

TECHNICAL DATA

CZ GQ-2a GAS SENSOR

FEATURES

Wide detecting scope
Stable and long life

Fast response and High sensitivity
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
V _c	Circuit voltage	5V±0.1	AC OR DC
V _H	Heating voltage	5V±0.1	ACOR DC
R _L	Load resistance	can adjust	
R _H	Heater resistance	33Ω ±5%	Room Tem
P _H	Heating consumption	less than 800mw	

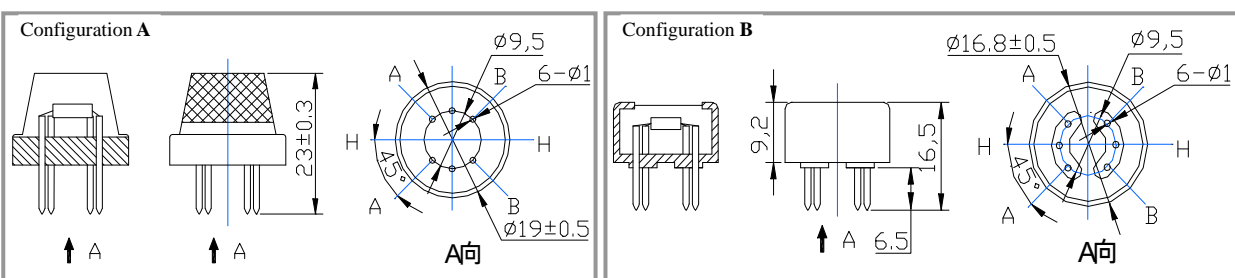
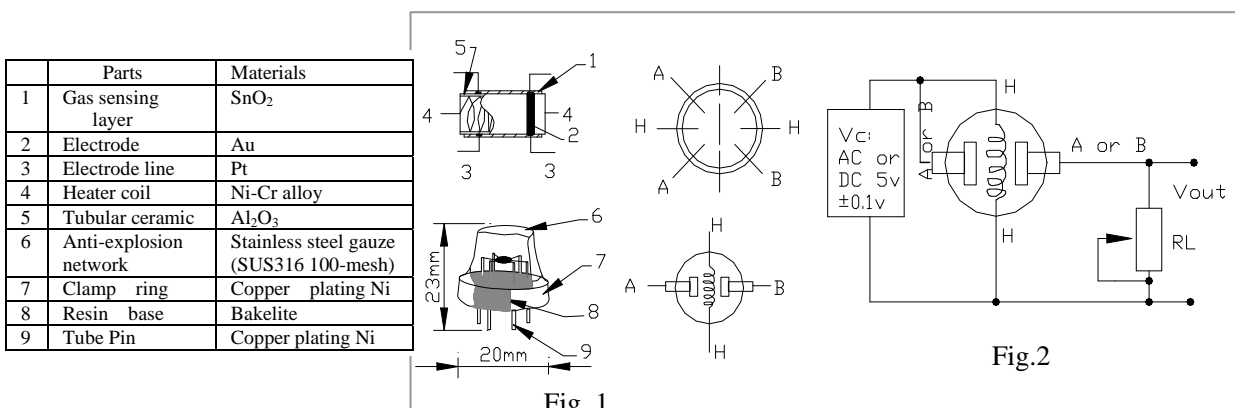
B. Environment condition

Symbol	Parameter name	Technical condition	Remarks
Tao	Using Tem	-20°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 concentration can affect sensitivity	minimum value is over 2%

C. Sensitivity characteristic

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

D. Structure and configuration, basic measuring circuit



Structure and configuration of CZ GQ-2a 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 CZ GQ-2a 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

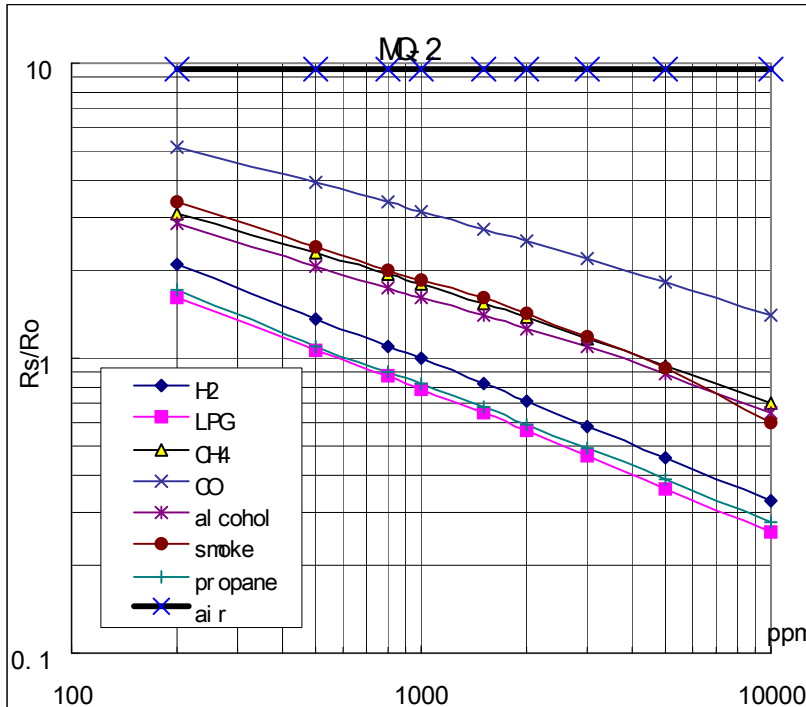


Fig.2 sensitivity characteristics of the CZ GQ-2a

Fig.3 is shows the typical sensitivity characteristics of the CZ GQ-2a for several gases.

in their: Temp: 20°C,

Humidity: 65% ,

O_2 concentration 21%

$R_L=5k\Omega$

R_o : sensor resistance at 1000ppm of H_2 in the clean air.

R_s :sensor resistance at various concentrations of gases.

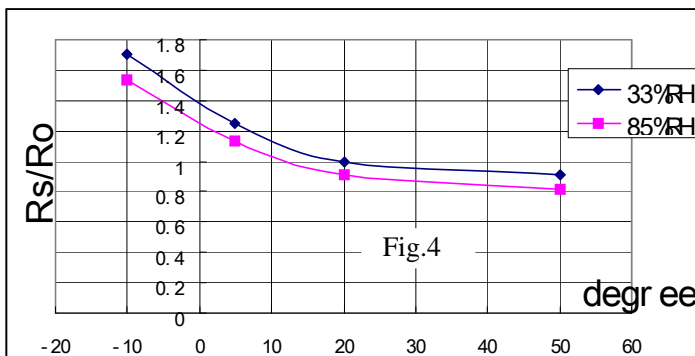


Fig.4 is shows the typical dependence of the CZ GQ-2a on temperature and humidity. R_o : sensor resistance at 1000ppm of H_2 in air

at 33%RH and 20 degree.

R_s : sensor resistance at 1000ppm of H_2

at different temperatures and humidities.

SENSITIVITY ADJUSTMENT

Resistance value of CZ GQ-2a 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-C $_4$ H $_{10}$ >concentration in air and use value of Load resistance that(R_L) about 20 $K\Omega$ (5 $K\Omega$ to 47 $K\Omega$).

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