

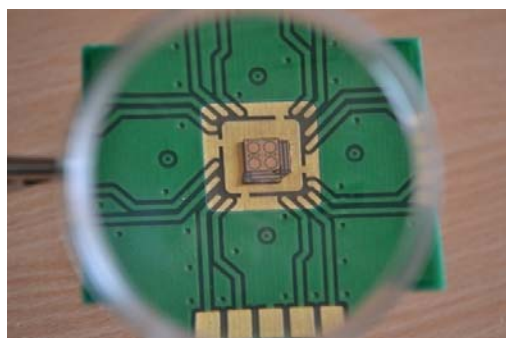
CUTTING EDGE TECHNOLOGY

- Piezoelectric pressure sensor based on GaN material substrate, intended for harsh environment with high electron mobility transistor (HEMT) as sensing element

STAGE OF PROTECTION AND DEVELOPMENT

- Granted Slovak patent (No. 288538)
- Prototype ready for testing in concrete applications

TECHNICAL DETAILS



APPLICATIONS

- Invention applicable in the field of sensors operated in harsh environment for detecting and measuring dynamic pressure phenomena
- Wide range of application areas:
 - engine and/or cylinder combustion
 - gas-borne high intensity sound pressure level measurement
 - industrial turbine pressure monitoring
 - turbine combustor dynamics
 - far-field blast dynamics
 - measuring fast rise time pressure events
 - rocket motors

THE INVENTORS ARE LOOKING FOR AN INDUSTRIAL PARTNER FOR TESTING THE SENSOR AND FOR LICENSING THE TECHNOLOGY

COMPETITIVE TECHNOLOGY

- Maximization of piezoelectric induced charge
- Relatively temperature independent piezoelectric coefficients
- Maximal operating temperature of up to 700°C
- Three operating regimes: combination of dynamic/static mode and active/passive mode
- Monolithic integration of sensoric part (diaphragm) and control electronics into single chip which can operate in harsh environment
- No need for any additional power for the piezoelectric pressure sensor supply – smart sensor enabling wireless signal transfer
- No need for additional investments in technology facility

INTERNATIONALLY RECOGNISED

INVENTORS

- Inventors: Ing. Tibor Lalinský, DrSc. and his team: Ing. Gabriel Vanko, PhD., Ing. Jaroslav Dzuba, Ing. Ivan Rýger, Ing. Martin Vallo, PhD.
- Main activities of the team are targeted on comprehensive study of technology and properties of sophisticated III-N semiconductor based Micro-(Nano)-Electro-Mechanical Structures – M(N)EMS
- Number of projects solved on the domestic and international level
- Gained experiences and knowledges of the team cover the field of design, technology, characterization and modeling of micromechanic and electronic structures and devices

FOR MORE INFORMATION PLEASE CONTACT

Ing. Martin Gróf, PhD.

phone: +421 904 983 265

email: grof.martin@savba.sk



The inventors use services of Technology Transfer Office of Slovak Academy of Sciences to market their invention.