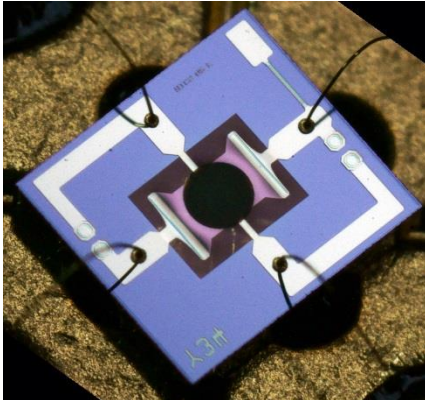


# MSG-3000i

## MICROSENS Semiconductor Gas Sensor

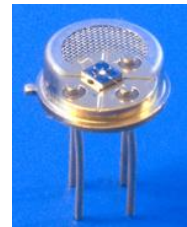
### Sensor Description



- MSGS-3000i integrated semi-conductor gas sensors manufactured using standard microelectronic technology and silicon micromachining techniques.
- Detection of reducing gases such as carbon monoxide (CO), hydrocarbons (HC), ethanol, and volatile organic compounds (VOC).
- The sensitive element consists of a semiconducting metal oxide layer. The measurement of specific oxidizing or reducing gases is based on a reversible conductivity change of the sensing element at an appropriate working temperature.
- The thin semiconducting metal oxide is deposited on an integrated heater. The sensitive area is thermally insulated from the silicon substrate to minimize electrical power consumption.

### Packaging and Dimensions

- Chip size: ~2mm x 2mm (mounted in center of TO5 element)
- Sensitive area:  $\varnothing \sim 300\mu\text{m}$
- Chip thickness: ~300  $\mu\text{m}$
- TO5 package:  $\varnothing 9\text{mm} \times 12.5\text{mm}$ , 4 pins



### Key Features and Applications

#### Applications

- Indoor air quality
- Industrial process control
- Combustion control
- Environmental monitoring
- Security:
  - Toxic gases
  - Explosive gases

#### Key Features

- High sensitivity at low concentrations (< 5ppm)
- Low power consumption
- Fast response time: < 30s (90% signal level)
- Small size
- Stable longterm operation

#### Detectable Gases

- CO: 1 – 1000ppm
- C<sub>2</sub>H<sub>5</sub>OH: 10 – 500ppm
- H<sub>2</sub>: 1 – 1000ppm
- NH<sub>3</sub>: 1 – 500ppm
- CH<sub>4</sub>: >1000ppm