

# High Performance 3-Axis MEMS Gyroscope in 3x3mm Package

## GENERAL DESCRIPTION

The ITG-1010 is a 3-axis MotionTracking device that includes a 3-axis gyroscope in a small 3x3x0.9 mm (16-pin QFN) package.

- High performance specs
  - Gyroscope sensitivity error:  $\pm 3\%$
  - Gyroscope noise: 0.0 1dps/ $\sqrt{\text{Hz}}$
- 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

ITG-1010 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 I<sup>2</sup>C and high speed SPI.

## ORDERING INFORMATION

PART	AXES	TEMP RANGE	PACKAGE
ITG-1010+	X,Y,Z	-40°C to +85°C	16-Pin QFN

†Denotes RoHS and Green-Compliant Package

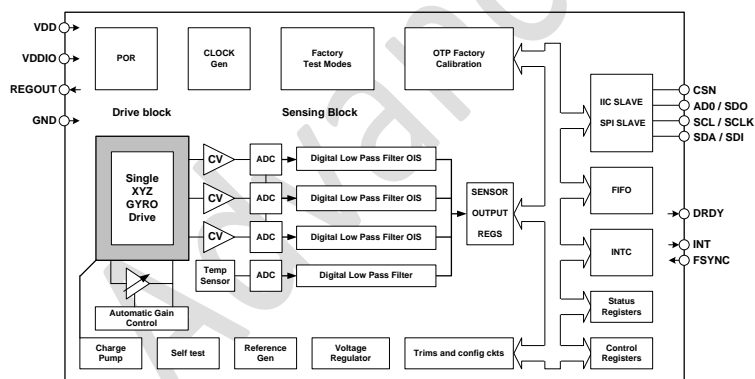
## APPLICATIONS

- Handset gaming
- Location based services, points of interest, and dead reckoning
- Health and sports monitoring
- Drones

## FEATURES

- Programmable FSR of  $\pm 250\text{dps}$ ,  $\pm 500\text{dps}$ ,  $\pm 1000\text{dps}$  and  $\pm 2000\text{dps}$
- ODR (Output Data Rate) of up to 32kHz
- 512-byte FIFO buffer enables the applications processor to read the data in bursts
- On-Chip 16-bit ADCs and Programmable Filters
- 20MHz SPI read or 1MHz read/write
- 400 kHz I2C serial interface
- Digital-output temperature sensor
- VDD operating range of 1.71 to 3.6V
- MEMS structure hermetically sealed and bonded at wafer level
- RoHS and Green compliant

## BLOCK DIAGRAM



## TYPICAL OPERATING CIRCUIT

