

16-Bit, 100 kSPS PulSAR®, Differential ADC in MSOP; Package: MSOP; No of Pins: 8;  
Temperature Range: Industrial

Manufacturers	<a href="#">Analog Devices, Inc</a>
Package/Case	MSOP-8
Product Type	Data Conversion ICs
RoHS	Pb-free Halide free
Lifecycle	

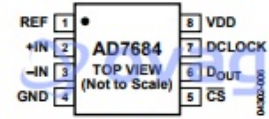


Figure 6. 8-Lead MSOP Pin Configuration

Images are for reference only

Please submit RFQ for AD7684BRMZ or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

## General Description

The AD7684 is a 16-bit, charge redistribution, successive approximation, PulSAR® analog-to-digital converter (ADC) that operates from a single power supply, VDD, between 2.7 V to 5.5 V. It contains a low power, high speed, 16-bit sampling ADC with no missing codes, an internal conversion clock, and a serial, SPI-compatible interface port. The part also contains a low noise, wide bandwidth, short aperture delay, track-and-hold circuit. On the CS falling edge, it samples the voltage difference between +IN and -IN pins. The reference voltage, REF, is applied externally and can be set up to the supply voltage. Its power scales linearly with throughput.

The AD7684 is housed in an 8-lead MSOP, with an operating temperature specified from -40°C to +85°C.

## Features

16-bit resolution with no missing codes

Throughput: 100 kSPS

INL:  $\pm 1$  LSB typical,  $\pm 3$  LSB maximum

True differential analog input range:  $\pm V_{REF0}$  V to  $V_{REF}$  with  $V_{REF}$  up to  $V_{DD}$  on both inputs

Single-supply operation: 2.7 V to 5.5 V

Standby current: 1 nA

Serial interface SPI<sup>®</sup>/QSPI<sup>™</sup>/MICROWIRE<sup>™</sup>/DSP-compatible

Power dissipation 4 mW @ 5 V 1.5 mW @ 2.7 V 150  $\mu$ W @ 2.7 V/10 kSPS

8-lead MSOP package

## Application

Battery-powered equipment

Data acquisition

Instrumentation

Medical instruments

Process control

Data Sheet, Rev. A, 10/07

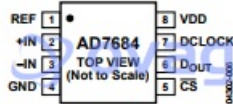
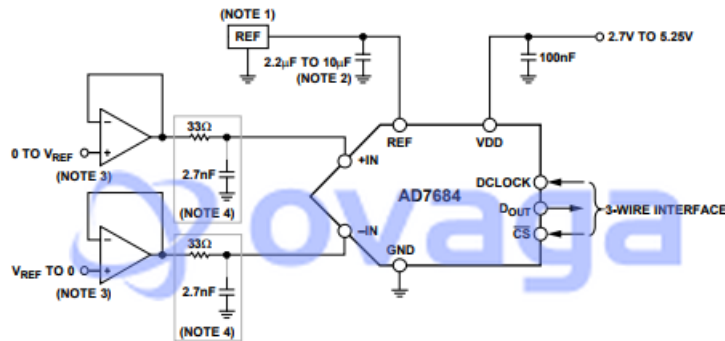


Figure 6. 8-Lead MSOP Pin Configuration



NOTE 1: SEE VOLTAGE REFERENCE INPUT SECTION FOR REFERENCE SELECTION.  
 NOTE 2:  $C_{REF}$  IS USUALLY A 10 $\mu$ F CERAMIC CAPACITOR (X5R).  
 NOTE 3: SEE DRIVER AMPLIFIER CHOICE SECTION.  
 NOTE 4: OPTIONAL FILTER. SEE ANALOG INPUT SECTION.  
 NOTE 5: SEE DIGITAL INTERFACE FOR MOST CONVENIENT INTERFACE MODE.

Figure 22. Typical Application Diagram

## Related Products



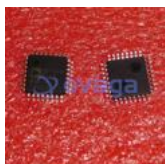
[ADAS3022BCPZ](#)

Analog Devices, Inc  
LFCSP-40



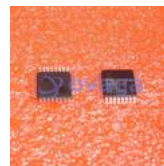
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