

TECHNICAL DATA

MQ-8 GAS SENSOR

FEATURES

- * High sensitivity to Hydrogen (H₂)
- * Small sensitivity to alcohol, LPG, cooking fumes
- * Stable and long life

APPLICATION

They are used in gas leakage detecting equipments in family and industry, are suitable for detecting of Hydrogen (H₂), avoid the noise of alcohol and cooking fumes, LPG,CO.

SPECIFICATIONS

A. Standard work condition

Symbol	Parameter name	Technical condition	Remarks
V _c	Circuit voltage	5V±0.1	AC OR DC
V _H	Heating voltage	5V±0.1	AC OR DC
P _L	Load resistance	10KΩ	
R _H	Heater resistance	31±5%	Room Tem
P _H	Heating consumption	less than 800mW	

B. Environment condition

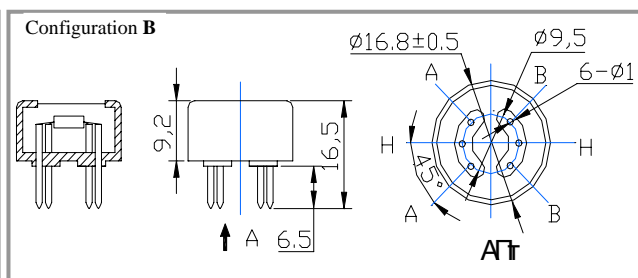
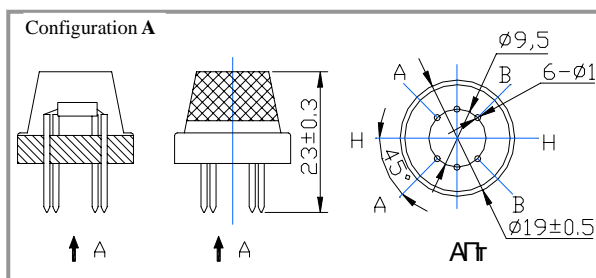
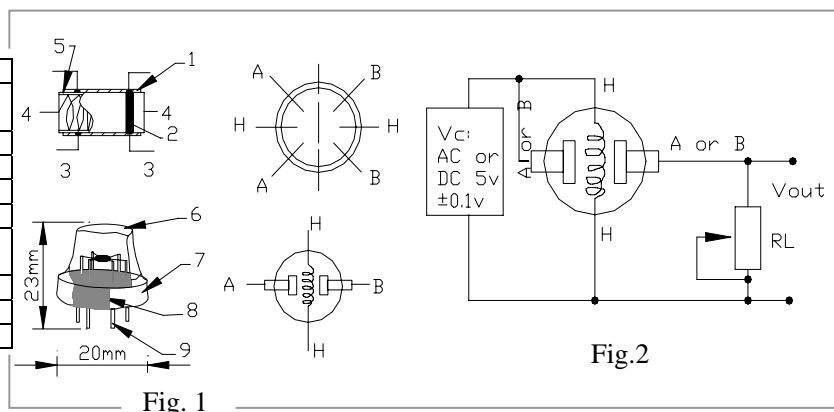
Symbol	Parameter name	Technical condition	Remarks
T _{ao}	Using Tem	-10℃...+50℃	
T _{as}	Storage Tem	-20℃...+70℃	
R _H	Related humidity	less than 95%Rh	
O ₂	Oxygen concentration	21%(standard condition)Oxygen concentration can affect sensitivity	minimum value is over 2%

C. Sensitivity characteristic

Symbol	Parameter name	Technical parameter	Remark 2
R _s	Sensing Resistance	10KΩ - 60KΩ (1000ppm H ₂)	Detecting concentration scope : 100-10000ppm Hydrogen (H ₂)
α (1000ppm/ 500ppmH ₂)	Concentration slope rate	≤ 0.6	
Standard detecting condition	Temp: 20℃ ±2℃ Humidity: 65% ±5%	V _c : 5V±0.1 V _h : 5V±0.1	
Preheat time	Over 24 hour		

D. Structure and configuration, basic measuring circuit

Parts	Materials
1 Gas sensing layer	SnO ₂
2 Electrode	Au
3 Electrode line	Pt
4 Heater coil	Ni-Cr alloy
5 Tubular ceramic	Al ₂ O ₃
6 Anti-explosion network	Stainless steel gauze (SUS316 100-mesh)
7 Clamp ring	Copper plating Ni
8 Resin base	Bakelite
9 Tube Pin	Copper plating Ni



Structure and configuration of MQ-8 gas sensor is shown as Fig. 1 (Configuration A or B), sensor composed by micro Al_2O_3 ceramic tube, Tin Dioxide (SnO_2) sensitive layer, measuring electrode and heater are fixed into a crust made by plastic and stainless steel net. The heater provides necessary work conditions for work of sensitive components. The enveloped MQ-8 have 6 pin ,4 of them are used to fetch signals, and other 2 are used for providing heating current.

