

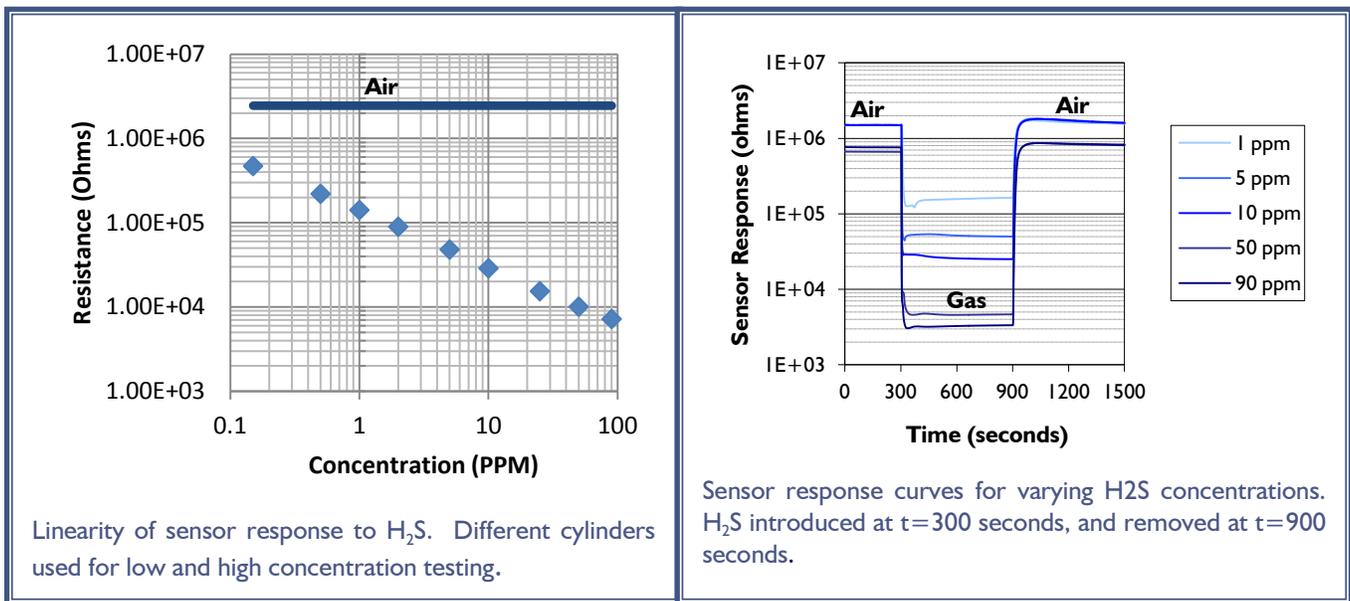
## SENSOR FEATURES:

- Sensor designed to reliably detect H<sub>2</sub>S at concentrations from 0.15-100 ppm.
- Rugged sensor undamaged by exposure to temperature and humidity extremes.
- Fast response and complete recovery after H<sub>2</sub>S exposure.
- Large, stable, easy to measure resistance change on exposure to H<sub>2</sub>S.
- Sensor response is stable (does not go to sleep).



## SENSOR RESPONSE CHARACTERISTICS

The figures below show typical response data for sensors operated in clean, dry gas.



## ELECTRICAL CHARACTERISTICS

The electrical properties below are typical for the H<sub>2</sub>S Sensors. If the actual values differ, the customer will be notified with the shipment. Circuits are available that will be preset to the correct values.

PROPERTY	SYMBOL	VALUE	REMARKS
Heater Power Consumption	P <sub>HL</sub>	~ 900 mW	At V <sub>H</sub> = 7.0
Heater Voltage	V <sub>HL</sub>	7.0 VDC	T <sub>sensor</sub> ~350°C
Heater Resistance	R <sub>H</sub>	30Ω ± 2 Ω	At room temperature
Sensing Voltage	V <sub>C</sub>	5.0 VDC	Recommended
Resistance in Air	R <sub>a</sub>	30 kΩ/2.00 MΩ	Min/Max
Resistance in 50 ppm H <sub>2</sub> S	R <sub>50</sub>	1.00 kΩ/25 kΩ	Min/Max
Sensitivity (in 10 ppm H <sub>2</sub> S)	R <sub>a</sub> /R <sub>10</sub>	2.00	Min

\*Note that all measurements were made in dry gas, at room temperature

720-494-8401

e-mail: [info@synkera.com](mailto:info@synkera.com)

[www.synkera.com](http://www.synkera.com)

720-494-8402 (fax)

- For information on warranty, please refer to Synkera Technologies, Inc. Standard Terms and Conditions.
- Information on this data sheet represents typical values from a number of Synkera sensors. Actual values from sensor to sensor can vary slightly.

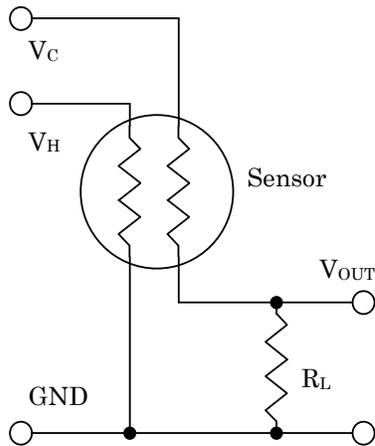


## Operation of Synkera MOS Sensors

Synkera Technologies, Inc.  
2605 Trade Centre Ave., Ste. C  
Longmont, CO 80503

### BASIC MEASUREMENT CIRCUIT:

The sensor can be operated using a simple voltage divider. This requires two voltage supplies: heater voltage ( $V_H$ ) and circuit voltage ( $V_C$ ).  $V_H$  is applied to the heater in order to maintain a constant, elevated temperature, for optimum sensing.  $V_C$  is applied to allow a measurement of the output voltage ( $V_{out}$ ) across a load resistor ( $R_L$ ).



Pins 1 and 3 on the TO-39 header are attached to the heater. Apply  $V_H$  across these pins.

Pins 2 and 4 on the TO-39 header are attached to the resistive sensor element. Connect these pins in the measuring circuit.

Synkera supplies basic measurement circuitry for many of our sensors. Please inquire or refer to our website for information regarding circuitry for your application

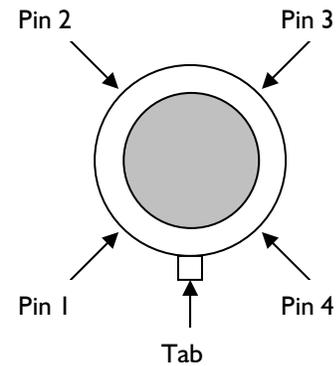
### SENSOR RESISTANCE CALCULATION:

Sensor Resistance ( $R_s$ ) is calculated using the following formula:

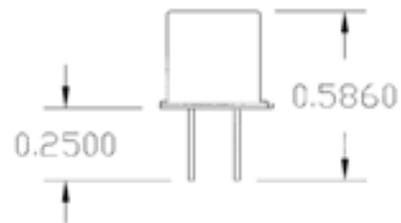
$$R_s = \frac{V_C - V_{out}}{V_{out}} * R_L$$

### SENSOR PIN OUT:

Top view of sensor



### SENSOR DIMENSIONS:



Synkera Technologies strives to be customer oriented. If you have a special application you would like to discuss, or questions you would like answered please contact us at [info@synkera.com](mailto:info@synkera.com).

720-494-8401

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