

High Performance 6-Axis OIS/EIS Optimized MEMS Sensor

GENERAL DESCRIPTION

The ICG-20660/L is a 6-axis MotionTracking device that combines a 3-axis gyroscope, 3-axis accelerometer, in a small 3x3x0.75 mm (16-pin LGA) package.

- High performance specs
 - ICG-20660L: Gyroscope sensitivity error: $\pm 1\%$
 - Gyroscope noise: $6.5\text{mdps}/\sqrt{\text{Hz}}$
- 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

The only difference between the 2 devices is the gyro initial sensitivity where it is 1% on ICG-20660L and it is 3% on ICG-20660.

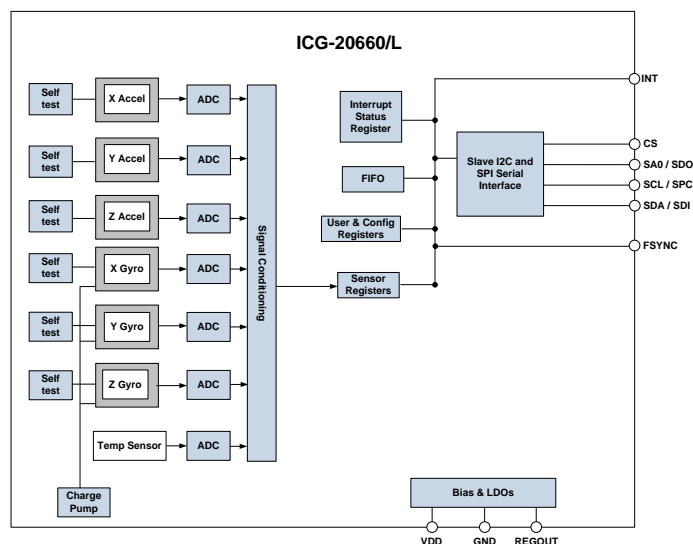
The ICG-20660 includes on-chip 16-bit ADCs, programmable digital filters, an embedded temperature sensor, and programmable interrupts. The device features an operating voltage range down to 1.71 V. Communication ports include I²C and high speed SPI at 7 MHz.

ORDERING INFORMATION

PART	AXES	TEMP RANGE	PACKAGE
ICG-20660+	X,Y,Z	-40°C to +85°C	16-Pin LGA
ICG-20660L+	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

- ICG-20660L: $\pm 1\%$ Gyro initial sensitivity eliminates OIS dynamic calibration
- ICG-20660: $\pm 3\%$ Gyro initial sensitivity
- 3-Axis optimized OIS/EIS programmable gyro FSR of ± 125 dps, ± 250 dps, ± 500 dps and ± 250 dps
- 3-Axis Accelerometer with Programmable FSR of $\pm 2g$, $\pm 4g$, $\pm 8g$ and $\pm 16g$
- 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: 7 MHz SPI or 400 kHz Fast Mode I²C
- Digital-output temperature sensor
- VDD operating range of 1.71 V to 3.45 V
- MEMS structure hermetically sealed and bonded at wafer level
- RoHS and Green compliant

TYPICAL OPERATING CIRCUIT

