TECHNICAL DATA

MO-2 GAS SENSOR

FEATURES

Wide detecting scope Fast response and High sensitivity
Stable and long life Simple drive circuit

APPLICATION

They are used in gas leakage detecting equipments in family and industry, are suitable for detecting of LPG, i-butane, propane, methane ,alcohol, Hydrogen, smoke.

SPECIFICATIONS

A. Standard work condition

Symbol	Parameter name	Technical condition	Remarks
Vc	Circuit voltage	5V±0.1	AC OR DC
$V_{\rm H}$	Heating voltage	5V±0.1	ACOR DC
$R_{ m L}$	Load resistance	can adjust	
R_{H}	Heater resistance	$33 \Omega \pm 5\%$	Room Tem
P_{H}	Heating consumption	less than 800mw	

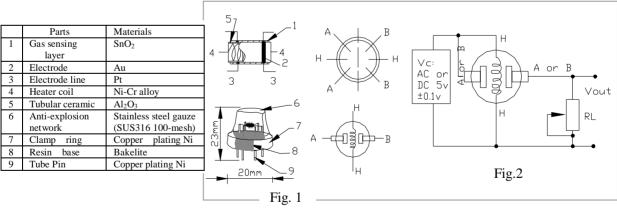
B. Environment condition

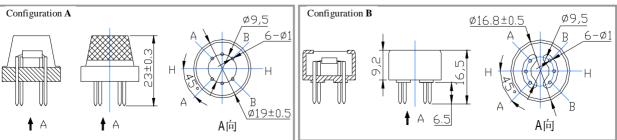
Symbol	Parameter name	Technical condition	Remarks
Tao	Using Tem	-20℃-50℃	
Tas	Storage Tem	-20°C-70°C	
R_{H}	Related humidity	less than 95% Rh	
O_2	Oxygen concentration	21%(standard condition)Oxygen	minimum value is
		concentration can affect sensitivity	over 2%

C. Sensitivity characteristic

Symbol	Parameter name	Technical parameter	Remarks
Rs	Sensing	3 K Ω - 30 K Ω	Detecting concentration
	Resistance	(1000ppm iso-butane)	scope:
			200ppm-5000ppm
α	Concentration		LPG and propane
(3000/1000)	Slope rate	≤0.6	300ppm-5000ppm
isobutane			butane
Standard	Temp: 20°C ±2°C Vc:5V±0.1		5000ppm-20000ppm
Detecting	Humidity: 65%±5% Vh: 5V±0.1		methane
Condition	•		300ppm-5000ppm H ₂
Preheat time	Over 24 hour		100ppm-2000ppm Alcohol
			Aiconol

D. Structure and configuration, basic measuring circuit





Structure and configuration of MQ-2 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

TEL: 86-371- 67169070 67169080 FAX: 86-371-67169090 E-mail: <u>sales@hwsensor.com</u>

crust made by plastic and stainless steel net. The heater provides necessary work conditions for work of sensitive components. The enveloped MQ-2 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

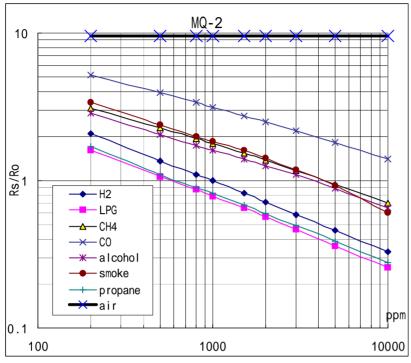


Fig.3 is shows the typical sensitivity characteristics of the MQ-2 for several gases. in their: Temp: 20°C , Humidity: 65%, O_2 concentration 21% RL=5k Ω

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

Fig.2 sensitivity characteristics of the MQ-2

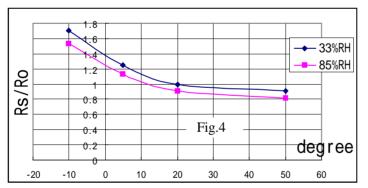


Fig.4 is shows the typical dependence of the MQ-2 on temperature and humidity. Ro: sensor resistance at 1000ppm of H_2 in air at 33%RH and 20 degree. Rs: sensor resistance at 1000ppm of H_2 at different temperatures and humidities.

SENSITVITY ADJUSTMENT

Resistance value of MQ-2 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 liquified petroleum gas<LPG>,or 1000ppm iso-butane<i-C4H10>concentration in air and use value of Load resistance that(R_L) about 20 K Ω (5K Ω to 47 K Ω).

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