

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

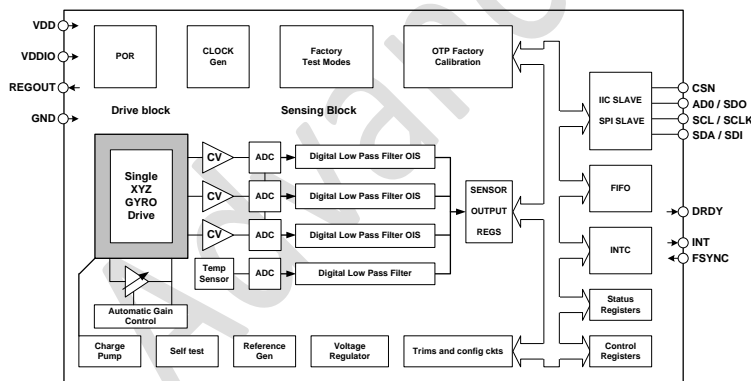
**APPLICATIONS**

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

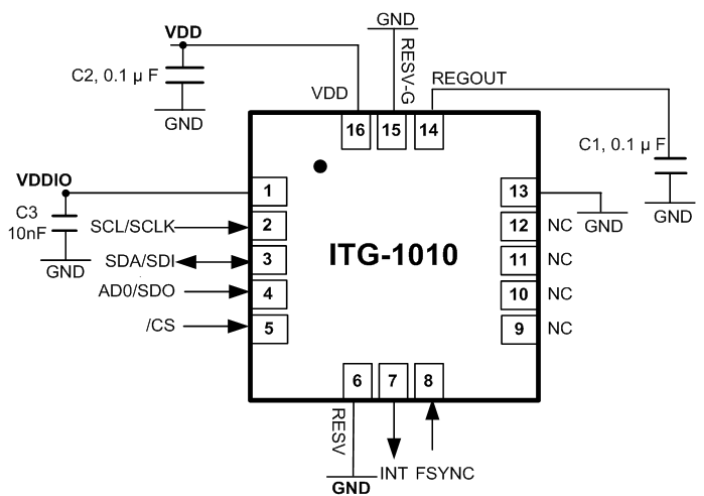
**FEATURES**

- 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**



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