

TECHNICAL DATA

CZ GQ-135a GAS SENSOR

FEATURES

Wide detecting scope
Stable and long life

Fast response and High sensitivity
Simple drive circuit

APPLICATION

They are used in air quality control equipments for buildings/offices, are suitable for detecting of NH₃, NO_x, alcohol, Benzene, smoke, CO₂, etc.

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
R _L	Load resistance	can adjust	
R _H	Heater resistance	33Ω ±5%	Room Tem
P _H	Heating consumption	less than 800mw	

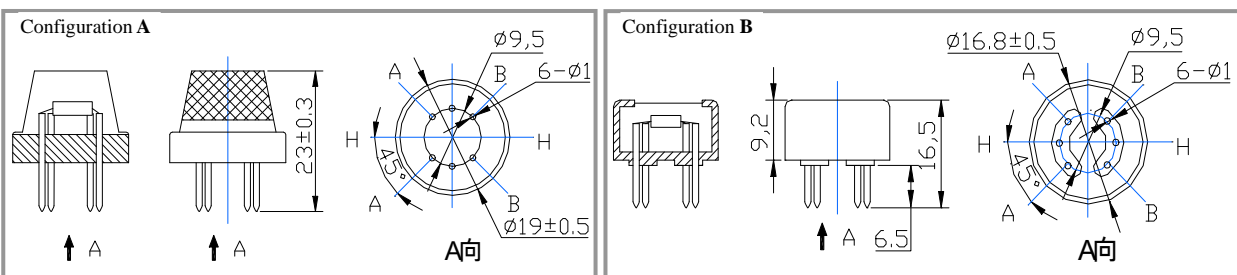
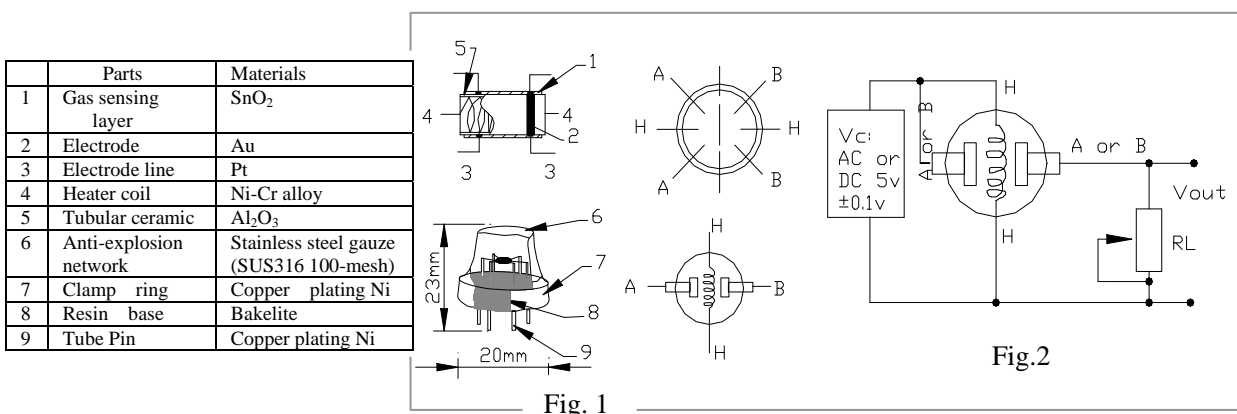
B. Environment condition

Symbol	Parameter name	Technical condition	Remarks
T _{ao}	Using Tem	-10°C-45°C	
T _{as}	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	Remark 2
R _s	Sensing Resistance	30KΩ -200KΩ (100ppm NH ₃)	Detecting concentration scope : 10ppm-300ppm NH ₃ 10ppm-1000ppm Benzene 10ppm-300ppm Alcohol
α (200/50) NH ₃	Concentration Slope rate	≤ 0.65	
Standard Detecting Condition	Temp: 20°C±2°C 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



Structure and configuration of CZ GQ-135a 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-135a 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-135a

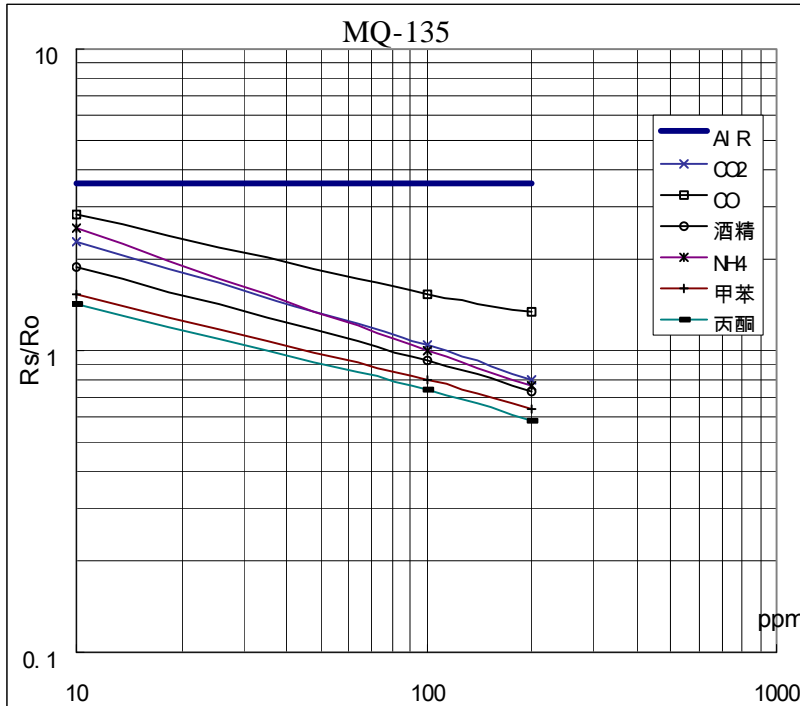


Fig.3 is shows the typical sensitivity characteristics of the CZ GQ-135a for several gases.

in their: Temp: 20°C、

Humidity: 65%、

O_2 concentration 21%

$R_L=20k\Omega$

R_o : sensor resistance at 100ppm of NH_3 in the clean air.

R_s :sensor resistance at various concentrations of gases.

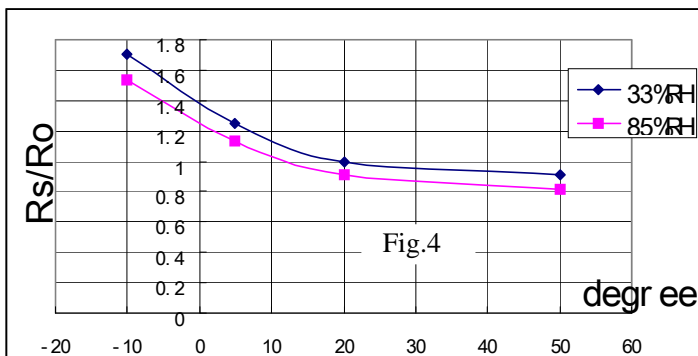


Fig.4 is shows the typical dependence of the CZ GQ-135a on temperature and humidity. R_o : sensor resistance at 100ppm of NH_3 in air

at 33%RH and 20 degree.

R_s : sensor resistance at 100ppm of NH_3

at different temperatures and humidities.

SENSITIVITY ADJUSTMENT

Resistance value of CZ GQ-135a 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 100ppm NH_3 or 50ppm Alcohol concentration in air and use value of Load resistancethat(R_L) about 20 K Ω (10K 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.

