10.0



# The MiCS-5914 is a compact MOS sensor.

The MiCS-5914 is a robust MEMS sensor for ammonia detection; suitable also for gas leak detection and indoor and outdoor air quality monitoring.



### **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

# 1.0 Propane Hydrogen 0.1 Ethanol Iso-butane Ammonia 1.0 1 10 100 1000 10000 100000 Concentration [ppm]

# **Detectable gases**

<ul> <li>Ammonia</li> </ul>	$NH_3$	1 – 500ppm
• Ethanol	C <sub>2</sub> H <sub>5</sub> OH	10 – 500ppm
<ul> <li>Hydrogen</li> </ul>	H <sub>2</sub>	1 – 1000ppm
• Propane	C <sub>3</sub> H <sub>8</sub>	>1000ppm
• Iso-butane	$C_4H_{10}$	>1000ppm

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Continuous power ON, 25°C, 50% RH

### **Performance sensor**

Characteristic RED sensor	Symbol	Тур	Min	Max	Unit
Sensing resistance in air (see note 1)	$R_0$	-	10	1500	kΩ
Typical NH3 detection range	FS		1	300	ppm
Sensitivity factor (see note 2)	S <sub>R</sub>	-	1.5	15	-

### Notes:

- 1. Sensing resistance in air  $R_0$  is measured under controlled ambient conditions, i.e. synthetic air at 23  $\pm 5^{\circ}$ C and 50  $\pm$  10% RH. Sampling test.
- 2. Sensitivity factor is defined as  $R_s$  in air divided by  $R_s$  at 1 ppm of  $NH_3$ . Test conditions are 23 ± 5°C and 50 ± 10% RH. Indicative values only. Sampling test.

### IMPORTANT PRECAUTIONS:

Read the following instructions carefully before using the MiCS-5914 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.