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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# GAS SENSORS : TYPE AD81

CO & NO<sub>2</sub> GAS SENSOR

PROVISIONAL DATA

## DESCRIPTION:

Gas sensor made of thick film element.

## FEATURES:

- Two sensing element on one chip:  
for CO(gasoline exhaust gas) and NO<sub>2</sub>(diesel exhaust gas)
- Low influence of ambient atmosphere
- Typical applications include automatic damper in automotive cabin.

## DATA:

### Operating conditions:

**Operating temperature**..... -10 to + 55°C

**Storage temperature**..... -30 to + 85°C

**Load Resistor R<sub>L</sub>** ..... Variable

**Heater resistance** ..... 19Ω (nom)

**Rated power consumption P<sub>s</sub>** ..... 20mW nom

**Rated working voltage of circuit V<sub>c</sub>** .....

..... 5 ± 0.2V d.c.

..... 5 ± 0.2 Vrms a.c.

### Parts and material:

**Sensing element**..... Semiconducting oxide

**Thick film heater** ..... Platinum

**Case** ..... Nylon 66

**Pin** ..... Nickel alloy

**Flame arrestor** .....

.... Double 100-mesh stainless gauze(SUS316)

### Sensitivity characteristics:

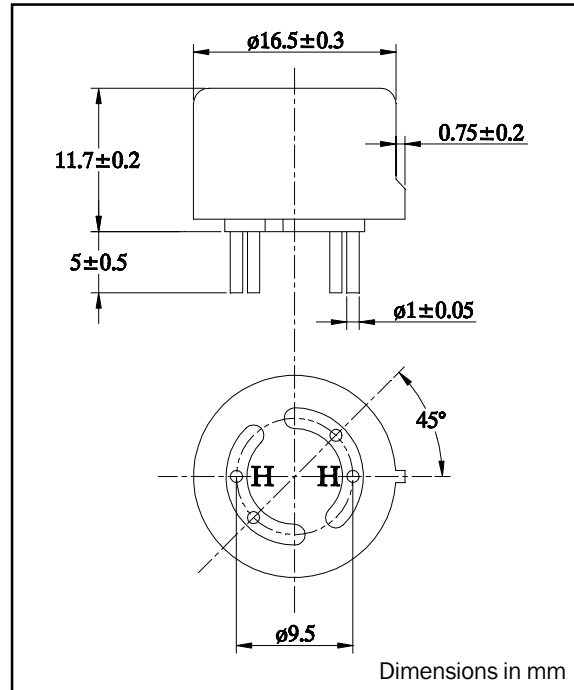
	Specification	Conditions
<b>Output voltage in clean air</b>	2 - 0.3 V	
<b>Voltage change in gas</b>	-0.5 - 0.15V	2ppm of NO <sub>2</sub>
<b>Power consumption</b>	620mW (nom)	

### Mechanical characteristics:

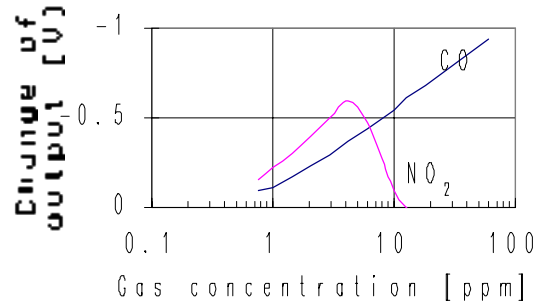
Test	Condition	Performance
<b>Vibration</b>	Frequency:	10 - 500 Hz
	Amplitude (10 - 50Hz):	2 mm
	Acceleration (50 - 500 Hz)	10G
	Reciprical scanning time:	5 min
	Test time: 2 hours each for X, Y and Z directions	
<b>Shock</b>	Acceleration:	100G
	Number of impacts:	5

Should satisfy the specifications shown in the sensitivity characteristics

## DIMENSIONS:



### Typical gas sensitivity:



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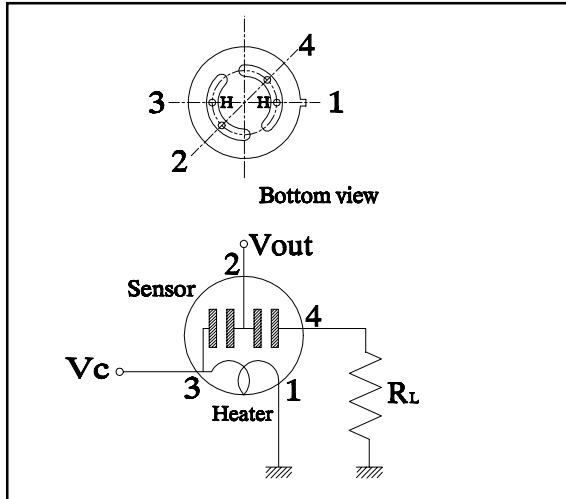
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## NOTES:

**Pin allocation and standard test circuit:**



## Test conditions:

### Atmosphere

Clean air at  $25 \pm 2^\circ\text{C}$  and  $50 \pm 5\%$  RH without noise gas.

### Circuit condition

V<sub>c</sub> (circuit voltage) .....  $5 \pm 0.05\text{V}$

R<sub>L</sub> .....  $340$  to  $1000\Omega$

Preheat time ..... 24 hours

### Test gas

NO<sub>2</sub> ..... 2ppm

## WARNING:

Do not use if the case or wire netting is damaged, otherwise built-in heater may cause explosions or fires.  
Do not disassemble or change any parts.  
Use only within specified conditions.

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