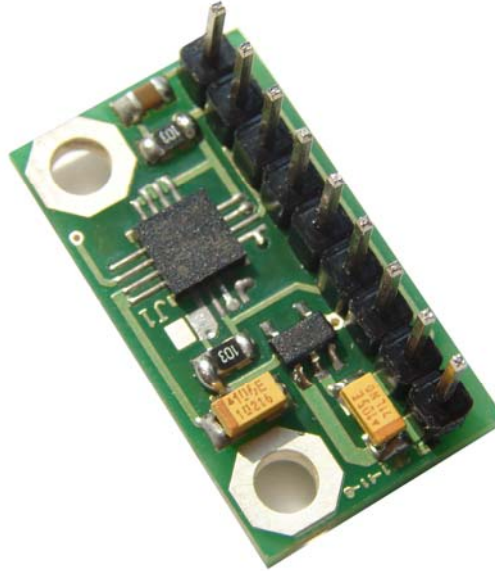


L3G4200D 3 Axis Digital Gyroscope with Voltage Regulator



Introduction

L3G4200D is a 3 Axis ultra stable digital gyroscope. It gives unprecedented stability of zero rate level and very good sensitivity over temperature and time. L3G4200D module features an on board low drop out voltage regulator which takes input supply in the range of 3.6V to 6V DC. Board has two mounting holes. All 9 pins of the module are arranged in single line. This gyroscope can be interfaced with the microcontroller over I2C or SPI interface. The L3G4200D has user selectable full scale of ± 250 , ± 500 , ± 2000 degrees per second and is capable of measuring rates with a user-selectable bandwidth. Ideal for balancing robots and quad rotor related applications.

Applications:

Quadrotor
 Balancing robots
 Advance robotics
 Navigation
 Motion Control with MMI (Man Machine Interface)
 Gaming and virtual reality input devices

L3G4200D 3 Axis Digital Gyroscope Features

- Onboard 3.3V Low Drop voltage regulator with input range of 3.6V to 6V.
- Dimensions: 0.9"(L) X 0.5"(W)
- 2 x Mounting holes
- I2C/SPI digital output interface
- Three selectable full scales (250/500/2000dps)

- Sensitivity:
250 dps : 8.75 mdps/digit
500 dps : 17.50 mdps/digit
2000 dps : 70 mdps/digit
- 16 bit data output
- Embedded temperature sensor with 8-bit temperature data output
- Integrated low- and high-pass filters with user selectable bandwidth
- Embedded power-down and sleep mode
- Extended operating temperature range (-40 °C to +85 °C)

