

## TECHNICAL DATA

## MQ-216A 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 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 <sub>c</sub>	Circuit voltage	12V±0.1	AC OR DC
R <sub>L</sub>	Load resistance	200	
P <sub>H</sub>	Heating consumption	less than 120mw	@20mA

## B. Environment condition

Symbol	Parameter name	Technical condition	Remarks
T <sub>ao</sub>	Using Tem	0 -50	
T <sub>as</sub>	Storage Tem	0 -70	
R <sub>H</sub>	Related humidity	less than 95% Rh	
O <sub>2</sub>	Oxygen concentration	21%(standard condition)Oxygen concentration can affect sensitivity	Minimum value is over 2%

## C. Sensitivity characteristic

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Symbol	Parameter name	Technical parameter	Remark 2
Rs	Sensing Resistance	100 -300 (1000ppm isobutane )	Detecting concentration scope : 500ppm-10000ppm LPG and propane 500ppm-10000ppm butane 3000ppm-20000ppm methane
(3000/1000) isobutane	Concentration Slope rate	0.6	
Standard Detecting Condition	Temp: 20 ± 2 Humidity: 65%± 5%	Vc:12V±0.1 RL=200	
Preheat time	Over 24 hour		

## D. Structure and configuration, basic measuring circuit

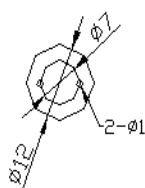
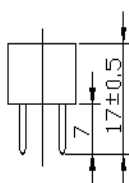
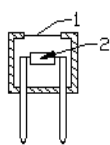


Fig.1

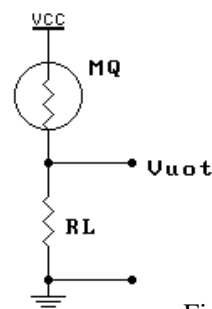


Fig.2

Structure and configuration of MQ-216A gas sensor is shown as Fig. 1, micro Tin Dioxide (SnO<sub>2</sub>) 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-216A have 2 pin , they are used to fetch signals.

Electric parameter measurement circuit is shown as Fig.2

### E. Sensitivity characteristic curve

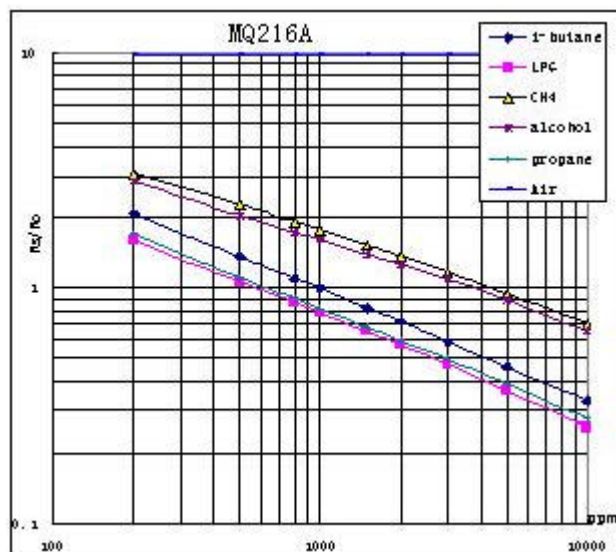


Fig.3 sensitivity characteristics of the MQ-216A

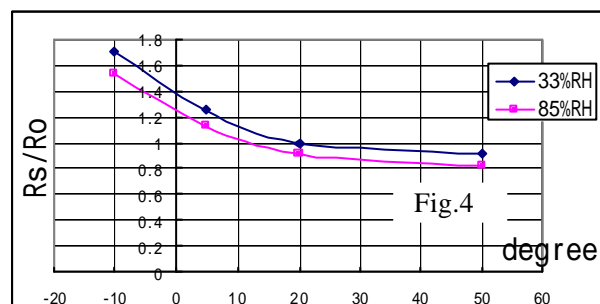


Fig.4

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

in their: Temp: 20 °  
Humidity: 65%  
O<sub>2</sub> concentration 21%  
RL=200

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

Rs: sensor resistance at various concentrations of gases.

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

Ro: sensor resistance at 1000ppm of i-butane in air at 33%RH and 20 degree.

Rs: sensor resistance at 1000ppm of i-butane at different temperatures and humidities.

### SENSITIVITY ADJUSTMENT

Resistance volume of MQ-216A 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<i-C<sub>4</sub>H<sub>10</sub>>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

