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 (H_2) , avoid the noise of alcohol and cooking fumes, LPG,CO.

SPECIFICATIONS

A. Standard work condition

Symbol	Parameter name	Technical condition	Remarks
Vc	Circuit voltage	5V±0.1	AC OR DC
V_{H}	Heating voltage	5V±0.1	ACOR DC
P_{L}	Load resistance	10K Ω	
R_{H}	Heater resistance	31±5%	Room Tem
P_{H}	Heating consumption	less than800mW	

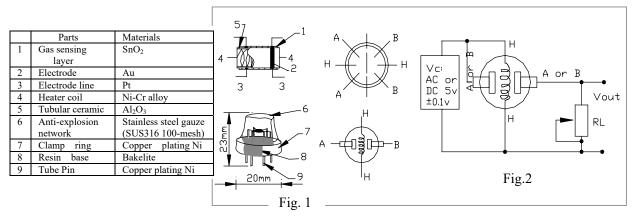
B. Environment condition

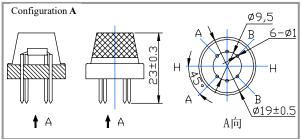
Symbol	Parameter name	Technical condition	Remarks
Tao	Using Tem	-10°C-50°C	
Tas	Storage Tem	-20°C-70°C	
R_{H}	Related humidity	less than 95%Rh	
O_2	Oxygen concentration	21%(standard condition)Oxygen	minimum value is
		concentration can affect sensitivity	over 2%

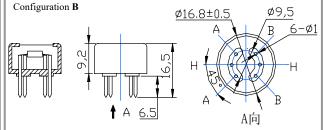
C. Sensitivity characteristic

Symbol	Parameter name	Technical parameter	Ramark 2
Rs	Sensing Resistance	10K Ω - 60K Ω (1000ppm H ₂)	Detecting concentration scope: 100-10000ppm
α (1000ppm/ 500ppmH ₂)	Concentration slope rate	≤0.6	Hydrogen (H ₂)
Standard	Temp: 20°C ±2°C	Vc:5V±0.1	
detecting condition	Humidity: 65%±5%	Vh: 5V±0.1	
Preheat time	Over 24 hour		

D. Structure and configuration, basic measuring circuit







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Structure and configuration of MQ-8 gas sensor is shown as Fig. 1 (Configuration A or B), sensor composed by micro AL₂O₃ ceramic tube, Tin Dioxide (SnO₂) 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

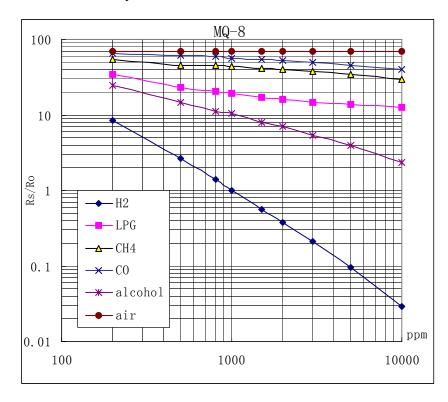


Fig.3 is shows the typical sensitivity characteristics of the MQ-8 for several gases.

in their: Temp: 20°C \ Humidity: 65% \ O_2 concentration 21% RL= $10\text{k}\,\Omega$

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

Fig.2 sensitivity characteristics of the MQ-8

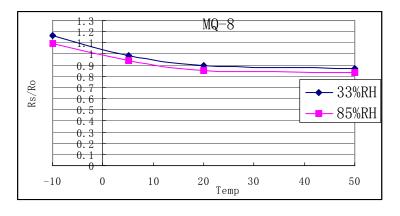


Fig.4 is shows the typical dependence of the MQ-8 on temperature and humidity. Ro: sensor resistance at 1000ppm of H₂ in air at 33%RH and 20 degree.

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

SENSITVITY 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_I) about 10 K Ω (5K Ω to 33 K Ω).

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