

***SPECIFICATIONS***  
***(Draft)***  
(Gas sensor GS-760E)

## 1. SCORE

The **GS-760E** is comprised of SnO<sub>2</sub> semiconductor material bead and a heater coil . It has a high sensitivity and fast response to low concentrations of gaseous air contaminants such as carbon monoxide and hydrogen gas . This is suitable for detection air quality.

## 2. TYPICAL APPLICATIONS:

- Air cleaners
- Ventilation cont
- Air quality monitors



## 3. BASIC MEASURING CIRCUIT

The sensor requires two voltage inputs: heater voltage( $V_h$ ) and circuit voltage( $V_c$ ), The heater voltage ( $V_h$ ) is applies to the integrated heater in order to maintain the sensing element at a specific temperature which is optimal for sensing. Circuit voltage( $V_c$ ) is applied to allow measurement of voltage ( $V_{out}$ ) across a load resistor( $R_L$ ) which is connected in series with the sensor. DC voltage is required for circuit.

Voltage since the sensor has a polarity. A common power supply circuit can be used for both  $V_c$  and  $V_h$  to fulfill the sensor's electrical requirements. The value of the load resistor( $R_L$ ) should be chosen to optimize the alarm threshold value, keeping power consumption( $P_s$ ) of the semiconductor below a limit of 15mW power consumption( $P_s$ ) will be highest when the value of  $R_s$  is equal to  $R_L$  on exposure to gas.

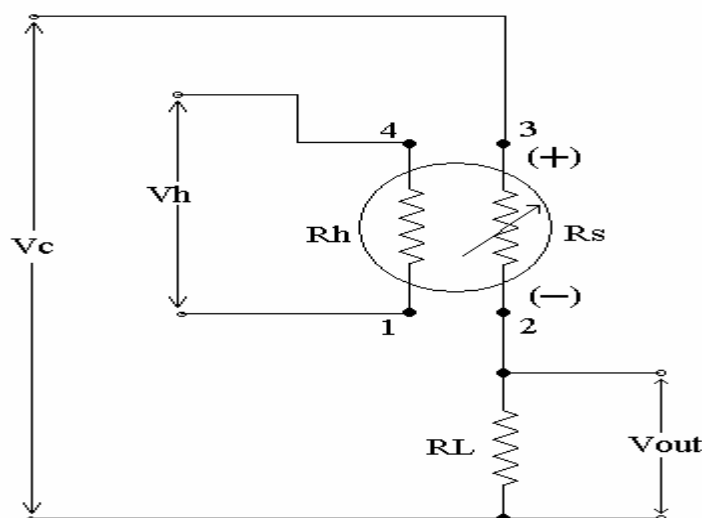


Fig.1 Basic measuring circuit

#### 4. SPECIFICATIONS

Model Number			<b>GS-760E</b>	
Standard Package			TO-5	
Standard Operation Conditions	Heater Voltage	Vh	$5.0 \pm 0.1V$	DC
	Circuit Voltage	Vc	$\leq 15 V$	DC
	Load Resistance	RL	Variable $\geq 5k\Omega$	
	Heater Resistance	Rh	$80\Omega \pm 10\Omega$	At room temperature
	Heater Current	I h	65mA (typical)	
	Heater Power Consumption	Ph	$\leq 300 mW$	
	Power Dissipation of Sensing Element	Ps	$\leq 15 mW$	
Environmental Conditions	Operation Temperature	Tao	$- 10^{\circ}C$ to $+50^{\circ}C$	
	Storage Temperature	Tas	$- 20^{\circ}C$ to $+70^{\circ}C$	
	Relative Humidity	RH	$\leq 95\%RH$	
	Oxygen	O <sub>2</sub>	$21\% \pm 1\%$	$\geq 18 \%$
Sensitivity Characteristics	Sensor Resistance in Air	Rs	$20k\Omega$ to $80k\Omega$	In clean air
	Sensitivity		0.3 to 0.7	<u>Rs (10ppm of H<sub>2</sub>)</u> Rs(air)
Standard Test Conditions	Temperature: $20^{\circ}C \pm 2^{\circ}C$		Vc: $5.0 \pm 0.1V$	
	Humidity : $65\%RH \pm 5\%RH$		Vh: $5.0 \pm 0.1V$	
	( In clean air ) Rh: $10 k\Omega$			
	Per-Heating Time: more than 48 hours			

