

[About Us](#)

[Our Team](#)

[Terms and Conditions](#)

[Disclaimer](#)

[Privacy Policy](#)

[Copyright](#)

[Career](#)

[Contact Us](#)

[Advertise](#)



FIND ELECTRONIC COMPONENT IN STOCK

[FIND PARTS](#) | [SEARCH BY PARAMETER](#) | [INTELLIGENT ANALYSIS OF ELECTRONIC COMPONENTS](#)

[FIND PARTS](#)

Menu



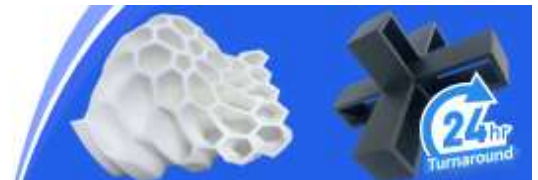
TRENDING: [\\$1 PCB PROTOTYPING](#) [TOP PROJECTS](#) [ARDUINO](#) [IOT](#) [ESP32](#) [ESP8266](#) [RASPBERRY PI](#)



Electronic Component Distributor



3D printing service
from **\$1** [Get \\$54 Coupons](#)



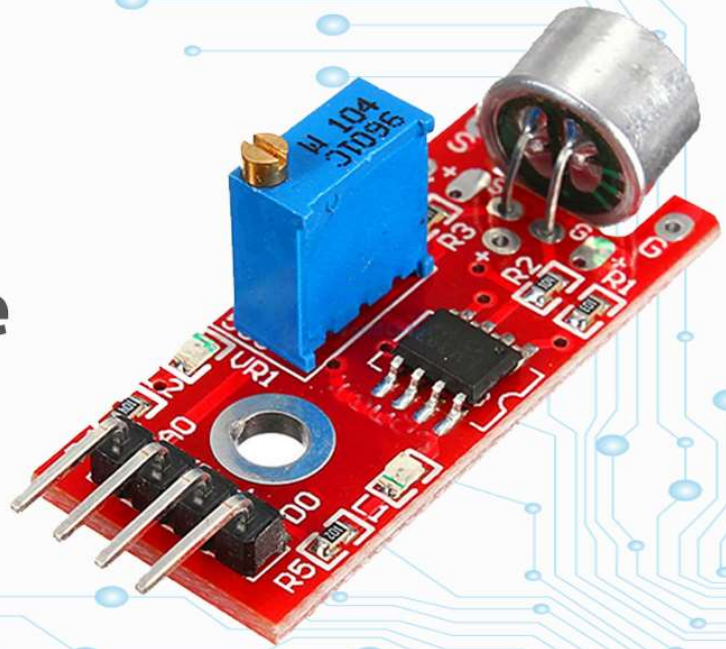
LM393 Sound Sensor Module

🕒 7 months ago 👤 by [Farwah Nawazi](#) 👁 2,471 views



LM393

Sound Sensor Module



A Sound Sensor is a simple device that detects sound. It simply presents a Microphone with some other circuitry. Using a Sound Sensor, one can estimate the intensity of sound from different sources like claps, loud voices, etc.



[Buy From Amazon](#)



Hardware Overview

The LM393 sensor's hardware comprises some major components including a capacitor, resistor, Microphone, potentiometer, comparator LM393 IC, Power, and status LED on the board.

LM393 IC

This sound detection sensor uses LM393 Comparator IC as a voltage comparator in this Module. We connect pin 2 of LM393 to the Preset (10K Ω Pot) while we connect pin 3 to the Microphone. The comparator IC compares the threshold voltage set using the potentiometer and the Microphone pin.

Potentiometer

The module has an onboard potentiometer. With the help of this pot, one can adjust the threshold sensitivity of the digital output.

Microphone

The microphone in the sensor is there to detect the sound. It then feeds this sound into the LM393 IC.

Interfacing with Microcontroller

Interfacing this Sound Detection Sensor Module with a microcontroller is not difficult and is almost as much the same as others. You need to connect the Analog/Digital output pin of the sensor to the Analog/Digital pin of the Microcontroller. Then you need to connect VCC and GND pins to the 5V and GND pins of the Microcontroller, respectively. When the sound level increases above the setpoint, an LED on the module is lit up and it sets the output low.

