

LM393 Sound Detection Sensor Module



Sound Detection Sensor Module

The LM393 Sound Detection Sensor Module offers a simple and reliable way to detect sound and monitor sound intensity, making it well suited for security systems, sound-activated switches, and general monitoring applications. Sensitivity can be easily calibrated for the needs of the application.

An onboard microphone feeds the incoming sound signal into an amplifier, peak detector, and buffer stage. When the module detects sound, it generates an output signal that can be read directly by a microcontroller such as Arduino, ESP32, or Raspberry Pi for further processing.

Detection is handled by an onboard LM393 comparator. The sound level threshold is set via an onboard potentiometer — once the incoming sound exceeds this threshold, the onboard LED illuminates and the digital output is pulled LOW.

Product Details

Parameter	Specification
Comparator IC	LM393
Working Voltage	DC 3.3V – 5V
Dimensions	32 x 17 mm
Output Type	Digital, single channel (HIGH / LOW)
Sensitivity Adjustment	Onboard potentiometer
Signal Indication	Onboard LED (illuminates on trigger)
Mounting	Retaining bolt hole for easy installation

Features

- Working voltage: DC 3.3–5V
- Onboard LM393 comparator IC
- Adjustable sensitivity via onboard potentiometer
- Digital switching output (single channel, HIGH/LOW)
- Onboard LED signal indication
- Retaining bolt hole for convenient mounting

- Output goes LOW along with the LED when sound is detected

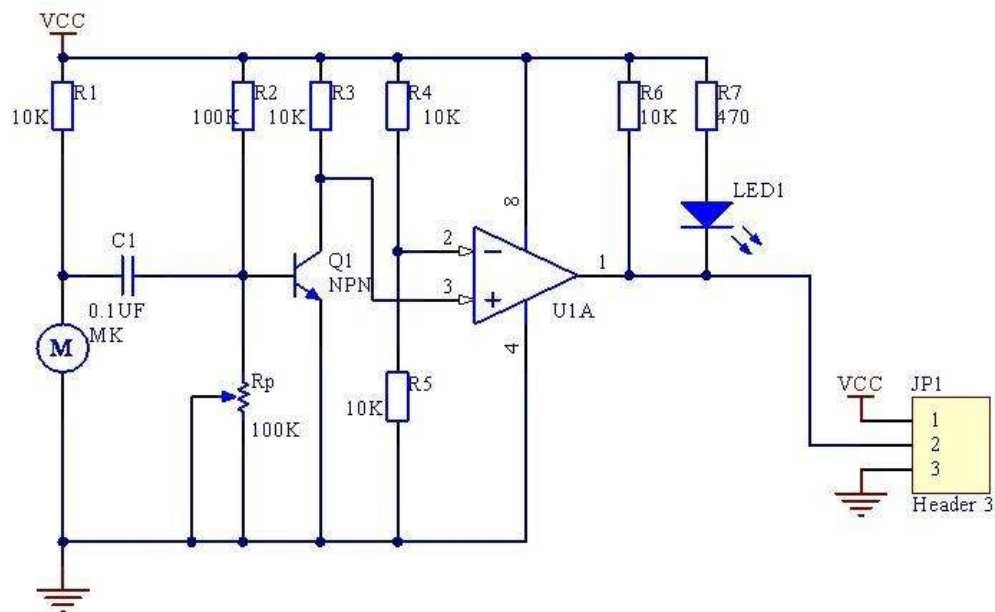
Applications

- Sound-activated switches and relays
- Clap-triggered circuits and toys
- Security and intrusion alarm systems
- Noise/sound level monitoring
- Robotics and home automation projects
- Arduino / ESP32 / Raspberry Pi based sound detection projects

Usage Note

Rotate the onboard potentiometer to calibrate the sound threshold for the application. The digital output remains HIGH under normal conditions and switches LOW (with the LED illuminated) only when the detected sound level exceeds the set threshold.

Schematic Diagram



Package Includes

- 1 x LM393 Sound Detection Sensor Module

Product image is for representation only; actual product may vary slightly in packaging or markings.