

TGS2610 Gas Sensor for LP Detection

characteristic : _____

- * low power consumption
- High sensitivity to LP and gases containing LP components (propane, butane)
- * Long service life and low cost
- * Simple application circuit

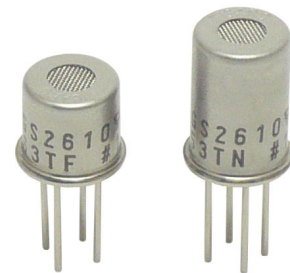
The TGS2610 sensor demonstrates exceptional sensitivity for propane and butane, making it the optimal LPG monitor. Its low sensitivity to volatile alcohol (a common environmental interference gas) positions it as an ideal choice for gas leak detection systems. Featuring a compact sensing element, the device requires only 56mA of heating current while housing its detection unit in a standard TO-5 metal package.

TGS2610-C00 is not only small in size, but also excellent in responsiveness. It is the best choice for gas leak detector.

The TGS2610-D00 is equipped with a filter that eliminates interference gases such as alcohol, featuring highly selective sensitivity for liquefied petroleum gas (LPG). Particularly suitable for detecting complex atmospheres and stringent household environments, it stands as the ideal sensor for home gas leak detectors.

apply : _____

- * Household LP gas leak alarm
- Portable LP gas detector
- * Detection of LP gas and other combustible gases

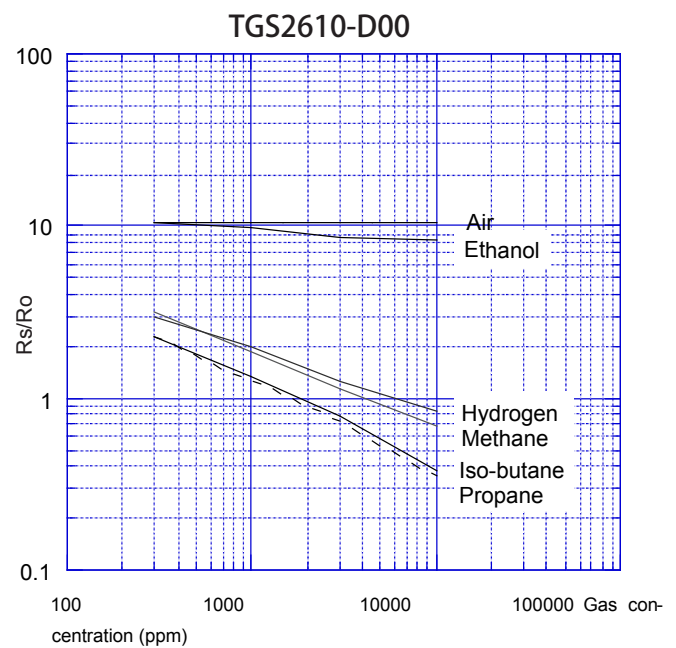
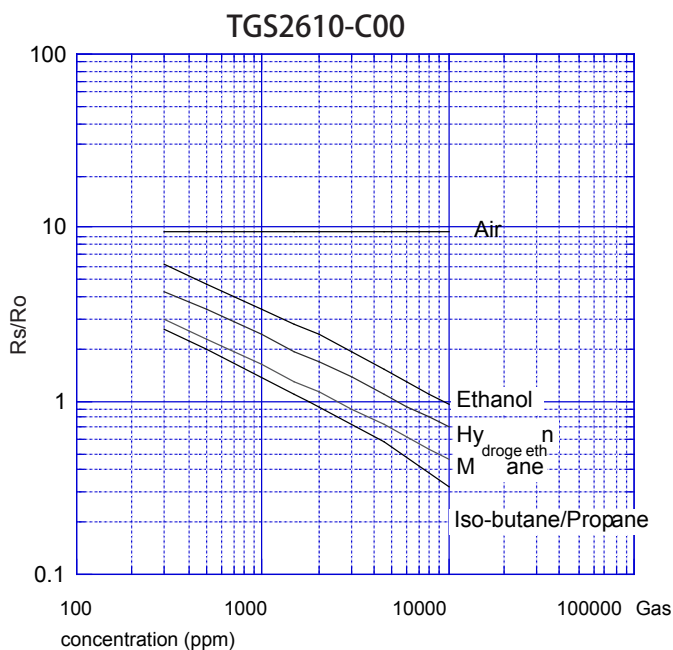


Sensitivity characteristics:

The representative sensitivity characteristic curve is shown in the figure below under standard test conditions (see back).

The vertical axis indicates the ratio of sensor resistance R_s / R_o , where R_s and R_o are defined as follows: R_s = the resistance value of the sensor in various concentrations of gas

R_o = Resistance of the sensor in 1800 ppm isobutane

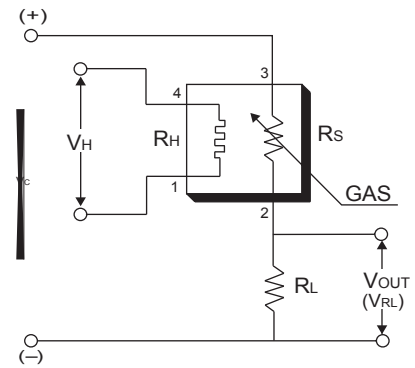


Important Notice: The application conditions for Feigaro sensors may vary depending on specific customer requirements. Feigaro strongly recommends consulting our technical team before use, particularly when the detected gas is not listed. Feigaro assumes no liability for any usage that has not undergone professional testing by Feigaro.