Features and Specifications of LM393 Sound Sensor



Features

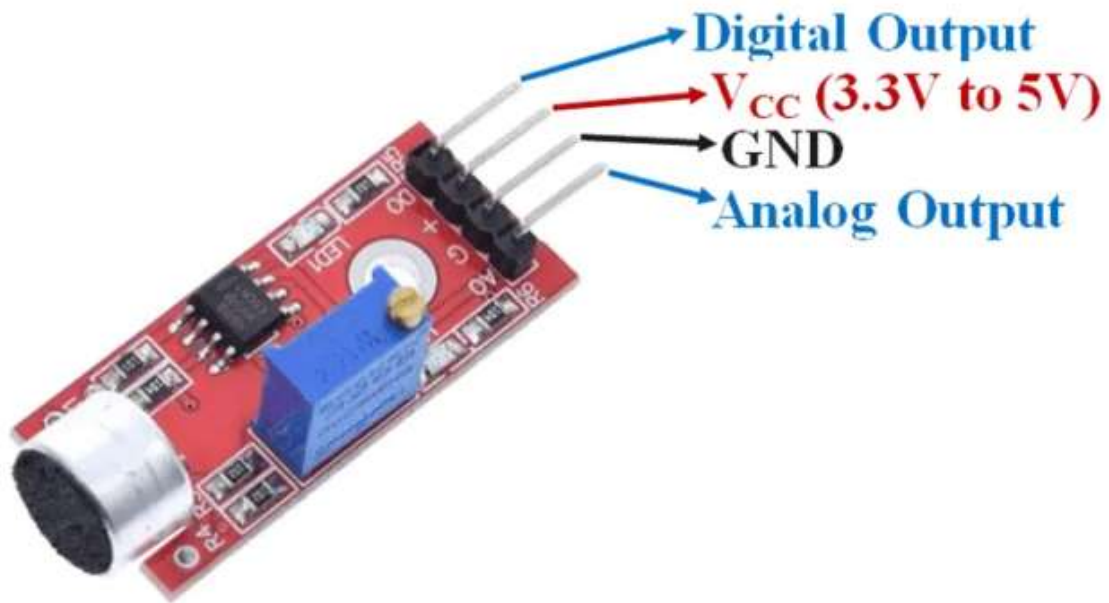
- These sensors are very simple to use
- It gives an analog o/p signal
- Simply incorporates using logic modules on the input area
- LM393 comparator with threshold preset
- Easy to use with Microcontrollers or even with normal Digital/Analog IC
- Small, cheap, and easily available

Specifications

- Operating Voltage: 3.3V to 5V DC
- PCB Size: 3.4cm * 1.6cm
- Induction distance: 0.5 Meter
- Operating current: 4~5 mA
- Microphone Sensitivity (1kHz): 52 to 48 dB
- The operating current is 4~5 mA
- The voltage gain 26 dB ($V=6V$, $f=1kHz$)
- The sensitivity of the microphone (1kHz) is 52 to 48 dB
- The impedance of the microphone is 2.2k Ohm
- The frequency of the microphone is 16 to 20 kHz
- The signal-to-noise ratio is 54 dB

Pinouts of LM393 Sound Sensor

Sound Sensor Pinout



For Complete Details Visit :
www.Circuits-DIY.com

Pin Name	Description
VCC	The Vcc pin powers the module, typically with +5V
GND	Power Supply Ground
DO	Digital Output Pin. Directly connected to the digital pin of the Microcontroller.
AO	Analog Output Pin. Directly connected to an analog pin of the Microcontroller.

Applications

Speech Recognition Technology

Speech recognition which is also named automatic speech recognition, or speech-to-text, is a device that allows a system to process human speech into a written format. Hence this technology requires sound sensors.

Hearing Aid Devices

A hearing aid device is the universal solution for individuals who are completely or severely deaf. The purpose of a hearing aid is to amplify the sound coming, suitable for mild hearing impairment. This device also requires a sound sensor and can employ an LM393 sound sensor.

