Introduction

Ensure safe indoor air quality with the Fermion MEMS Formaldehyde Sensor (HCHO), a high-sensitivity detector for 0-3ppm gas concentrations. Perfect for HVAC systems, air purifiers, and portable monitors, this low-power sensor delivers fast, reliable results with MEMS technology.

High Sensitivity & Fast Response

The MEMS-based sensor detects HCHO concentrations (0-3ppm) with rapid recovery times, ensuring real-time monitoring for health-critical environments.

Ultra-Low Power Consumption (＜20mA)

Designed for battery-operated devices, the sensor's minimal power draw extends operational life in portable detectors and IoT deployments.

Compact & Easy to Integrate

At just 13×13×2.5mm, the sensor fits seamlessly into air purifiers, smart wearables, and Arduino/Raspberry Pi projects with analog voltage output.

Durable for Long-Term Use

With a 3-year lifespan and -10°C to 50°C operating range, it withstands diverse environments while avoiding interference from humidity or contaminants.

Precautions for use

Kindly remove the protective film before usage.

To prevent exposure to volatile silicon compounds vapors (such as silicone adhesive, hair gel, silicone rubber, or other locations where volatile silicon compounds are present).

Avoid exposure to high concentrations of corrosive gases (such as H2S, SOX, Cl2, HCl, etc.).

Prevent contamination from alkalis, alkali metal salts, and halogens.

Refrain from prolonged exposure to extreme environments (such as high temperatures, high humidity, high pollution).

Avoid contact with water, condensation, and freezing.

Minimize excessive vibration, impact, and dropping.

Please refrain from employing this module in systems that involve personal safety concerns.

For extended periods of non-usage, it is advisable to preheat the module for at least 24 hours.

Features

Compact size, measuring only 13*13*2.5mm

Low power consumption,operating current < 20mA

High sensitivity and rapid response recovery

Advanced MEMS technology

Applications

Air purifiers

HVAC systems

Smart wearables

Portable detectors

Specification

Gas detected: Formaldehyde (HCHO)

Detection range: 0-3ppm

Operating voltage: 3.3-5V

Operating current: < 20mA

Output signal: Analog voltage

Sensitivity: R0(in air)/Rs(in 0.4ppm HCHO) ⩾ 1.8

Operating temperature: -10-50℃

Operating humidity: 15-90%RH (non-condensing)

Lifespan: ⩾3 years (in air)

Dimension：13×13 x 2.5mm/ 0.0.51×0.51x0.1"

Documents

Product wiki

Schematics & Dimension

Characteristic Parameter

Component Packaging

Shipping List

Fermion: MEMS Formaldehyde HCHO Gas Detection Sensor (breakout) × 1

2.54mm pitch header pin × 1