

### 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: 6.5mdps/ $\sqrt{\text{Hz}}$
- 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 I<sup>2</sup>C 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

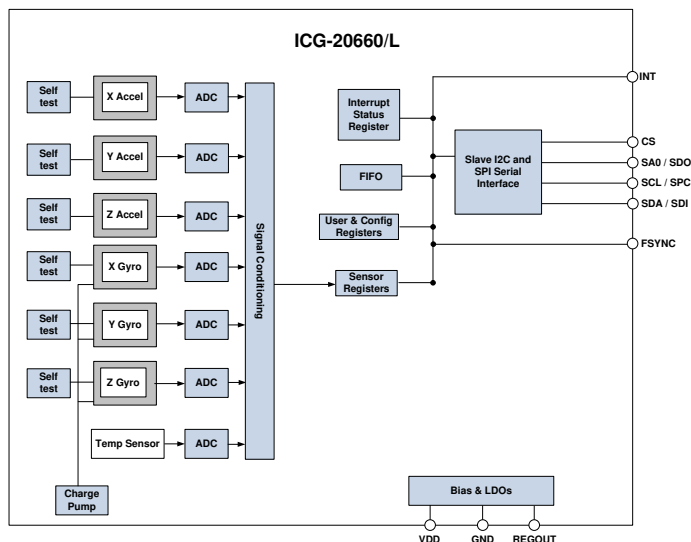
### APPLICATIONS

- 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  $\pm 125$  dps,  $\pm 250$  dps,  $\pm 500$  dps and  $\pm 250$  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 I<sup>2</sup>C
- 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

### BLOCK DIAGRAM



### TYPICAL OPERATING CIRCUIT

