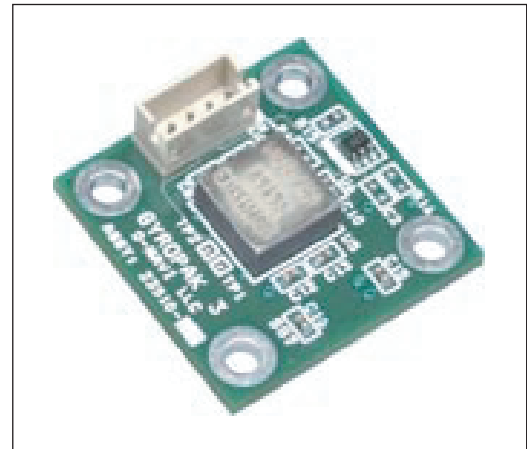


## STANDARD FEATURES

- **Low Cost / High Performance MEMS Gyro**
- **Solid State Reliability**
- **Versatile Analog Interface**
- **On-Board Temperature Monitor**
- **Secure Mounting Points**
- **Compact Package**
- **Low Power 37.5mW**
- **Single 5V Supply**



## PRODUCT DESCRIPTION

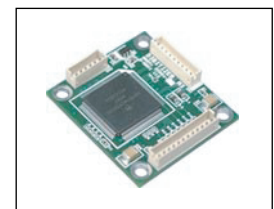
The GyroPAK3 is a complete single axis silicon MEMS angular rate gyro module. The GyroPAK3 is a rugged, reliable rate gyro packaged in a 20mm<sup>2</sup> module with integral mounting holes for M2 and SAE 2-56 fasteners. The module is ideal for stand alone and multi-axis configurations. The module requires a single 5V supply and consumes only 38mW of power.

Available in  $\pm 150^\circ/s$  and  $\pm 300^\circ/s$  dynamic range models, with optional gain, output sensitivities to  $\pm 15^\circ/s$  full scale are possible. The rate output increases with clock-wise rotation and is buffered to drive up to 30mA. An unbuffered temperature output is also provided for thermal compensation if desired. The interface header is a 1.5mm pitch for convenient wire-to-board connections and has a detent locking feature for reliable contact in dynamic environments. The wire-to-board connection scheme allows the module to be mounted in any orientation or in multiple axis if required. Optional cable sets are available for speeding integration.

An evaluation kit is available with everything needed to power and test a GyroPAK3. The kit includes a GyroPAK3, connecting cables, AC power supply and user manual. An optional digitizer unit is available for serial interfacing of up to three GyroPAK3 modules in a triaxial configuration.

## APPLICATIONS

- *Tilt Sensors*
- *Motion/Vibration Analysis*
- *Vehicle Stabilization & Control*
- *Model Rockets*
- *Impact Sensors*
- *Intrusion Detection*
- *Heavy Equipment Safety*
- *Earthquake Safety Sensor*
- *Vehicle Failsafe Systems*



Optional Digitizer/MX  
A/D Converter Module

## ORDERING INFORMATION

### STANDARD CONFIGURATIONS

GYROPAK 23510-          -             -BA  

 $\pm 100^\circ/s$   
 $\pm 200^\circ/s$   
 $\pm 400^\circ/s$

### CUSTOM CONFIGURATIONS

Custom Bandwidth 1-100Hz (Accel.)  
 Custom Accelerometer sensitivity to  $\pm 0.5g$   
 Custom I/O Header (Removed or Reversed)

### DISCLAIMER

Data contained herein is believed to be reliable and accurate. O-Navi LLC assumes no liability for the use of any information contained herein, nor for any infringements of patents or other rights of third parties that may result from its use. No license is granted for any patent rights of O-Navi LLC.

# SPECIFICATIONS

# ONG-23510

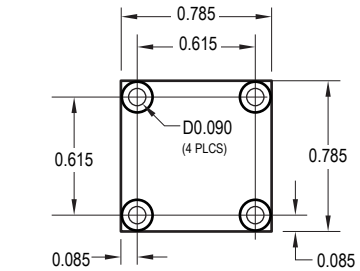
Silicon MEMS Gyro Module

PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS / REMARKS
<b>ANGULAR RATE</b>					
Dynamic Range		±150		°/s	Full Scale (F.S.) Range
Sensitivity	11.25	12.5	13.75	mV/°/s	@25°C
Sensitivity (Over Temp)	11.25		13.75	mV/°/s	4.75V<VCC<5.25
Noise		0		°/s	
Noise Density		0.05		°/s/√Hz	@25°C
Bias		2.5		V	
Bias Temp Drift			±300	mV	
Non-Linearity		0.10		% F.S.	Best Fit Straight Line
Cross Axis Sensitivity		2		% F.S.	
Bandwidth		40		Hz	-3db
Self Resonant Freq		14		KHz	
Linear Acceleration Effect		0.2		°/s/g	Any Axis
Voltage Sensitivity		1		°/s/V	4.75V<VCC<5.25V
Start-up Time		35		mS	To within ±0.5°/s of final
<b>TEMP SENSOR</b>					
Temperature Output		2.5		V	@25°C
Temperature Scale		8.4		mV/°C	
Temp. Output Drive			50	µA	
<b>ELECTRICAL</b>					
Inertial Signal Output	0.25		4.75	V	
Inertial Output Drive			30	mA	Indefinite S.C.
Supply Voltage	4.75	5.00	5.25	V	
Supply Current		7.5		mA	Vcc=5V
Power		37.5		mW	Vcc=5V
<b>PHYSICAL</b>					
Temp Range (OP)	-40		+85	°C	Absol Max: -55 to +125°C
Temp Range (NOP)	-65		+125	°C	
Shock (OP)			500	g	Any Axis 0.5mS
Shock (NOP)			1000	g	Any Axis 0.5mS
Humidity	0		90	% R.H.	Non-Condensing
Mass		1.75		gram	
Dimensions:	20 X 20 X 6.0 mm				
Mounting Hole:	Diameter 2.3mm (M2 or SAE 2-56)				
Interface Connector:	JST - B4B-ZR				
Mating Connector:	JST - ZHR-4				

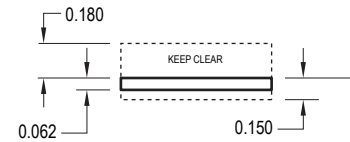
### OPTIONS

I/O Cable (Flying Leads)	305-0406A
I/O Cable (Power Connector)	305-0435A
AC Power Supply	310-0502A
Digitizer/MX ADC Module	DMX-23501
Stand-Off Kit (1/4" X 2-56) [w/Screws]	810-7256

### DIMENSIONS



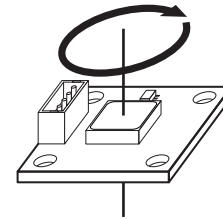
TOP VIEW



SIDE VIEW

REV B

### AXIAL SENSITIVITY

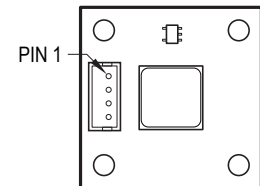


OUTPUT VOLTAGE INCREASES WITH CLOCK-WISE ROTATION.

### CONNECTOR PINS

#### PIN OUT

- 1 - +5V
- 2 - RATE OUT
- 3 - TEMP OUT
- 4 - GROUND



SPECIFICATION SUBJECT TO CHANGE WITHOUT NOTICE