

# IDG-500EVB

## Dual-Axis MEMS Gyro Evaluation Board



### GENERAL DESCRIPTION

The IDG-500 is an integrated X- and Y-axis angular rate gyroscope. It uses InvenSense's proprietary MEMS technology with vertically driven vibrating masses to produce a functionally complete, low-cost motion sensor. All required conditioning electronics are integrated into a single chip measuring 4 x 5 x 1.2mm. It incorporates X- and Y-axis low-pass filters and an EEPROM for on-chip factory calibration of the sensor. Factory trimmed scale factors eliminate the need for external active components and end-user calibration. A built-in Proportional-To-Absolute-Temperature (PTAT) sensor provides temperature compensation information. The product is lead-free and Green Compliant.

### APPLICATIONS

- General Motion Sensing
- Vehicle Motion Analysis
- Platform Stabilization
- Inertial Measurement Units

### PIN DEFINITIONS

Pin	Signal	Purpose
1	OUTX	Output of the X-Axis Gyro
2	HPS	Auto Zero Input
3	OUTY	Output of the Y-Axis Gyro
4	TEMP	Temperature Sensor Output
5	VREF	Reserved for Factory Use
6	GND	Ground
7	GND	Ground
8	+VOUT	VDD for Gyro
9	GND	Ground
10	+VIN	Input Supply Pin for LDO

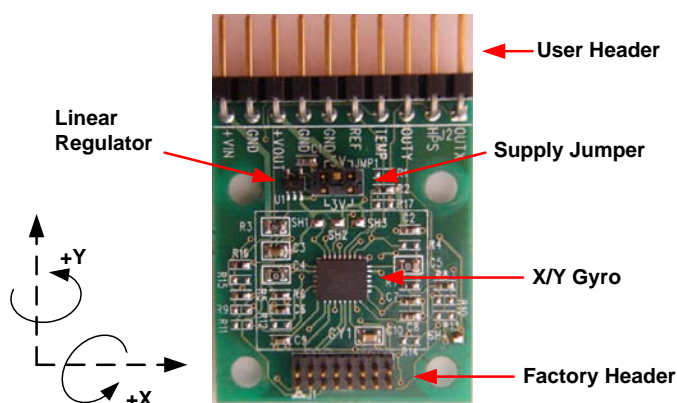
### FEATURES

- Fully tested board for easy evaluation of dual-axis (X, Y) gyro
- Fully integrated X- and Y-axis gyros on a single chip
- 500°/s full scale range
- 2.0mV/°/s sensitivity
- Integrated amplifiers and low-pass filters
- Auto Zero function for bias calibration
- On-chip temperature sensor
- High vibration rejection over a wide frequency range
- High cross-axis isolation by proprietary MEMS design
- 3V single supply operation
- Hermetically sealed for temp and humidity resistance
- 10,000 g shock tolerant
- RoHS and Green Compliant

### ELECTRICAL SPECIFICATIONS

Parameter	Specifications	Unit
Full-Scale Range	±500	°/sec
Sensitivity	2.0	mV/°/sec
Cross Axis Sensitivity	± 1	%
Non-linearity	< 1	% of FSR
Supply Voltage	3.0 ±0.3	V
Supply Current	7	mA
Operating Temperature	-20 to +85	°C
On time	50	ms
Shock Tolerance	10,000	g

### COMPONENT PLACEMENT AND BOARD ORIENTATION



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### ABOUT INVENSENSE

InvenSense is the leading provider of motion sensing solutions for mobile applications, with proven technology and millions of units shipped to major OEMs worldwide. The company's patented motion sensing technology and its novel Nasiri-Fabrication address many emerging mass-market applications such as gaming, image stabilization, and smart user interfaces that use hand motion and gesture-based commands for mobile applications, such as, smart phones, digital cameras, 3D remote control devices and more. InvenSense's corporate offices are located in Sunnyvale, California. More information can be found at <http://www.invensense.com>.