



Low Cost Gyro

RELEASED DOCUMENT
10-20-06

LCG50

Applications

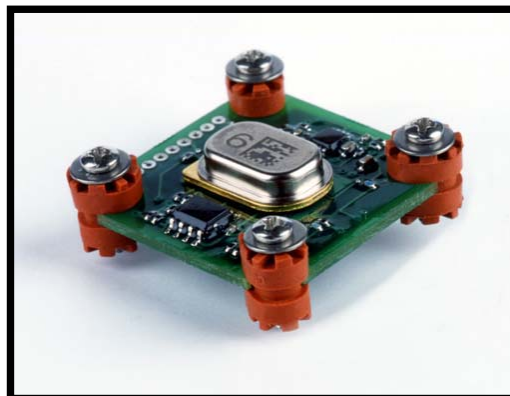
The LCG50 has a wide variety of applications:

- Vehicle Instrumentation
- Robotics
- Flight Testing
- Guidance and Control Systems
- Short Term Navigation



Description

The LCG50 (Low Cost Gyro 50) offers a MEMS (Micro Electro Mechanical System) single axis angular rate sensor on a small pc board. The sensor is a complete unit and requires only a DC voltage input to measure angular rate. The LCG50 is ideally suited for embedded applications, where mounting versatility is required, unit price is low, environmental robustness is essential, and the performance characteristics must match that of much more expensive instrument grade rate sensors.



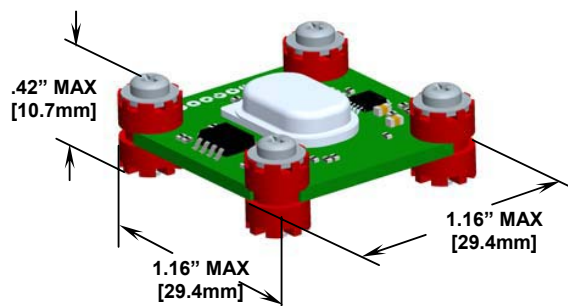
- Proven MEMS Technology
- DC Voltage Input
- Wide Bandwidth
- Analog Voltage Output
- Low Unit Price



Low Cost Gyro

Features

- Low Power Consumption
- High Reliability
- Wide Operating Temperature Range
- Small Size
- Fast Start-Up
- DC In DC Out
- Temperature Sensor Output



DIMENSIONS IN INCHES & MILLIMETERS

PARAMETER	SUMMARY SPECIFICATIONS	
Part Number	LCG50-00100-100	LCG50-00250-100
Power Requirements		
Input Voltage (Nominal)*	+5.0 Vdc	
Input Current	<8 mA @ +5.0 Vdc	
Performance		
Standard Ranges*	±100°/s*	±250°/s*
Scale Factor Calibration (at 22°C Typical)	16 mV/°/sec ±15%	6.4 mV/°/sec ±15%
Scale Factor over Temperature	<0.1%/°C	<0.1%/°C
Bias Calibration (at 22°C Typical)	+2.5 Vdc ± 0.2 Vdc	+2.5 Vdc ± 0.2 Vdc
Bias Variation over Temperature	8°/sec	10°/sec
G Sensitivity (Typical)	<0.05°/sec/g	
Start-Up Time (Typical)	<2 sec	
Bandwidth (-3dB)*	>50 Hz	
Non-Linearity (Typical) % Full Scale Range	<0.05%	
Output Noise (DC to 100 Hz Typical)	<0.005°/s/√Hz	<0.006°/s/√Hz
Temp Sensor		
Scale Factor (Nominal)	6.25 mV/°C	
Output Voltage at 0°C	+424 mV (Typical)	
Environments		
Operating Temperature	-40°C to +85°C	
Storage Temperature	-55°C to +100°C	
Vibration Operating	5 g _{rms}	
Vibration Survival	10 g _{rms}	
Shock	500g PK ½ sine 2 msec	
Weight	<0.4 oz. [12 grams]	
* Other options available - Consult Factory		

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