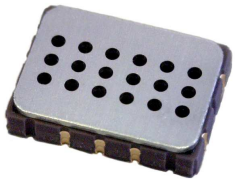
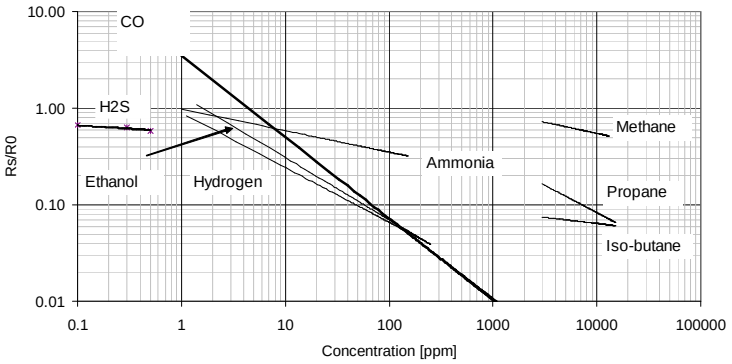
# The MiCS-6814 is a compact MOS sensor with three fully independent sensing elements on one package.

The MiCS-6814 is a robust MEMS sensor for the detection of pollution from automobile exhausts and for agricultural/industrial odors.



## Features

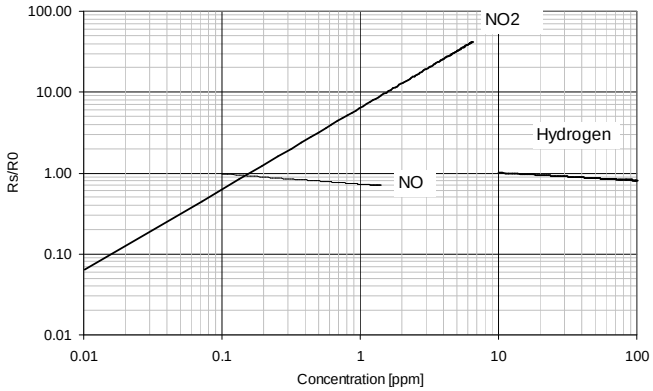
- Smallest footprint for compact designs (5 x 7 x 1.55 mm)
- Robust MEMS sensor for harsh environments
- High-volume manufacturing for low-cost applications
- Short lead-times



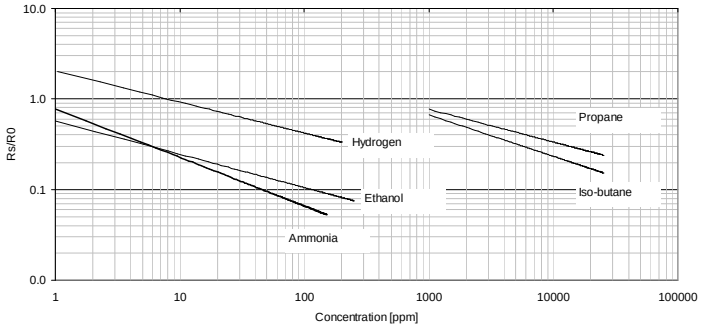

RED sensor, continuous power ON, 25°C, 50% RH

## Detectable gases

| | | |
|---|---|---|
| • Carbon monoxide | CO | 1 – 1000ppm |
| • Nitrogen dioxide | $NO_2$ | 0.05 – 10ppm |
| • Ethanol | $C_2H_5OH$ | 10 – 500ppm |
| • Hydrogen | $H_2$ | 1 – 1000ppm |
| • Ammonia | $NH_3$ | 1 – 500ppm |
| • Methane | $CH_4$ | >1000ppm |
| • Propane | $C_3H_8$ | >1000ppm |
| • Iso-butane | $C_4H_{10}$ | >1000ppm |




OX sensor, continuous power ON, 25°C, 50% RH




NH3 sensor, continuous power ON, 25°C, 50% RH

## For more information please contact:

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## Performance RED sensor

| Characteristic RED sensor | Symbol | Typ | Min | Max | Unit |
|---|---|---|---|---|---|
| Sensing resistance in air (see note 1) | $R_0$ | - | 100 | 1500 | kΩ |
| Typical CO detection range | FS | | 1 | 1000 | ppm |
| Sensitivity factor (see note 2) | $S_{60}$ | - | 1.2 | 50 | - |

## Performance OX sensor

| Characteristic OX sensor | Symbol | Typ | Min | Max | Unit |
|---|---|---|---|---|---|
| Sensing resistance in air (see note 1) | $R_0$ | - | 0.8 | 20 | kΩ |
| Typical $NO_2$ detection range | FS | | 0.05 | 10 | ppm |
| Sensitivity factor (see note 3) | $S_R$ | - | 2 | - | - |

## Performance NH3 sensor

| Characteristic OX sensor | Symbol | Typ | Min | Max | Unit |
|---|---|---|---|---|---|
| Sensing resistance in air (see note 1) | $R_0$ | - | 10 | 1500 | kΩ |
| Typical $NH_3$ detection range | FS | | 1 | 300 | ppm |
| Sensitivity factor (see note 4) | $S_R$ | - | 1.5 | 15 | - |

Notes:

1. Sensing resistance in air $R_0$ is measured under controlled ambient conditions, i.e. synthetic air at 23 ±5°C and 50 ± 10% RH for RED sensor and synthetic air at 23 ±5°C and ≤ 5% RH for OX sensor. Sampling test.
2. Sensitivity factor is defined as Rs in air divided by Rs at 60 ppm CO. Test conditions are 23 ± 5°C and 50 ± 10% RH. Indicative values only. Sampling test.
3. Sensitivity factor is defined as Rs at 0.25 ppm $NO_2$, divided by Rs in air. Test conditions are 23 ± 5°C and ≤ 5% RH . Indicative values only. Sampling test.
4. Sensitivity factor is defined as Rs in air divided by Rs at 1 ppm of $NH_3$. Test conditions are 23 ± 5°C and 50 ± 10% RH. Indicative values only. Sampling test.