CRH02 (OEM)

High Performance Single Axis MEMS Gyroscope - (OEM) Configuration

Key features

- Proven and Robust silicon MEMS VSG3Q^{MAX} vibrating ring sensor
- Two rate ranges currently available: ±100°/s, ±200°/s. Others available
- FOG - like performance
- Low Bias Instability - 0.12°/hr
- Excellent Angle Random Walk - 0.17°/√hr
- Low noise - 0.15°/s rms (50Hz bandwidth)
  - 0.20°/s rms (100Hz bandwidth)
- Precision analogue output
- High shock and vibration rejection
- -40°C to +85°C operating temperature range
- Temperature sensor output for precision thermal compensation
- MEMS frequency output for precision thermal compensation
- RoHS Compliant

CRH02 (OEM) provides the optimum solution for OEM customers with applications where bias instability, angle random walk and low noise are of critical importance.

At the heart of CRH02 (OEM) is Silicon Sensing's VSG3Q^{MAX} vibrating ring MEMS sensor which is at the pinnacle of 15 years of design evolution and the latest off a line which has produced over 30 million high integrity MEMS inertial sensors. The VSG3Q^{MAX} gyro sensor is combined with precision discrete electronics to achieve high stability and low noise, making the CRH02 (OEM) a viable lower cost MEMS alternative to Fibre-Optic Gyro (FOG) and Dynamically Tuned Gyro (DTG).

An on board temperature sensor and the resonant frequency of the MEMS enables additional external conditioning to be applied to the CRH02 (OEM) by the host, enhancing the performance even further.

Typical applications

- IMU Applications
- Platform Stabilisation
- Precision Surveying
- Maritime Guidance and Control
- Gyro-compassing and Heading Control
- Autonomous Vehicles and ROVs
- Rail Track monitoring
- Robotics
- Drilling Equipment and Guidance
- Inertial Measurement Units

Preliminary

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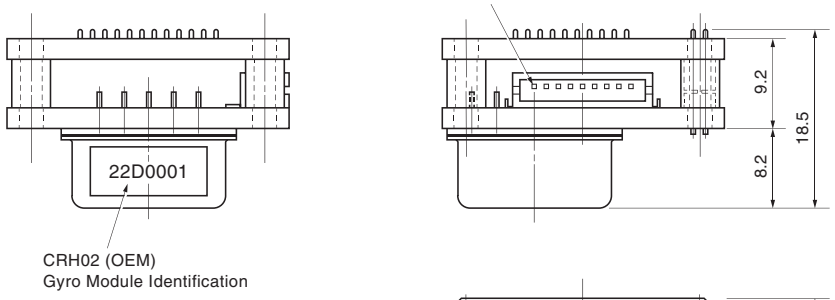
For full technical datasheet please visit our website:
www.siliconsensing.com

All dimensions in millimetres



Part Number	Rate Range
CRH02-025U	±25°/s (Enquire)
CRH02-100U	±100°/s
CRH02-200U	±200°/s
CRH02-400U	±400°/s (Enquire)

Pin Connections

1	VCC
2	GND
3	Rate Output
4	Ref
5	REFL
6	Temperature Output
7	DNC
8	FRQ
9	DNC

Typical Data

Parameter	-025U	-100U	-200U	-400U
Output	Analogue			
Dynamic range	±25°/s	±100°/s	±200°/s	±400°/s
Nominal scale factor	80mV/°/s	20mV/°/s	10mV/°/s	5mV/°/s
Bias instability	< 0.12°/h			
Angular Random Walk	< 0.017°/√hr			
Bias over temperature	±0.1°/s	±0.1°/s	±0.15°/s	±0.15°/s
Bandwidth	50Hz	100Hz	100Hz	50Hz
Supply voltage	+4.85 to 5.25 Volts			
Current consumption	60mA			
Operating temperature range	-40°C to +85°C			
Storage temperature range	-40°C to +85°C			
Start-up time	750ms (max)			
Quiescent noise	0.15°/s rms	0.20°/s rms	0.20°/s rms	0.15°/s rms
Mass	17 gram			
Operational shock	95g x 6ms			
Shock (powered survival)	1,000g x 1ms			
RoHS Compliant	Yes			

Preliminary

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