

Highly-sensitive semiconductor hydrogen gas sensor working at room temperature

Developed at the Comenius University in Bratislava, Slovakia



TECHNOLOGY DESCRIPTION

Semiconductor hydrogen gas sensor with high sensitivity and short reaction time. The sensor works at room temperature with low energy consumption.

SOLUTION FOR

The sensor solves problems with high energy consumption. Thanks to its high sensitivity at room temperature there is no need for heating, which decreases the energy consumption by more than 90% compared to the commonly used sensors. It is thus suitable for battery-powered portable devices and can be used in dangerous explosive environment. Its topology allows easy on-chip integration with other electronic components.

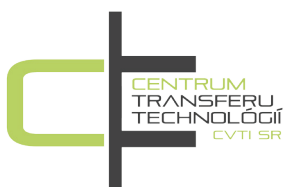
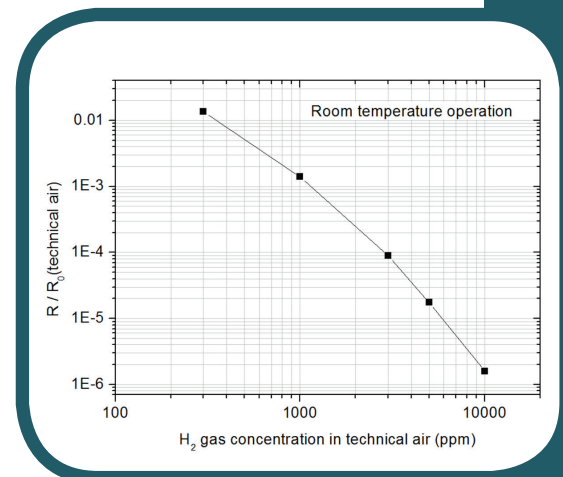
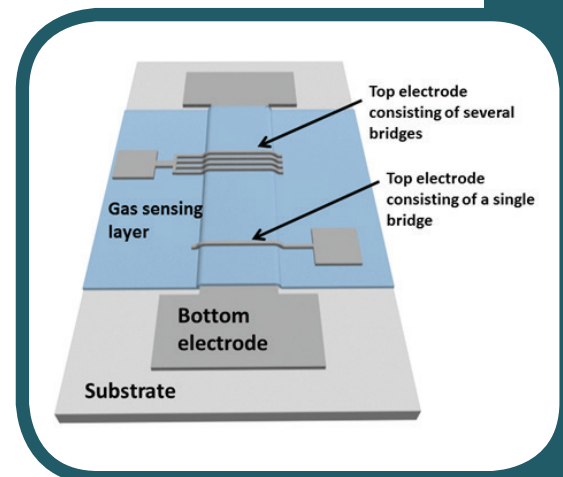
ADVANTAGES OVER OTHER SOLUTIONS

- **High sensitivity** (higher change of resistance in presence of the target gas, also at low concentrations)
- **Working temperature** (room temperature operation)
- **Lower energy consumption** (no need for heating)
- **Suitable for portable devices**
- **Can be used in explosive environment**
- **Easier integration with other electronic parts into one integrated circuit**
- **Shorter reaction time**

STAGE OF DEVELOPMENT

- prototype tested in laboratory conditions
- utility model application filed, protection in Slovakia and Czech Republic

Technology is available to purchase or for licensing.



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