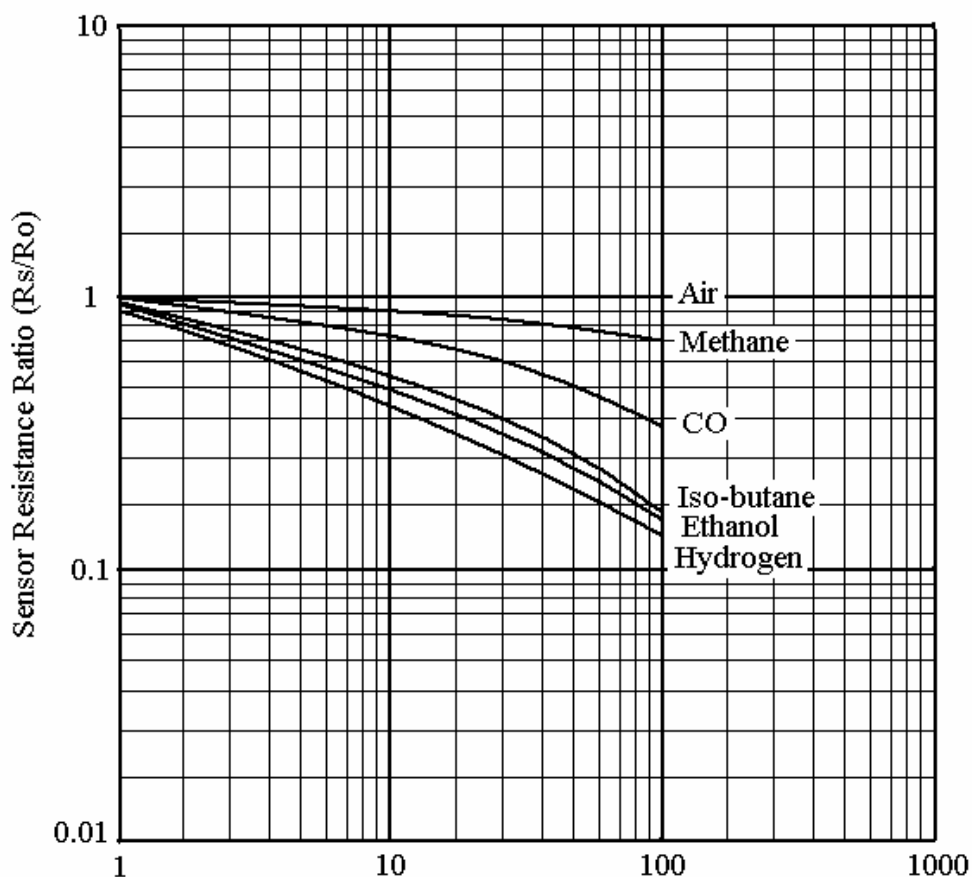


Fig.2 Gas concentration (ppm)

### 5. STRUCTURE AND DIMENSION

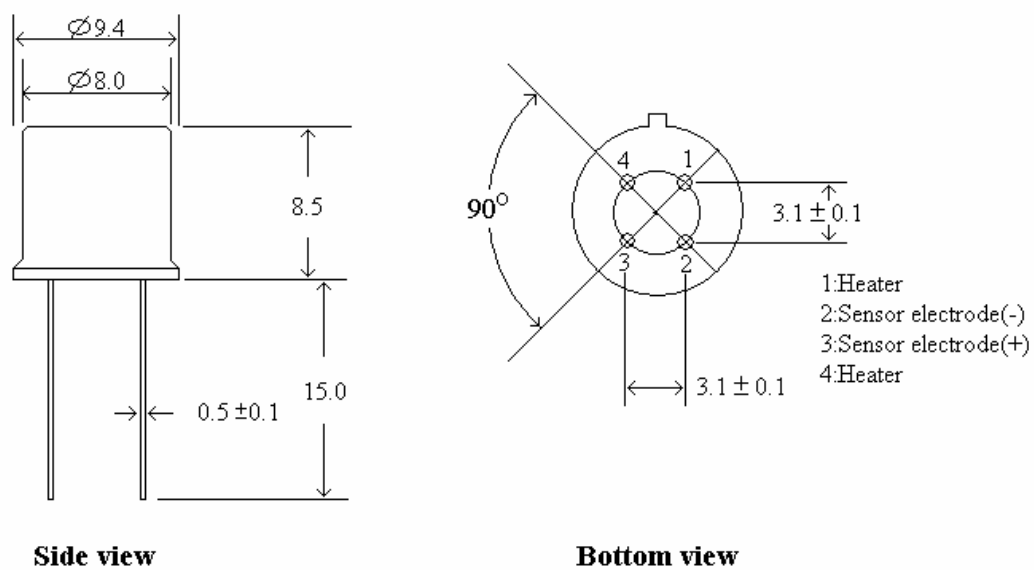


Fig.3 Structure and Dimension (mm)