Related posts:

PIR Motion Sensor HC-SR505



CIRCUITS DIY
SIMPLIFYING ELECTRONICS

PIR Motion Sensor Module HC-SR505

ISD1820 Voice Recording Module



CIRCUITS DIY

ISD1820 Voice Recording Module

MQ5 Gas Sensor Module



CIRCUITS DIY
SIMPLIFYING ELECTRONICS

MQ5 Gas Sensor Module - Methane
Propane LPG

MQ-137 Ammonia NH3 Gas Sensor

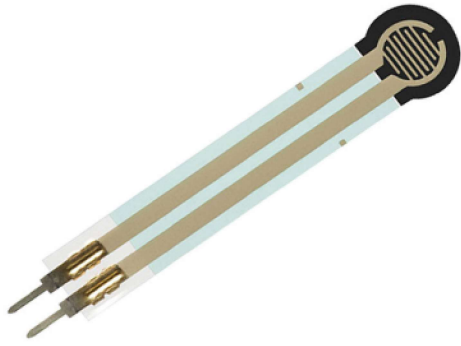
Features of MQ137

- Good sensitivity to NH3 gas in a wide range.
- Long lifespan.
- Low cost
- Simple drive circuit



MQ137 Ammonia NH3 Gas Sensor Module





Force Sensor FSR400

Force Sensing Resistor Sensor - FSR400

XDPS21071

Flyback Controller
with Zero
Voltage Switching



CIRCUITS DIY

Flyback Controller with Zero Voltage
Switching- XDPS21071

WINSOURCE
ELECTRONICS



**GET
1 MILLION+
FREE
SAMPLE
ELECTRONIC
PARTS FROM
WIN SOURCE**



 [WIN-SOURCE.NET](https://win-source.net)



[555 Timer Circuits](#) [247]

[Alarm Circuits](#) [148]

[Arduino Uno Tutorials](#) [357]

[Audio Amplifier Circuits](#) [167]

[Battery Charger Circuits](#) [92]

[Battery Monitor Circuits](#) [6]

[Electronics Projects](#) [147]

[Electronics Tutorial](#) [28]

[FM Transmitter Circuits](#) [36]

[Home Automation Projects](#) [7]

[Inverter Circuits](#) [29]

[LED & Light Circuits](#) [212]

[LED Flasher Circuits](#) [41]

[Mobile Charger Circuits](#) [3]

[Motor Speed Control Circuits](#) [40]

[Power Banks Circuits](#) [11]

[Power Supply Circuits](#) [95]

[Printed Circuit Board – PCB](#) [167]

[Radio and RF Circuits](#) [66]

[Safety & Security Circuits](#) [53]

[Sensors and Modules](#) [137]

[Simple Electronic Circuits](#) [312]

[Test and Measurement Circuits](#) [145]

[Top Electronics Projects](#) [87]

[Voltage Protection Circuits](#) [6]



PCBWay

Rogers, HDI, aluminum and rigid-flex PCB are available now

ONLY \$5
for 10 boards

Order Now

ISO

ROHS

CE

UL

REACH

IATF



WINSOURCE
ELECTRONICS



**Top Asia
Pacific
Electronic
Components
Online Store
Since 1999**



WIN-SOURCE.NET



Send Receive SMS & Call with SIM900 GSM Shield

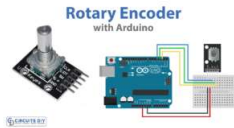




Send Receive SMS & Call with A6 GSM Module & Arduino



Interfacing Multiple DS18B20 Digital Temperature Sensors with Arduino



Rotary Encoder with Arduino



Control 28BYJ-48 Stepper Motor with ULN2003 Driver

2n3904 2n4401 **555 timer** Adjustable Regulator **arduino** arduino uno
audio amplifier battery charger bc547 bridge rectifier cd4017 cmos counter
 darlington transistor dc motor diode EEPROM EPROM Fast Recovery Diode high voltage jfet ldr
LED led flasher lm317 lm358 N Channel MOSFET NE555 **npn transistor**
 operational amplifier pcb **pnp transistor** power MOSFET power supply
power transistor printed circuit board relay switch temperature sensor timer
 triac Ultrafast Diode **voltage regulator** zener diode



Our Sponsors



Circuits DIY

[About](#)

[Our Team](#)

[Contact](#)

[Advertise](#)

Top Categories

[Arduino](#)

[Electronics](#)

[Simple Electronics](#)

[Electronics Projects](#)

Legal

[Privacy Policy](#)

[Terms and Conditions](#)

[Disclaimer](#)

[Copyright](#)

We do everything with our core values of honesty, hard work, and trust.

