Motion Sensor

NW-MOT-ICM20608G

Evaluation Board for the InvenSense ICM-20608G Motion Sensor

Description:

The InvenSense ICM-20608-G is a 6-axis Motion Tracking device which combines a 3-axis gyroscope, and a 3-axis accelerometer in a small 3x3x0.75mm (16-pin LGA) package. The gyro has a full-scale ranging from ±250, ±500, ±1000, and ±2000 degrees/sec while the accelerometer has a full-scale ranging from ±2, ±4, ±8, and ±16g. It also features a 512-byte FIFO that can lower the 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.

Other industry-leading features include on-chip 16-bit ADCs, programmable digital filters, an embedded temperature sensor, and programmable interrupts. The device features I^2C and SPI serial interfaces, a VDD operating range of 1.71 to 3.45V, and a separate digital IO supply, VDDIO from 1.71V to 3.45V. Communication with all registers of the device is performed using either I^2C at 400 kHz or SPI at 8MHz.

The notWired.co NW-MOT-ICM20608G provides an easy to use, low-cost, small breakout board for the ICM-20608-G. All pins are mapped to standard 2.54mm/0.1” headers. This allows for use in a standard bread-board or to be ‘wired’ into an application. The header-header spacing is 7.62mm (300mil).

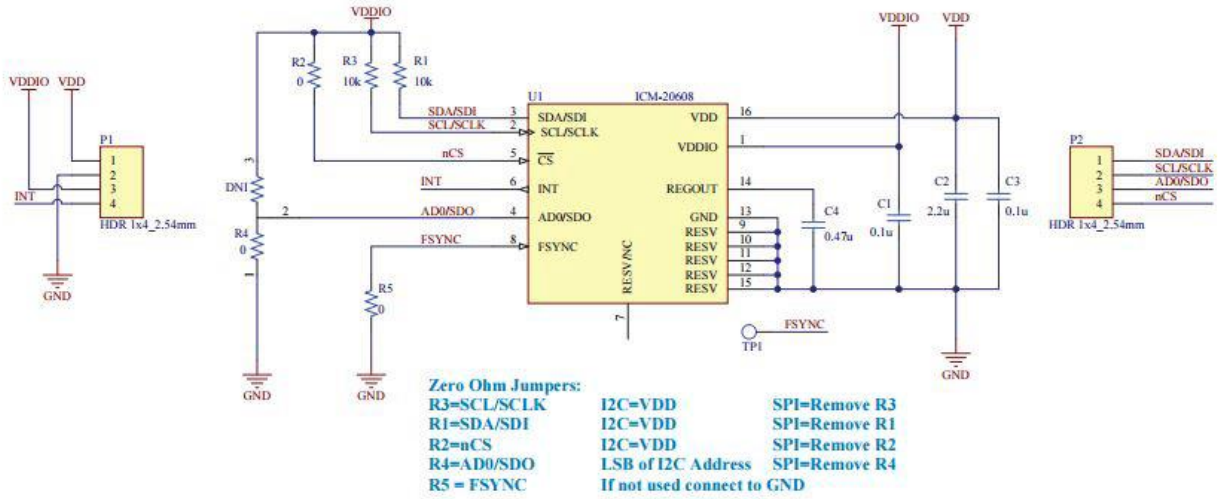
Additional Information:

For more information on the ICM-20608-G users can get the complete datasheet and/or register on the Invensense Developers Corner from the links below.
https://www.cdiweb.com/datasheets/invensense/ICM-20608-G-ProductSpec-V1.pdf
http://www.invensense.com/developers

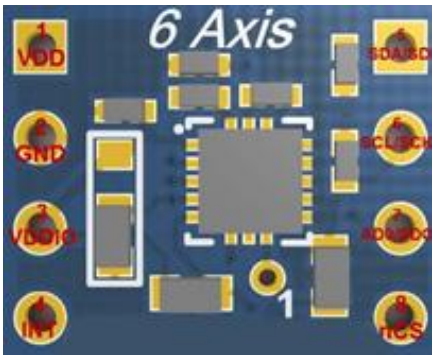
Features:

- Ultra-small 0.5”x0.4” (10x12.6mm) Breakout board with .1”/2.54mm header spacing that can be directly soldered into a prototype or used with breadboard.
- 400mil(10.16mm) header-header spacing.
- All ICM-20608-G pins are mapped to header pins, except FSYNC which is rarely needed. There is a through-hole via that a 28-30 AWG wire can be soldered into if the FSYNC pin is needed.

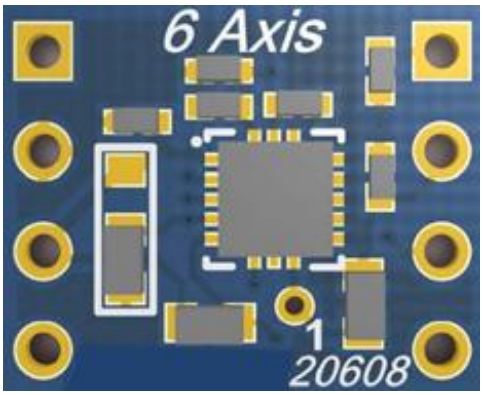
NW-MOT-ICM20608G Schematic

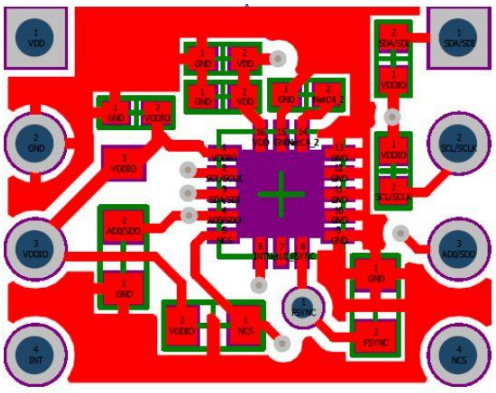
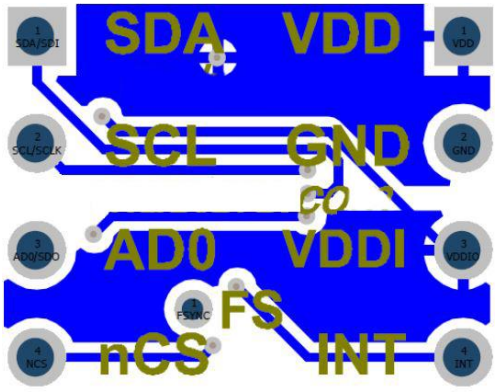


NW-MOT-ICM20608G Pin Descriptions



Pin	Name	Type	Function
P1 1	VDD	Input	Power Supply, 1.71-3.45 V
P1 2	Gnd	Ground	Ground. Connect to ground on the PCB
P1 3	VDDIO	Input/Output	Digital I/O Supply Voltage, 1.71-3.45 V
P1 4	INT	Output	Programmable Interrupt Output
P2 1	SDA/SDI	Output	I^2C serial data (SDA); SPI serial data input (SDI)
P2 2	SCL/SCLK	Output	I^2C serial clock (SCL); SPI serial clock (SCLK)
P2 3	ADO/SDO	Output	I^2C slave address LSB (AD0); SPI serial data output (SDO)
P2 4	nCS	Input	Chip Select (o=SPI mode, 1=I^2C Mode)

NW-MOT-ICM20608G 3D PCB – Top	NW-MOT-ICM20608G 3D PCB – Bottom
	

NW-MOT-ICM20608G PCB – Top	NW-MOT-ICM20608G PCB – Bottom
	

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