

GAS SENSORS : TYPE AF56

PROPANE (C₃H₈) SENSOR

DESCRIPTION:

Propane gas sensor made with thick film sensing element.

FEATURES:

- Constant heater voltage
- Tight resistance tolerance
- High sensitivity
- Low humidity sensitivity
- Typical applications include gas leak detector, gas appliances

DATA:

Operating conditions:

Operating temperature -10 to +55°C

Storage temperature -30 to +60°C

Load Resistor R_L Variable

Heater resistance 19Ω (nom)

Rated power consumption P_s <15mW

Rated working voltage of circuit V_c
..... 5V d.c. or 5V rms a.c. (max 12V)

Rated working voltage of heater
..... 5 ±0.2V d.c.
..... 5 ±0.2 V rms a.c.

Parts and material:

Sensing element Semi-conducting oxide

Thick film heater Platinum

Case Nylon 66

Pin Nickel alloy

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

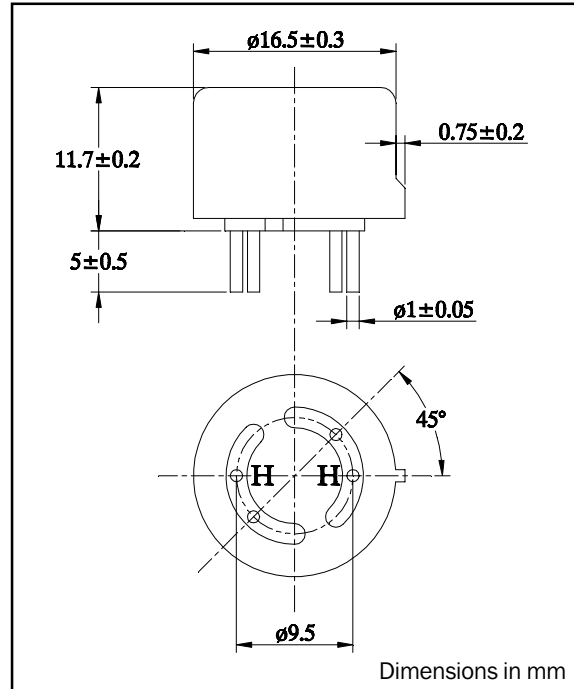
Sensitivity characteristics:

	Specification	Conditions
Sensor resistance R_{gas}	1.5k to 6.0k Ω	In 2000 ppm of methane in clean air
Gas sensitivity R_{gas}/R_{air}	0.08 to 0.25	Resistance ratio at 2000ppm isobutane to clean air
Power consumption	690mW (max)	

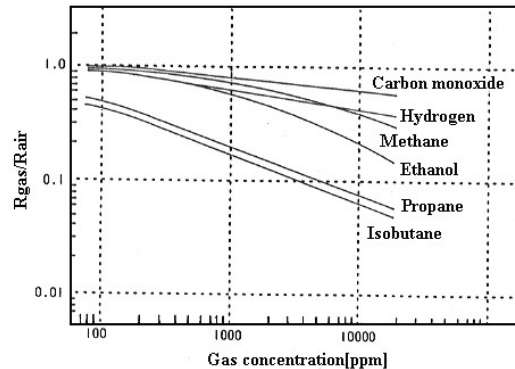
Mechanical characteristics:

Test	Condition	Performance
Vibration	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	Should satisfy the specifications shown in the sensitivity characteristics
Shock	Acceleration: 100G Number of impacts: 5	

DIMENSIONS:



Typical gas sensitivity:



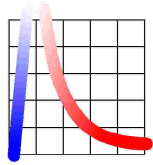
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Data sheet D-AF56-1

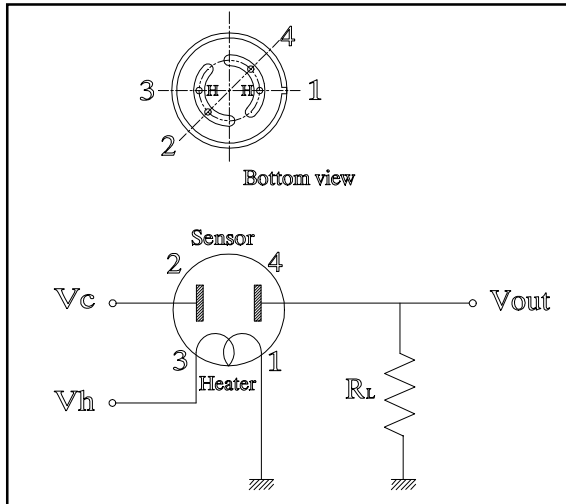


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NOTES:

Pin allocation and standard test circuit:



Test conditions:

Atmosphere

Clean air at 25± 2°C and 50±5% RH without noise gas.

Circuit condition

Vc (circuit voltage) 5±0.05V

Vh (heater voltage) 5±0.05V

Preheat time 48 hours

Test gas

Isobutane 2000ppm

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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