



Name: **MMA7361L 3-axis $\pm 1.5g$ / $\pm 6g$ Accelerometer with Voltage Regulator**
Code: **MR003-002.1**

This carrier board has been developed for the Freescale MMA7361L XYZ-axis accelerometer, a great low-g sensor with analog voltage outputs and adjustable sensitivity ($\pm 1.5g$ or $\pm 6g$), and it includes all the external components required by the sensor.

Its very small size (25.4x12.7mm) and its very light weight (only 1.1g), make it the perfect peripheral for small robots and for motion sensing systems.

The MMA7361L is a low power, low profile capacitive micromachined accelerometer featuring signal conditioning, a 1-pole low pass filter, temperature compensation, self test, 0g-Detect which detects linear freefall, and g-Select which allows for the selection between 2 different sensitivities.

0-g offset and sensitivity are factory set and require no external devices. The MMA7361L includes a Sleep Mode that makes it ideal for handheld battery powered electronics.

Another great feature of this product is the presence on-board of a 3.3V 50mA very low dropout linear voltage regulator, which allows this breakout board to accept a wide range of input voltages (2.7-6V).

Due to the low power consumption of the MMA7361L sensor a lot of power can be used for additional 3.3V components.

Note that for power saving sensitive applications it is possible to shut down the sensor, reducing the current to less than 3uA.

This board breaks out all the signals to a 0.1" (2,54mm) standard spacing header, in this way it is simple to use it with prototyping boards and also with breadboards.

Typical applications are:

- 3D gaming;
- motion sensing;
- robotics;
- navigation.

The board is provided with a 10x1 0,1” strip connector and with a 10x1 0,1” right-angle strip connector.

For more details about the sensor please refer to Freescale MMA7361L datasheet.

CONNECTIONS

TEST	Input pin to initiate Self Test
0GD	Linear Freefall digital logic output signal
SLP	Sleep Mode input pin Logic input pin to enable product or Sleep Mode
Z	Z direction output voltage
Y	Y direction output voltage
X	X direction output voltage
SEL	Logic input pin to select g level
3V3	3.3V Voltage Regulator output
GND	Ground
VIN	Supply voltage (2.7 – 6V)

Tab.1 – Connections



Fig. 1 - Signals

SPECIFICATIONS

Supply voltage	2.7 – 6V
Supply current	0.4mA typ. (0.6mA max.)
Temperature range	-40 / +85°C
Interface	Analog
Dimensions	25.4 x 12.7 x 2.6 mm (connector not included)
Weight	0.04 oz (1.1g)

Tab.2 - Specifications

