

AS-MLV-P2

www.ams.com/Gas-Sensors



AS-MLV-P2 – Unique micromachined, low-power sensor design

- High sensitivity to volatile organic compounds (VOCs)
- Very low power consumption
- Long-term stability
- Long lifetime

We provide innovative analog solutions to the most challenging applications in sensor and sensor interfaces, power management, and wireless.

General Description

Whether for air quality, safety or control, sensor applications have one common requirement: a reliable sensor component. ams' ability to micro-machine sensor chips using standard silicon wafer technology allows us to produce consistently reliable sensors in high volumes for mass market applications.

ams' AS-MLV-P2 high-performance sensor component is highly sensitive to volatile organic compounds for superior monitoring of indoor air quality. Produced using a combination of thin-film, thick-film and other patent-pending proprietary technologies

developed by ams, the AS-MLV-P2 component is available in a package with ultimate design efficiency. AS-MLV-P2 sensor component chips are fabricated using silicon technology. The platinum heater and inter-digital electrode structures are placed on an approximately one micrometer-thin LPCVD silicon nitride membrane to achieve the lowest possible power consumption. A highly reproducible tin dioxide-based sensitive layer is deposited over the inter-digital electrodes, forming a gas concentration-dependent conductivity. AS-MLV-P2 is reflow capable and can be connected via edge connectors.

Applications

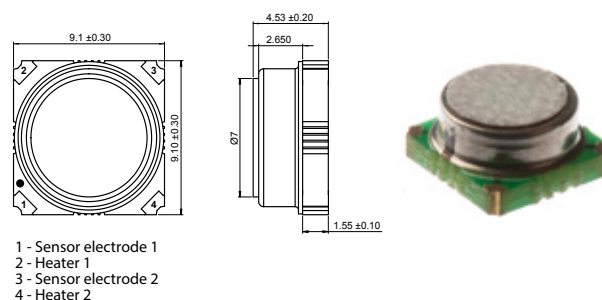
- Monitoring indoor air quality in smart home, IoT and other consumer applications

Benefits

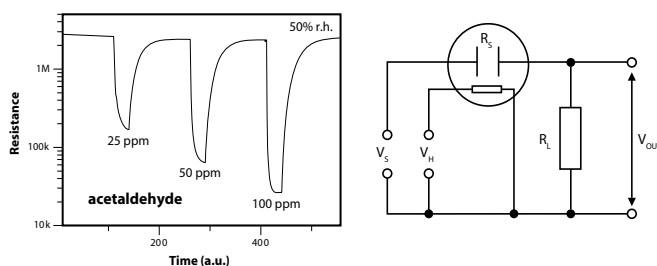
- High sensitivity to volatile organic compounds (VOCs)
- Very low power consumption
- Long-term stability
- Long lifetime
- Reflow capable
- Edge connectors

Dimensions	
TO-39 header	Ø: 9 mm, height: 2.9 mm
PCB	9,1 mm x 9,1 mm x 1,6 mm
Operational Conditions	
Typical operation temperature	320°C
Environmental Conditions	
Ambient temperature range	0° to 50°C
Storage temperature	-25° to 50°C
Ambient humidity	5 to 95% RH, non-condensing
Electrical Characteristics	
Power consumption	34 mW at 320°C
Typical sensor resistance in unpolluted air	100k-500k Ω range
Signal output component	Resistance
Heater	
Typical heater resistance at RT	100 Ω ±20%
Sensing Properties	
VOCs detected	Alcohols, aldehydes, ketones, organic acids, amines, aliphatic and aromatic hydrocarbons
Typical response / recovery time	Seconds
Expected lifetime	Years
Cross sensitivity	Cross-sensitivity to humidity and hydrogen
Packaging	
Standard TO-39 header with protection membrane.	
Restrictions	
Contact of the sensitive layer with liquids shall be avoided.	
Do not operate gas sensors in the vicinity of silicone and polysiloxanes.	

Dimensions



Typical Sensor Response, Basic Measuring Circuit



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