

# CRG20

## Angular Rate Sensor



CRG20 uses the latest (capacitive) silicon MEMS sensor technology from Silicon Sensing. The gyro is optimised for high-volume production programmes where both performance and cost are key drivers.

This new 'gyro on a chip' is derived from Silicon Sensing's high volume supply to the automotive industry, now being made available to broader markets. To aid initial evaluation, a range of development tools is available, from simple break-out boards to USB-based PC interface boards.

Fully digital closed loop control eliminates any temperature and aging effects associated with analogue electronics, and provides exceptionally stable performance over a wide range of operating conditions.

CRG20 is underpinned by Silicon Sensing's commitment to the technical backup and long-term support necessary to major procurement programmes.

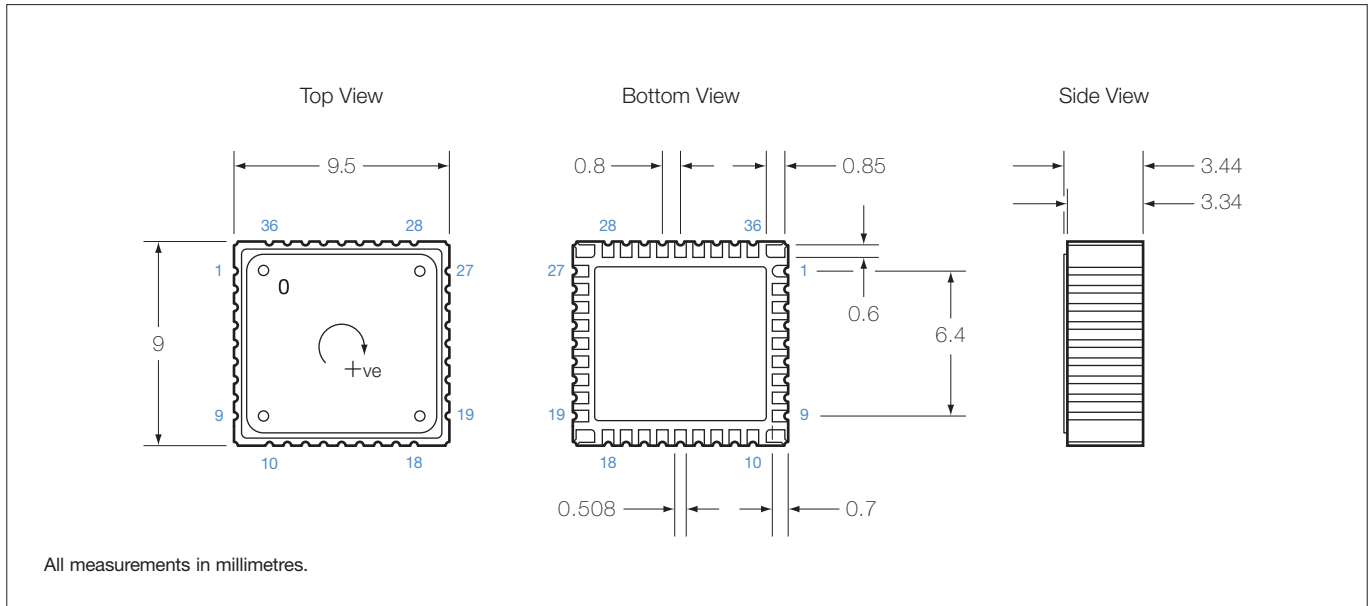
### Key Features

- Affordable high-volume solution
- Leadless Chip Carrier construction
- Supplied on tape and reel
- Excellent performance over temperature
- Integrated temperature sensor
- Digital (SPI®) and analogue outputs
- Development facilities available
- Several rate range options
- Electronically-readable serial number



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### Typical Data

	CRG20 all variants	CRG20-01	CRG20-02
<b>Output format</b>	Digital (SPI)	Analogue voltage (ratiometric)	
<b>Rate Range</b>	±300°/s	±75°/s	±300°/s
<b>Scale Factor</b>			
Nominal	0.03125°/bit	26.67mV/°/s	6.67mV/°/s
Setting tolerance (25°C)	< ±0.5%	< ±0.6%	
Variation over temperature range	< ±1.2%	1.4%	
Nonlinearity	< ±0.1%	< ±0.15%	
<b>Bias</b>			
Setting tolerance (25°C)	< ±0.5°/s	< ±0.5°/s	
Variation over temperature range	< ±0.2°/s	< ±0.5°/s	< ±2°/s
Angular Random Walk	0.3°/rt hr		
Bias instability	4.7°/hr		
<b>Bandwidth (typical)</b>	55Hz		
<b>Quiescent Noise</b>			
0 to 10Hz	0.06°/s rms		
In band (55Hz)	0.6°/s rms		
<b>Environment</b>			
Temperature (operating)	-40°C to +105°C		
Linear acceleration	< 100g		
Shock	95g		
Vibration	9g rms (20Hz to 2kHz, random)		
Cross-axis sensitivity	< ±2%		
<b>Mass</b>	0.8 gram		
<b>Electrical</b>			
Supply voltage (-20°C to +80°C)	+4.75V to +5.25V		
Supply current	60mA		
Noise and ripple	< 5mV peak to peak		
Start-up time	< 0.4s		
<b>RoHS Compliant</b>	Yes		



Development facilities available  
please enquire

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