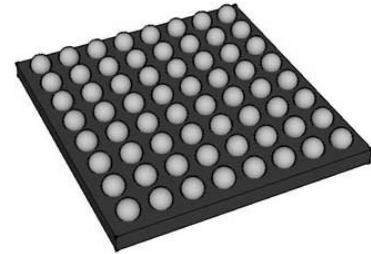


MEMS Gyroscopes Single Axis  $\pm 300^\circ/\text{s}$

Manufacturers	<a href="#">Analog Devices, Inc</a>
Package/Case	CBGA-32
Product Type	Motion & Position Sensors
RoHS	Rohs
Lifecycle	



Images are for reference only

Please submit RFQ for ADXRS646TBGZ-EP or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

## General Description

The ADXRS646 is a high performance angular rate sensor (gyroscope) that offers excellent vibration immunity. Bias stability is a widely-recognized figure of merit for high performance gyroscopes, but in real-world applications, vibration sensitivity is often a more significant performance limitation and should be considered in gyroscope selection. The ADXRS646 offers superior vibration immunity and acceleration rejection as well as a low bias drift of  $12^\circ/\text{hr}$  (typical), enabling it to offer rate sensing in harsh environments where shock and vibration are present.

The ADXRS646 is manufactured using the Analog Devices, Inc., patented high volume BiMOS surface-micromachining process. An advanced, differential, quad sensor design provides the improved acceleration and vibration rejection. The output signal, RATEOUT, is a voltage proportional to angular rate about the axis normal to the top surface of the package. The measurement range is a minimum of  $\pm 250^\circ/\text{sec}$ . The output is ratiometric with respect to a provided reference supply. Other external capacitors are required for operation.

A temperature output is provided for compensation techniques. Two digital self-test inputs electromechanically excite the sensor to test proper operation of both the sensor and the signal conditioning circuits.

The ADXRS646 is available in a  $7\text{ mm} \times 7\text{ mm} \times 3\text{ mm}$  CBGA chip-scale package.

## Features

Complete rate gyroscope on a single chip

Z-axis (yaw rate) response

12°/hour bias stability

0.01°/√second angle random walk

High vibration rejection over wide frequency

Measurement range extendable to a maximum of ±450°/sec

10,000 g powered shock survivability

Ratiometric to referenced supply

6 V single-supply operation

See data sheet for additional features

ADXRS646-EP supports defense and aerospace applications (AQEC standard)

[Download\(pdf\)](#)

Temperature range: -55°C to +105°C

Controlled manufacturing baseline

One assembly/test site

One fabrication site

Enhanced product change notification

Qualification data available on request

V62/14618 DSCC Drawing Number

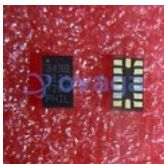
## Application

Industrial applications

Severe mechanical environments

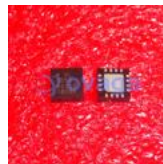
Platform stabilization

## Related Products



[ADXL343BCCZ](#)

Analog Devices, Inc  
LGA-14



[ADXL335BCPZ-RL7](#)

Analog Devices, Inc  
LFCSP16



[ADXL103CE](#)

Analog Devices, Inc  
CLCC-8



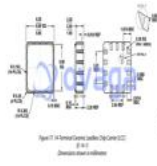
[ADIS16488BMLZ](#)

Analog Devices, Inc  
MSM24



[ADXRS642BBGZ](#)

Analog Devices, Inc  
CBGA-32



[ADXL357BEZ](#)

Analog Devices, Inc  
LCC-14



[ADXL346ACCZ-RL7](#)

Analog Devices, Inc  
LGA16



[ADXL345BCCZ-RL7](#)

Analog Devices, Inc  
LGA-14