

CRS03 (unpackaged)

Angular Rate Sensor



A robust and affordable mass-produced gyroscope for automotive and commercial customers.

Angular rate sensors are used wherever rate of turn sensing is required without a fixed point of reference. The sensor will output a DC voltage proportional to the rate of turn and input voltage.

High performance motion sensing even under severe shock and vibration.

Whatever your application, the unique silicon ring technology, coupled with closed loop electronics, gives advanced and stable performance over time and temperature, overcoming the mount sensitivity problems experienced with simple beam or tuning fork based sensors.

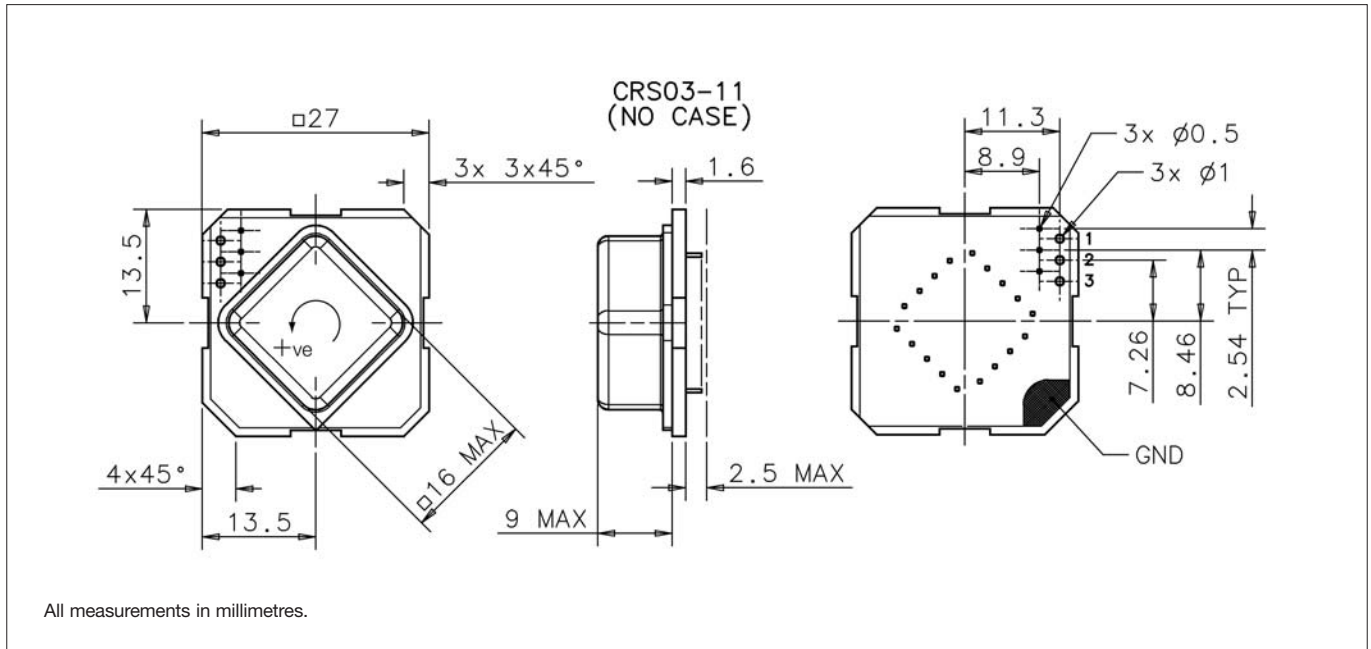
Key Features

- High rate range $\pm 573^\circ/s$
- Excellent performance over temperature
- Repeatable drift characteristic
- High shock and vibration operation
- Packaged options
- Other rate ranges available



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Specification

Specification (Typical Data)	CRS03-11S
Angular Rate Range	$\pm 573^\circ/\text{s}$
Output	Analogue voltage (ratiometric)
Scale Factor	
Nominal	$3.49\text{mV}/^\circ/\text{s}$
Variation over temperature range	$< \pm 5\%$
Nonlinearity	$< \pm 0.5\%$ of full scale
Bias	
Setting tolerance	$< \pm 30^\circ/\text{s}$
Variation over temperature range	$< \pm 30^\circ/\text{s}$
Ratiometric error	$< \pm 1^\circ/\text{s}$
Drift vs. time	$< \pm 0.55^\circ/\text{s}$ in any 30s period (after start-up time)
g sensitivity	$< \pm 0.1^\circ/\text{s/g}$ on any axis
Bandwidth	55Hz (-3dB)
Quiescent Noise	$< 1\text{mV rms}$
Environment	
Temperature	-20°C to $+60^\circ\text{C}$
Linear acceleration	$< 100\text{g}$
Shock	200g (1ms, $\frac{1}{2}$ sine)
Vibration	2g rms (20Hz to 2kHz, random)
Cross-axis sensitivity	$< 5\%$
Mass	$< 10\text{ gram}$
Electrical	
Supply voltage	+4.75V to +5.25V
Supply current	$< 35\text{mA}$ (steady state)
Noise and ripple	$< 15\text{mV rms}$ (DC to 100Hz)
Start-up time	$< 0.2\text{s}$
RoHS Compliance	Yes (R & S suffix)

Pin Connections

1	+5V
2	0V
3	Rate Output