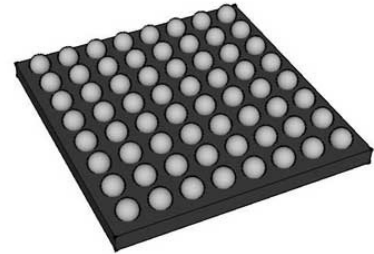


MEMS Gyroscope, Analogue, Yaw, $\pm 20000^\circ/\text{s}$, 4.75 V, 5.25 V, BGA

Manufacturers	Analog Devices, Inc
Package/Case	CBGA-32
Product Type	Motion & Position Sensors
RoHS	Rohs
Lifecycle	



Images are for reference only

Please submit RFQ for ADXRS649BBGZ or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

General Description

The ADXRS64x family of low noise, vibration rejecting yaw rate gyroscopes are drop-in performance upgrades to existing designs using the ADXRS62x family.

The ADXRS649 is pin- and package-compatible to the ADXRS62x family and offers the highest rate of rotation sensing available with $\pm 20,000^\circ/\text{sec}$ and fast 3 millisecond (ms) startup for quick power cycling. This measurement range is extendable to $\pm 50,000^\circ/\text{sec}$ with the addition of an external resistor. It is ideally suited for applications where exceptionally wide measurement ranges are needed.

The ADXRS649 is a complete angular rate sensor (gyroscope) that uses the Analog Devices, Inc., patented high volume BiMOS surface-micromachining process to make a complete gyro on one chip. An advanced, differential, quad sensor design rejects the influence of linear acceleration, enabling the ADXRS649 to offer rate sensing in harsh environments where shock and vibration are present.

The output signal, RATEOUT (B1, A2), is a voltage proportional to the angular rate about the axis normal to the top surface of the package. The output is ratiometric with respect to a provided reference supply. An external capacitor is used to set the band-width. The measurement range is extendable to $\pm 50,000^\circ/\text{sec}$ by adding an external resistor.

Low power consumption (3.5 mA) enables very low power consumption, and ultrafast startup (3 ms) allows for quick power cycling of the gyro. At 10 samples per second, a pair of CR2032 coin cells can power the ADXRS649 for three months.

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 ADXRS649 is available in a $7\text{ mm} \times 7\text{ mm} \times 3\text{ mm}$ CBGA chip scale package.

Features

High vibration rejection over wide frequency

Ultrafast startup: 3 ms

Measurement range extendable to $\pm 50,000^\circ/\text{sec}$

10,000 g powered shock survivability

Ratiometric to referenced supply

5 V single-supply operation

Z-axis (yaw rate) response

Self-test on digital command

Ultrasmall and light (<0.15 cc, <0.5 gram)

Temperature sensor output

RoHS compliant

Application

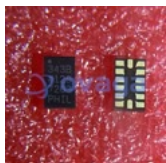
Sports equipment

Industrial applications

Form stabilization

High speed tachometry

Related Products



[ADXL343BCCZ](#)

Analog Devices, Inc
LGA-14



[ADXL103CE](#)

Analog Devices, Inc
CLCC-8



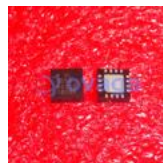
[ADXRS642BBGZ](#)

Analog Devices, Inc
CBGA-32



[ADXL346ACCZ-RL7](#)

Analog Devices, Inc
LGA16



[ADXL335BCPZ-RL7](#)

Analog Devices, Inc
LFCSP16



[ADIS16488BMLZ](#)

Analog Devices, Inc
MSM24



[ADXL357BEZ](#)

Analog Devices, Inc
LCC-14



[ADXL345BCCZ-RL7](#)

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LGA-14