and a versatile serial interface port. The part also contains a low noise, wide bandwidth, very short aperture delay track/hold circuit. On the CNV rising edge, it samples an analog input IN+ between 0 V to REF with respect to a ground sense IN-. The reference voltage REF is applied externally and can be set up to the supply voltage.

Its power scales linearly with throughput.

The SPI compatible serial interface also features the ability, using the SDI input, to daisy chain several ADCs on a single 3 wire bus and provides an optional Busy indicator. It is compatible with 1.8 V, 2.5 V, 3 V or 5 V logic using the separate supply VIO.

The AD7946 is housed in a 10-lead µSOIC or 10-lead QFN (LFCSP) with operation specified from –40°C to +85°C.

# Features

14-bit resolution with no missing codes

Throughput: 500 kSPS

INL: ±0.4 LSB typical, ±1 LSB maximum (±0.0061% of FSR)

SINAD: 85 dB at 20 kHz

THD: −100 dB at 20 kHz

Pseudo differential analog input range

0 V to REF with REF up to VDD

No pipeline delay

Single-supply 5 V operation with 1.8 V/2.5 V/3 V/5 V logic interface

Proprietary serial interface

SPI-/QSPI™-/MICROWIRE™-/DSP-compatible

Daisy-chain multiple ADCs and BUSY indicator

Power dissipation

3.3 mW at 5 V/100 kSPS

3.3 µW at 5 V/100 SPS

Standby current: 1 nA

10-lead MSOP (MSOP-8 size) and

3 mm × 3 mm LFCSP (SOT-23 size)

Pin-for-pin compatible with the 16-bit AD7686

# Application

Battery-powered equipment

Data acquisition
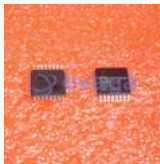
Instrumentation

Medical instruments

Process control

## Related Products



**ADAS3022BCPZ**

Analog Devices, Inc
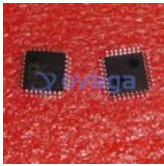
LFCSP-40



**AD7266BSUZ**

Analog Devices, Inc

TQPF-32



**AD574AJNZ**

Analog Devices, Inc

PDIP-28


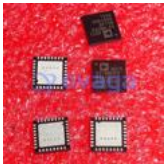
**AD7401YRWZ**

Analog Devices, Inc

SOIC-16

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**AD7938BSUZ**

Analog Devices, Inc

TQFP-32

**AD7192BRUZ-REEL**

Analog Devices, Inc

TSSOP-24

**AD7124-8BCPZ-RL7**

Analog Devices, Inc

LFCSP-32

**AD9680BCPZ-500**

Analog Devices, Inc

LFCSP-64