pinpoint®

Precision Navigation and Pointing Gyroscope

SILICON SENSING®

CRM100

CRM200

Features

- Proven and robust silicon MEMS vibrating ring gyro
- Class-leading bias and noise over temperature for precision navigation and pointing
- In-plane and orthogonal sensing options (part numbers CRM100 and CRM200)
- User selectable dynamic ranges; 75°/s, 150°/s, 300°/s and 900°/s (maximum 1,000°/s)
- User adjustable bandwidth (to 100Hz)
- Analogue and digital (SPI®) outputs
- 3V supply
- Low power consumption (4mA)
- High shock and vibration rejection
- Hermetically sealed ceramic LCC surface mount package for temperature and humidity resistance
- Integral temperature sensor
- Low integration cost
- Development facilities available
- RoHS compliant

Applications

- GPS vehicle and personal navigation aiding
- Vehicle yaw, pitch and roll rate sensing
- Motion tracking
- Pointing devices
- Precision agriculture
- Antenna stabilisation
- Industrial and robotics

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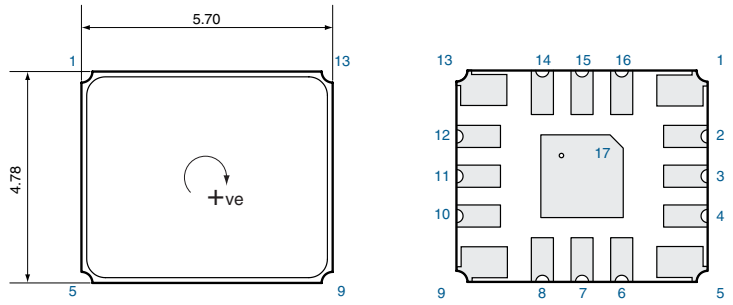
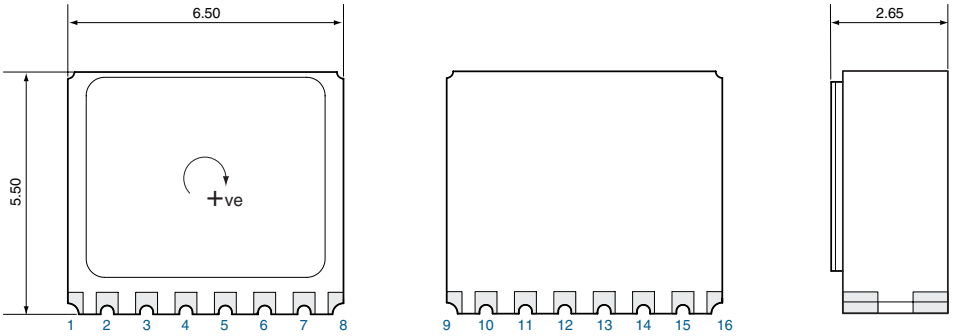
CRM100



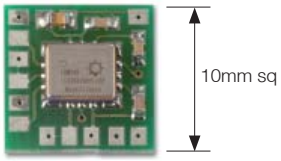
CRM200



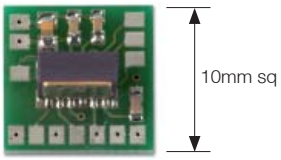
All dimensions in millimetres.

Specification and Typical Values (CRM100 and CRM200)

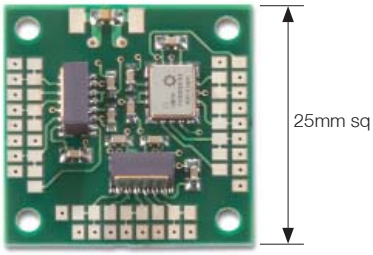
Parameter	Specification Limit	Typical
Supply voltage (Vdd)	2.7V ~ 3.6V	–
Dynamic range	75°/s, 150°/s, 300°/s, 900°/s, (set by customer using PCBA connection)	–
Scale factor (analogue output - ratiometric)	13.3mV/°/s, 6.7mV/°/s, 3.3mV/°/s, 1.0mV/°/s	–
SF over temperature	±3%	±1%
Null	1/2 x Vdd	–
Bias over temperature	±3°/s	±1.5°/s
Bias instability	–	<40°/hr
Bandwidth (–3dB)	>75Hz (set by customer using an external capacitor)	Analogue output up to 160Hz Digital output 150Hz (fixed)
Noise spectral density	0.025°/s/rt Hz	0.008°/s/rt Hz
Angular Random Walk	–	0.28°/rt hr
Temperature	–40°C to +85°C (operating full performance) –40°C to +105°C (operating - reduced performance) –55°C to +125°C (storage)	–
Shock	3500g 500µs (unpowered) 500g 1ms ½ sine (powered) 100g 6ms (powered)	–
Vibration	3.5g rms 10 - 5kHz (powered)	–
Start-up time	0.5s	<0.3s
Mass	0.08 gram (CRM100) 0.12 gram (CRM200)	–
Current consumption	5mA	4mA



PinPoint® Evaluation Board - CRM100 (P/N 400046-0100)



PinPoint® Evaluation Board - CRM200 (P/N 400046-0200)



PinPoint® Evaluation Board - 3-Axis (P/N 400046-0300)

www.pinpoint-gyro.com

Specification subject to change without notice.

Printed in England 06/2010

Silicon Sensing Systems Limited Registered in England & Wales No. 3635234 Clittaford Road, Southway, Plymouth, Devon PL6 6DE

CRM100-00-0100-131 Rev 4
DCR No. 620001467