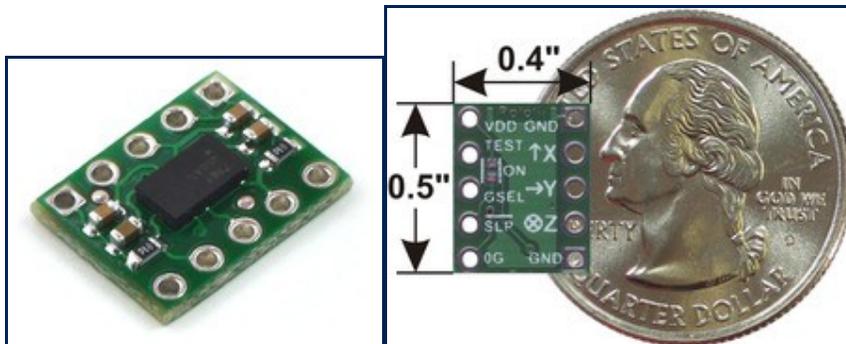


<http://www.pololu.com/catalog/product/1246>

MMA7361L 3-Axis Accelerometer $\pm 1.5/6g$



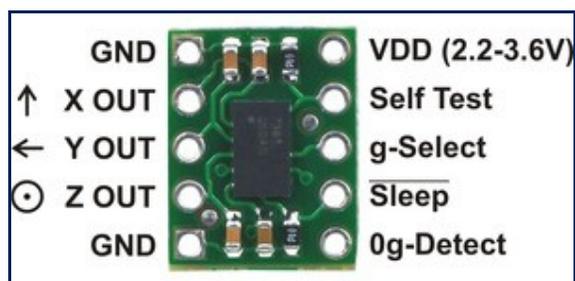
Overview

Shown above is a basic carrier board for the Freescale MMA7361L XYZ-axis accelerometer, it features, a low-g sensor with analog voltage outputs, adjustable sensitivity (± 1.5 g or ± 6 g), and a 0g-detect digital output that signals when the board is in free-fall. The board operates from 2.2 to 3.6 V.

This carrier board includes all of the components in the part's recommended connection diagram and breaks the pins out to a 0.5"×0.4" (12.7×10.2 mm) 10-pin DIP form factor that is easy to use with standard solderless breadboards and 0.1" perfboards.

This board provides different options: the MMA7361L_carrier offers selectable ± 1.5 g or ± 6 g sensitivities, has a 0g-detect output that goes high when the board is in free fall, sleep mode operation is selectable.

Using the sensor



The board is powered by supplying 2.2 to 3.6 V on the VDD pin. Note that this part does not have 5V-tolerant pins, so **external components (such as voltage dividers) are required when interfacing the**

board's g-Select, Self Test, and Sleep pins with 5V systems. Connections to these pins are optional; the board will work with these pins disconnected as long as the sleep pin is driven high with an on-board solder bridge as described below.

The sleep pin, Sleep, is internally pulled low, which puts the board into low-power sleep mode by default. You must drive this pin high to use the board. This can be accomplished with a microcontroller I/O line if you want selective control of sleep mode, or you can make a solder bridge across the SMT jumper pads labeled "ON" on the silkscreen side of the board to connect the sleep pin to VDD and enable the board by default.

The accelerometer X, Y, and Z outputs are three separate analog voltages centered at $VDD/2$. Positive accelerations along an axis increase that axis's output voltage above $VDD/2$ and negative accelerations decrease the output voltage below $VDD/2$. The outputs will always be within the range of 0 to VDD.

The sensitivity selection pin, g-Select, is internally pulled low, which selects for a default sensitivity of $\pm 1.5g$ (800 mV/g) carrier. Driving the pin high selects for a sensitivity of $\pm 6g$ (206 mV/g) on the MMA7361L carrier.

The 0g-Detect pin outputs high when all three axes simultaneously detect 0g, which happens when the board is in free-fall. This pin is only documented in the datasheet of the more sensitive MMA7361L IC (the MMA7341L datasheet labels this pin as "NC"), but we have found that it works on both carrier boards.

The Self Test pin is pulled low on the board and can be left disconnected.