

SB-95-12

FIS GAS SENSOR SB-95-12 for CARBON MONOXIDE and METHANE

The SB-95-12 is a tin dioxide semiconductor gas sensor which has an excellent performance in detecting both CO and methane selectively with single sensor element. This unique feature was realized by using a mini-bead type sensing element with a periodic temperature change operation method.

Structure

Gas sensitive semiconductor material is a mini bead type and a heater coil and electrode wire are embedded in the element. The sensing element is installed in the metal housing which uses double stainless steel mesh (100 mesh) in the path of gas flow. This sensor unit is placed in an external housing which contains active charcoal filter (Fig 1).

Operating conditions

When the sensor is operated with high/low periodic operation (Fig 2), sensor signal changes according to the temperature dependency characteristics. By detecting the sensor signal at sufficient timings (at a high temperature for methane and at a low temperature for CO), selective detection of both methane and CO has been achieved. Fig 3a and 3b show the sensitivity characteristics of the SB-95-12, at high and low temperature signals respectively.

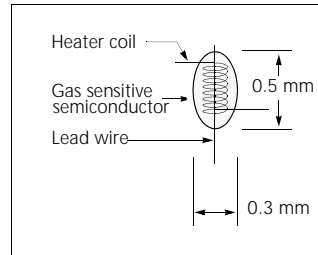


Fig 1a. Sensing element

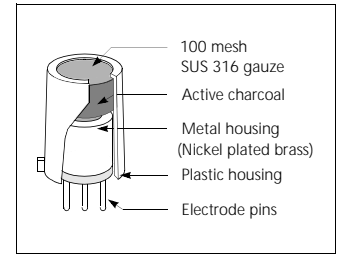


Fig 1b. Configuration

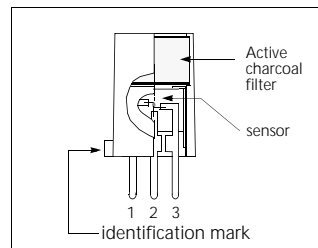


Fig 1c. Pin Layout

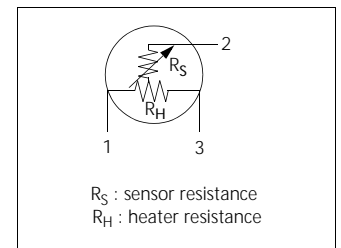


Fig 1d. Equivalent circuit

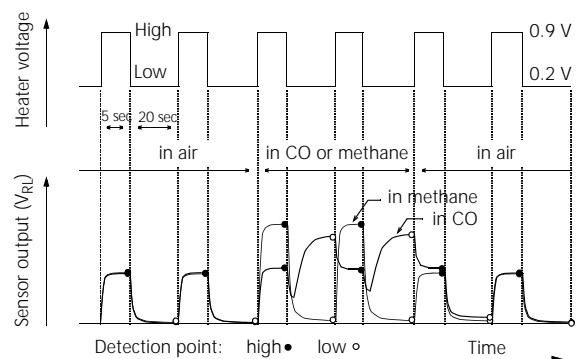


Fig 2 SB-95-12: Operating conditions and output signal

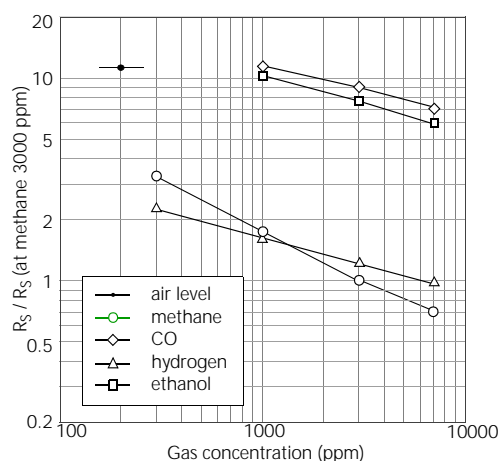


Fig 3a. SB-95-12: Sensitivity at HIGH signal for methane

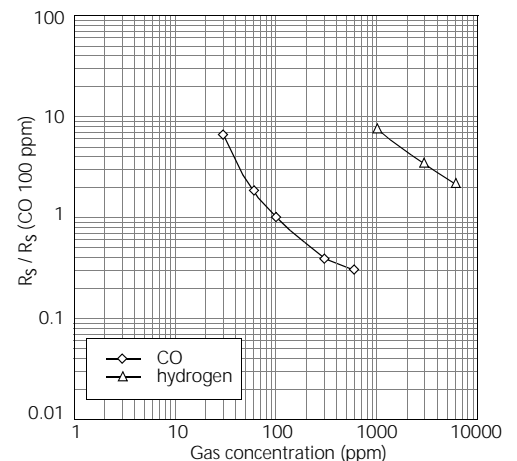


Fig 3b. SB-95-12: Sensitivity at LOW signal for CO

SPECIFICATIONS

