



SparkFun gator:microphone - micro:bit Accessory Board

SEN-15289

The SparkFun gator:microphone is a micro:bit Accessory Board that integrates an electret microphone into SparkFun's gator:bit series of gator-clippable accessories, enabling it to be easily interfaced with the micro:bit or other microcontrollers! It provides a binary indication of the presence of sound and an analog representation of its amplitude.

The gator:microphone consists of four pads for power and data. There is also a switch on the board to select different audio amplification levels. Additionally, it includes an LMV324 operational amplifier (op-amp) for processing the audio signals from the microphone. The specified operating voltage for the VEML6070 is between 2.7V-5.5V. For use with the gator:bit (v2) and micro:bit, you should provide 3.3V through the 3V3 and GND pads to keep the logic levels consistent.

The micro:bit is a pocket-sized computer that lets you get creative with digital technology. Between the micro:bit and our shield-like bit boards you can do almost anything while coding, customizing and controlling your micro:bit from almost anywhere! You can use your micro:bit for all sorts of unique creations, from robots to musical instruments and more. At half the size of a credit card, this versatile board has vast potential!

• FEATURES

- gator:bit Compatible
- ADS1015
 - Operating Voltage (V_{DD}): 2.0V-5.5V
 - Operating Temperature: -40°C to 125°C
 - Operation Modes: Single-Shot, Continuous-Conversion (Default), and Duty Cycling
 - Analog Inputs:
 - Measurement Type: Single-Ended (Default)
 - Input Voltage Range: GND to V_{DD}
 - Full Scale Range (FSR): $\pm 256V$ to $\pm 6.114V$ (Default: 2.048V)
 - Resolution:
 - 12-bit (Differential) or 11-bit (Single-Ended)
 - LSB size: 0.125mV - 3mV (Default: 1 mV)
 - Sample Rate: 128 Hz to 3.3 kHz (Default: 1600SPS)
 - Current Consumption (Typical): 150 μ A-200 μ A
 - I²C Address: 0x48
- Electret Microphone
 - Operating Voltage: 1.5V (Max 10V)
 - Supply Current: 0.3mA (Max)
 - Directivity: Omnidirectional
 - Frequency Response: 20-16,000Hz
- LMV324 Op-amp
 - Operating Voltage: 2.7V-5.5V
 - Supply Current: ~300-720 μ A