Dimensions

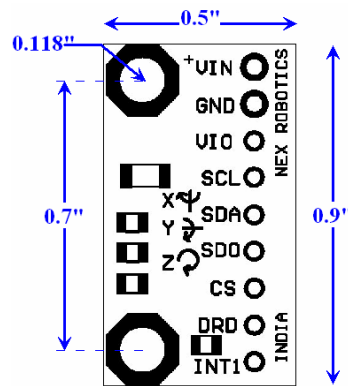


Figure 1: L3G4200D Module Dimensions

Schematic

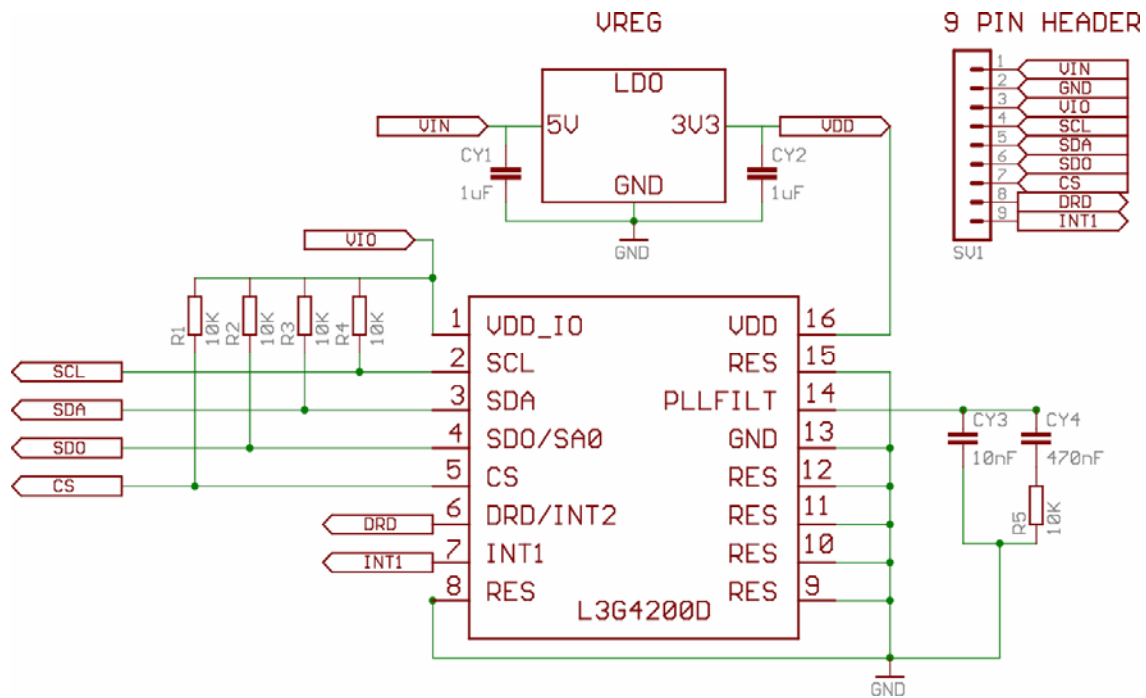


Figure 2: Schematic of L3G4200D Module

Pin Description

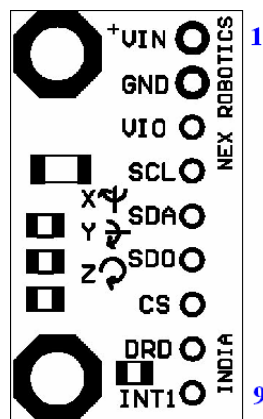


Figure 3: Pin Description of L3G4200D

Pin No.	Name	Description
1	VIN	Input supply from external source (3.3 – 6.0V)
2	GND	Ground
3	VIO	3.3V/40mA LDO output
4	SCL/SPC	I2C Clock or SPI Clock
5	SDA/SDI	I2C Data/Address or SPI data input
6	SDO/SA0	SPI data output or I2C Address pin internally pulled up to VIO
7	CS	1 = I2C Enabled/SPI disabled 0 = I2C Disabled/SPI Enabled This pin is internally pulled up to VIO.
8	DRD	Data Ready
9	INT1	Interrupt 1

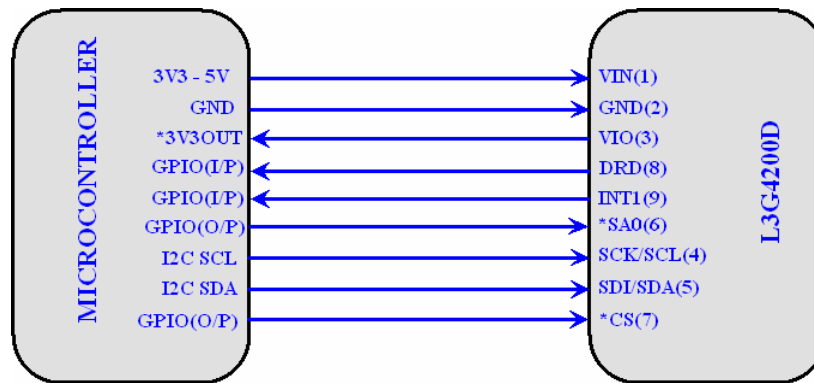
Table 1: Pin Description of L3G4200D

Note:

1. Pin 4, 5, 6 & 7 are internally pulled up to VIO which by default enables I2C communication mode.

Interfacing Examples

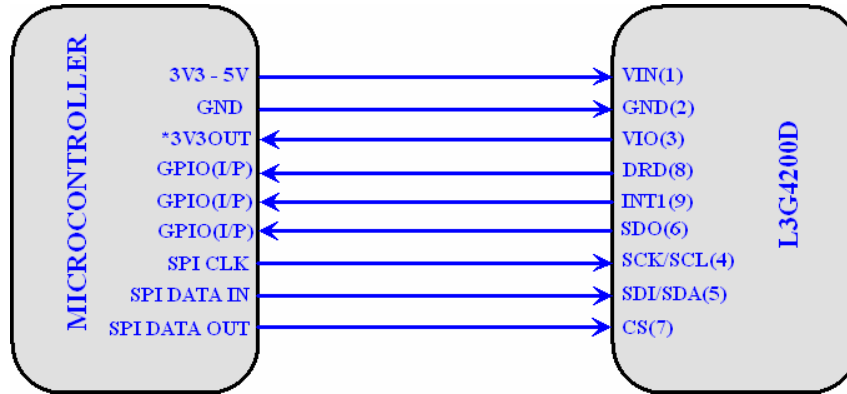
Case 1: I2C interface between L3G4200D and 3.3V microcontroller.



Note:

1. SA0 pin is internally pulled up to VIO which sets LSB of I2C address as 1.
2. CS pin is internally pulled up to VIO which enables I2C mode.
3. 3V3OUT is capable of delivering 3.3V@ 40mAmps. It can be used set up pull ups for I/O pins related to L3G4200D. It should not be used for other purposes.

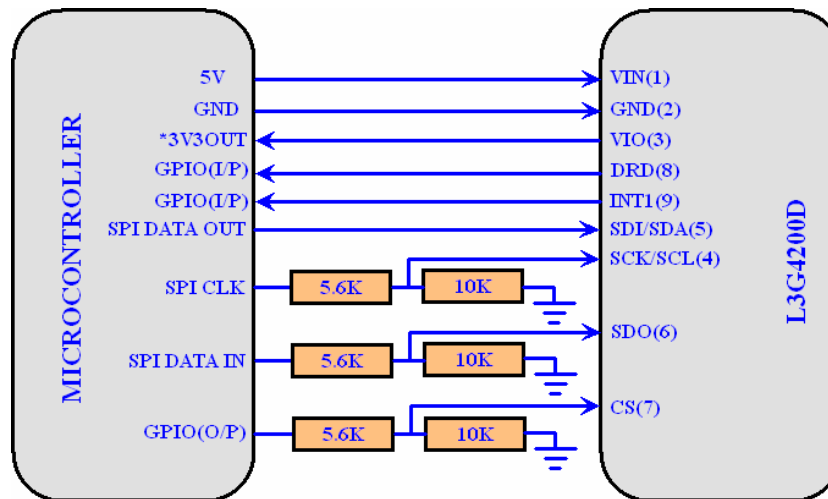
Case 2: SPI interface between L3G4200D and 3.3V microcontroller.



Note:

1. 3V3OUT is capable of delivering 3.3V@ 40mAmps. It can be used to set up pull ups for I/O pins related to L3G4200D. It should not be used for other purposes.

Case 3: SPI interface between L3G4200D and 5V microcontroller.



Note:

1. 3V3OUT is capable of delivering 3.3V@ 40mAmps. It can be used to set up pull ups for I/O pins related to L3G4200D. It should not be used for other purposes.