

TECHNICAL DATA

MQ-216 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 equipment in family and industry, are suitable for detecting of LPG, i-butane, propane, methane ,alcohol, smoke.

SPECIFICATIONS

A. Standard work condition

Symbol	Parameter name	Technical condition	Remarks
V _c	Circuit voltage	6V±0.1	AC OR DC
R _L	Load resistance	50 Ω	
P _H	Heating consumption	less than 100mw	@20mA

B. Environment condition

Symbol	Parameter name	Technical condition	Remarks
Tao	Using Tem	0°C-50°C	
Tas	Storage Tem	0°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	30 Ω -200 Ω (1000ppm isobutane)	Detecting concentration scope: 500ppm-10000ppm LPG and propane 500ppm-10000ppm butane 3000ppm-20000ppm methane 300ppm-3000ppm Alcohol
α (3000/1000) isobutane	Concentration Slope rate	≤0.6	
Standard Detecting Condition	Temp: 20°C ±2°C Humidity: 65%±5%	V _c :6V±0.1 R _L =50 Ω	
Preheat time	Over 24 hour		

D. Structure and configuration, basic measuring circuit

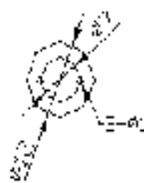
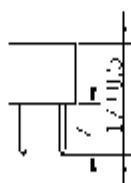
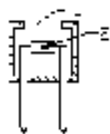


Fig.1

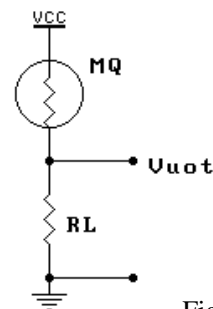


Fig.2

Structure and configuration of MQ-216 gas sensor is shown as Fig. 1, micro Tin Dioxide (SnO₂) sensitive bead with measuring electrode are fixed into a crust composed of plastic and stainless steel gauze, Without the heater providing necessary working conditions for sensitive components. The enveloped MQ-216 have 2 pin , they are used to fetch signals.

Electric parameter measurement circuit is shown as Fig.2

E. Sensitivity characteristic curve

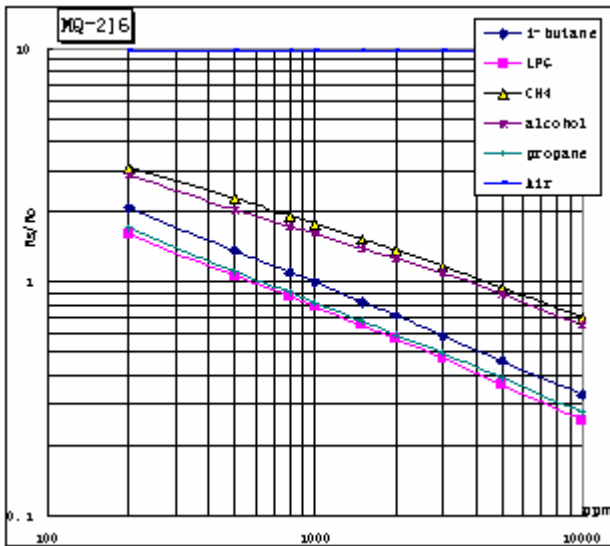


Fig.2 sensitivity characteristics of the MQ-216

Fig.3 is shows the typical sensitivity characteristics of the MQ-216 for several gases.

in their: Temp: 20°C,
Humidity: 65%
O₂ concentration 21%
RL=50 Ω

R₀: sensor resistance at 1000ppm of i-butane in the clean air.

R_s: sensor resistance at various concentrations of gases.

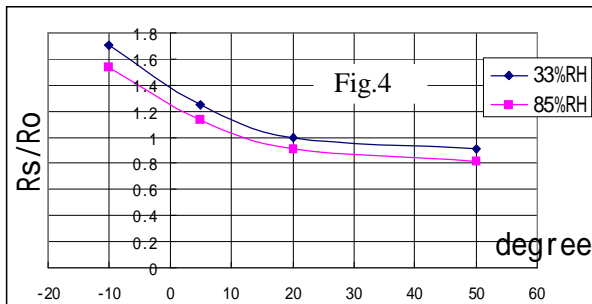


Fig.4 is shows the typical dependence of the MQ-216 on temperature and humidity.

R₀: sensor resistance at 1000ppm of i-butane

in air at 33%RH and 20 degree.

R_s: sensor resistance at 1000ppm of i-butane

at different temperatures and humidities.

SENSITIVITY ADJUSTMENT

Resistance volume of MQ-216 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 iso-butane concentration in air .

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

Basic application circuit