Basic test circuit:

This sensor requires both heater voltage (V_H) and loop voltage (V_C). The V_H is applied to the integrated heater to maintain a temperature in the sensing element that corresponds to the target gas. The V_C measures the loop output voltage (V_{RL}) across the load resistor (R_L) connected in series with the sensor.

This sensor has polarity requirements, so the circuit must be powered by a DC source. As long as the electrical characteristics of the sensor are satisfied, V_C and V_H can share the same power supply circuit. When selecting load resistance, choose values that provide optimal response range for the detected gas concentration. Additionally, ensure the maximum power consumption (P_s) of the sensor components remains below 15mW at the maximum load resistance (R_L) within the detection range. The maximum power consumption occurs when the resistance value of R_L exposed to gas equals that of R_s .



specifications :

model		TGS2610	
Detection principle		Oxidized semiconductor type	
Standard encapsulation		TO-5 Metals	
Object gas		Butane, LP gas	
Scope of detection		500 ~ 10,000ppm	
Standard loop conditions	heater voltage	V_H	$5.0 \pm 0.2V$ AC/DC
	loop voltage	V_C	$5.0 \pm 0.2V$ DC $P_s \leq 15mW$
	load resistance	R_L	variable 0.45k Ω min.
Electrical characteristics under standard test conditions	Heating element resistance	R_H	Room temperature about 59 Ω
	Heater current	I_H	$56 \pm 5mA$
	Heater power consumption	P_H	280mW $V_H=5.0V$ DC
	Sensor resistors	R_s	0.68~6.8k Ω 1800 ppm isobutane
	sensitivity (R s rate of change)		0.56 ± 0.06 R_s (3000ppm) R_s (1000ppm)
standard test conditions	Test gas conditions	Isobutane in air $20 \pm 2. C,$ $65 \pm 5\%RH$	
	Loop conditions	$V_C = 5.0 \pm 0.01V$ DC $V_H = 5.0 \pm 0.05V$ DC	
	preheating time	7 sky	

The power consumption value (P_s) can be calculated by the following formula:

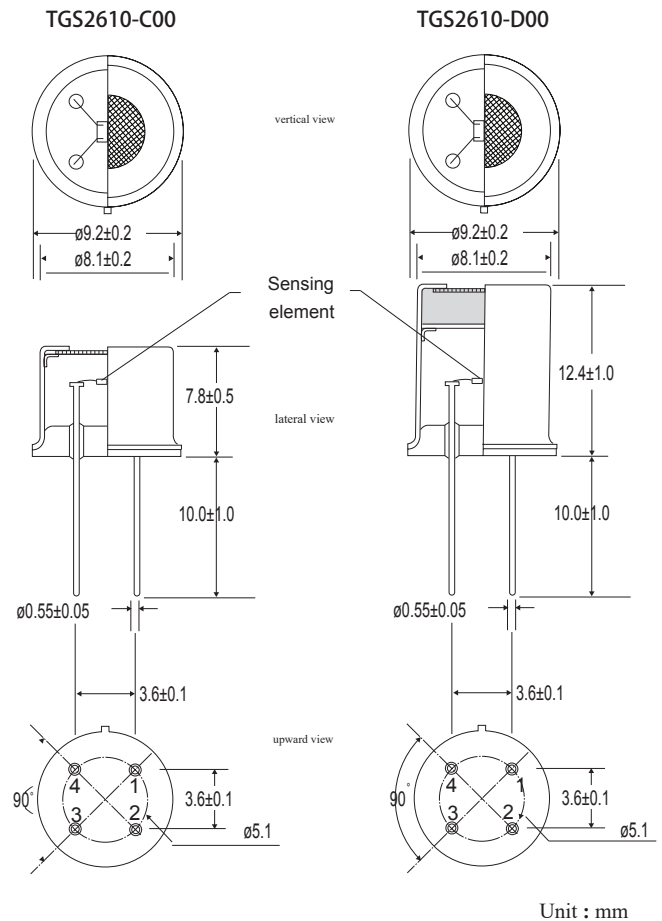
$$P_s = \frac{(V_C - V_{RL})^2}{R_L}$$

The sensor resistance (R_s) can be calculated from the following formula according to the measured value of V_{OUT} (V_{RL}):

$$R_s = \left(\frac{V_C}{V_{RL}} - 1 \right) \times R_L$$

The typical characteristics of the sensor are shown in this product specification. The actual characteristics of the sensor vary from product to product. Please refer to the specifications for each sensor.

Structure and size:



Unit : mm

pin connection :

- 1: Heater
- 2: Sensor electrode (-)
- 3: Sensor electrode (+)
- 4: Heater

深圳市杰晟兴电子有限公司 JM Components Limited

地址：深圳市福田区中航路7号鼎诚国际大厦南座2007室

手机：13662266995 马少良 电话：0755-83951311

官网：cn-sensor.com

邮编：518031

传真：0755-83952401

电邮：jackson@jmcomponents.com