Electric parameter measurement circuit is shown as Fig.2

E. Sensitivity characteristic curve

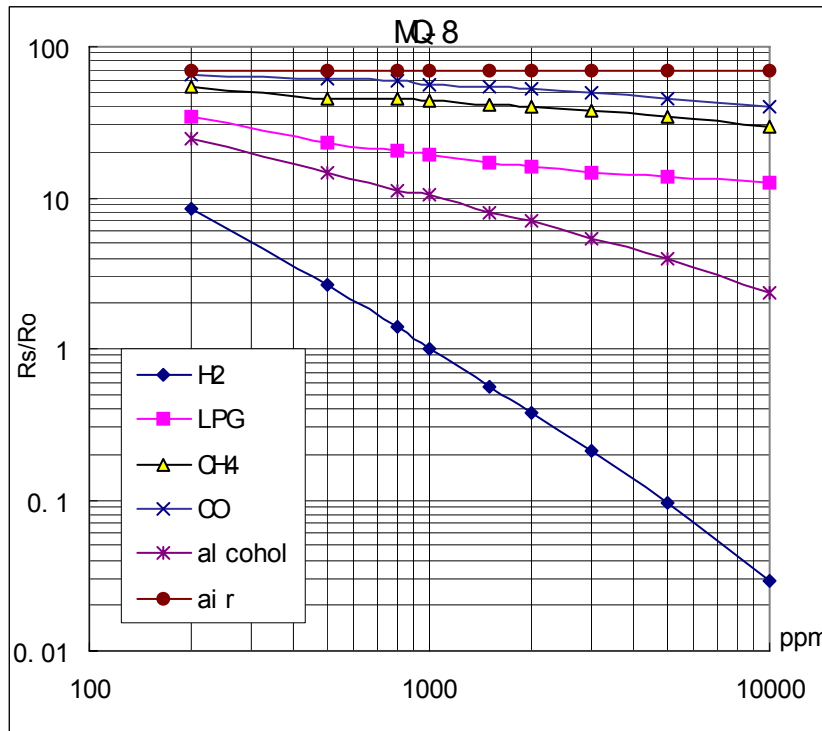


Fig.2 sensitivity characteristics of the MQ-8

Fig.3 is shows the typical sensitivity characteristics of the MQ-8 for several gases.

in their: Temp: 20°C,
Humidity: 65%,
O₂ concentration 21%
RL=10kΩ

Ro: sensor resistance at 1000ppm H₂ in the clean air.
Rs: sensor resistance at various concentrations of gases.

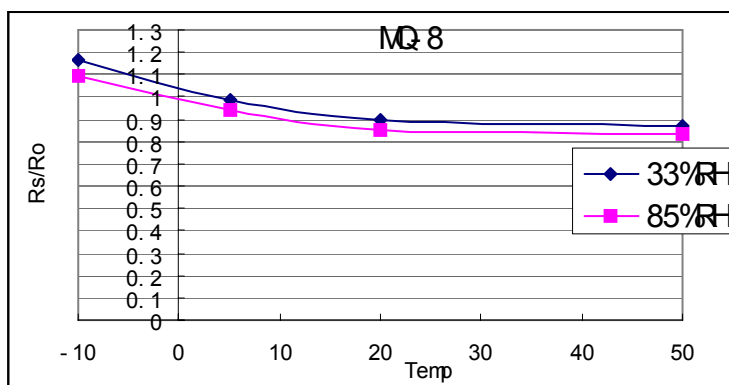


Fig.4 is shows the typical dependence of the MQ-8 on temperature and humidity.

Ro: sensor resistance at 1000ppm of H₂ in air at 33%RH and 20 degree.

Rs: sensor resistance at 1000ppm of H₂ in air at different temperatures and humidities.

SENSITIVITY ADJUSTMENT

Resistance value of MQ-8 is difference to various kinds and various concentration gases. So, When using this components, sensitivity adjustment is very necessary. we recommend that you calibrate the detector for 1000ppm H₂ concentration in air and use value of Load resistance (R_L) about 10 KΩ (5KΩ to 33 KΩ).

When accurately measuring, the proper alarm point for the gas detector should be determined after considering the temperature and humidity influence.