

High Performance 3-Axis OIS/EIS Optimized MEMS Gyro

GENERAL DESCRIPTION

The ICG-20330 is a 3-axis MotionTracking device that includes a 3-axis gyroscope in a small 3x3x0.75 mm (16-pin LGA) package.

- High performance specs
 - Gyroscope sensitivity error: $\pm 1\%$
 - Gyroscope noise: 5 mdps/ $\sqrt{\text{Hz}}$
- Includes 512-byte FIFO to reduce traffic on the serial bus interface, and reduce power consumption by allowing the system processor to burst read sensor data and then go into a low-power mode
- EIS FSYNC support

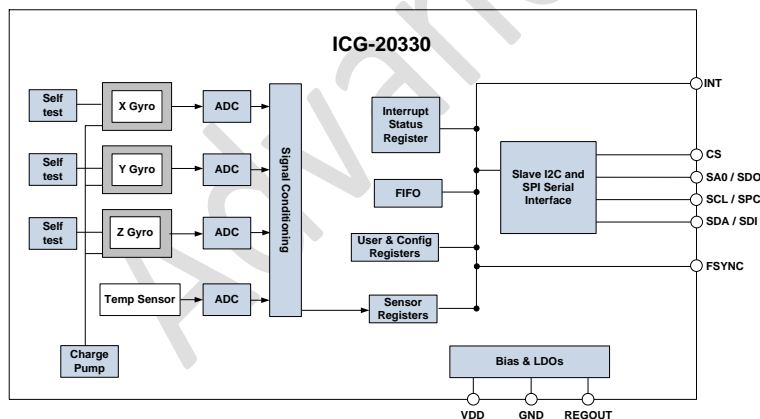
ICG-20330 includes on-chip 16-bit ADCs, programmable digital filters, an embedded temperature sensor, and programmable interrupts. The device features an operating voltage range down to 1.71V. Communication ports include I²C and high speed SPI at 7MHz.

ORDERING INFORMATION

PART	AXES	TEMP RANGE	PACKAGE
ICG-20330+	X,Y,Z	-40°C to +85°C	16-Pin LGA

†Denotes RoHS and Green-Compliant Package

BLOCK DIAGRAM



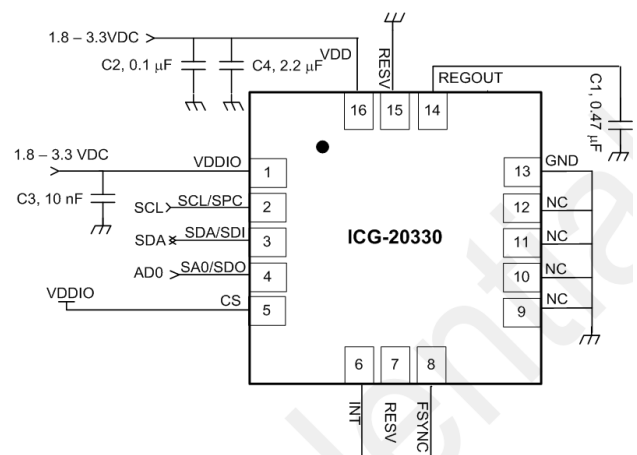
APPLICATIONS

- OIS (Optical Image Stabilization) in phone camera modules, DSLR, and DSC
- EIS (Electronic Image Stabilization) in DSC, and phone camera modules

FEATURES

- 1% Gyro initial sensitivity eliminates OIS dynamic calibration
- Optimized OIS/EIS programmable gyro FSR of $\pm 31.25\text{dps}$, $\pm 62.5\text{dps}$, $\pm 125\text{ps}$ and $\pm 250\text{dps}$
- High Resolution at up to 1048 LSB/(°/s)
- Low 5mdps/ $\sqrt{\text{Hz}}$ Noise
- User-programmable interrupts
- Wake-on-motion interrupt for low power operation of applications processor
- 512-byte FIFO buffer enables the applications processor to read the data in bursts
- On-Chip 16-bit ADCs and Programmable Filters
- Host interface: 7MHz SPI or 400kHz Fast Mode I2C
- Digital-output temperature sensor
- VDD operating range of 1.71 to 3.45V
- MEMS structure hermetically sealed and bonded at wafer level
- RoHS and Green compliant

TYPICAL OPERATING CIRCUIT



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