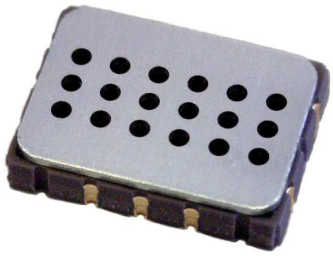
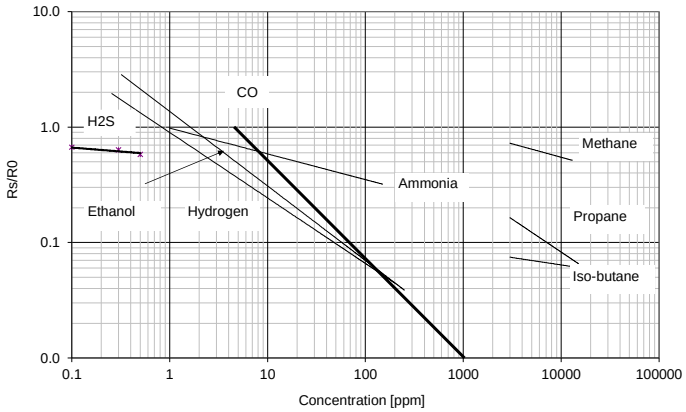
The MiCS-4514 is a compact MOS sensor with two fully independent sensing elements on one package.

The MiCS-4514 is a robust MEMS sensor for the detection of pollution from automobile exhausts.



Features

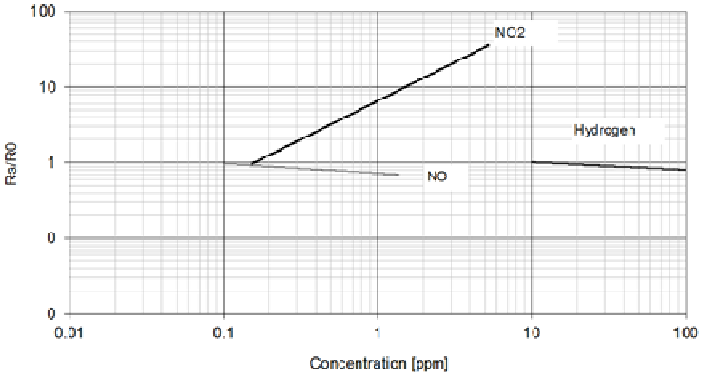
- Smallest footprint for compact designs (5 x 7 x 1.55 mm)
- Robust MEMS sensor for harsh environments
- High-volume manufacturing for low-cost applications
- Short lead-times



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



OX 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	-	-

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.

IMPORTANT PRECAUTIONS:

Read the following instructions carefully before using the MiCS-4514 described here to avoid erroneous readings and to prevent the device from permanent damage.

- The sensor must be reflow soldered in a neutral atmosphere, without soldering flux vapours.
- The sensor must not be exposed to high concentrations of organic solvents, silicone vapours or cigarette-smoke in order to avoid poisoning the sensitive layer.
- Heater voltage above the specified maximum rating will destroy the sensor due to overheating.
- This sensor is to be placed in a filtered package that protects it against water and dust projections.
- SGX sensortech strongly recommends using ESD protection equipment to handle the sensor.