

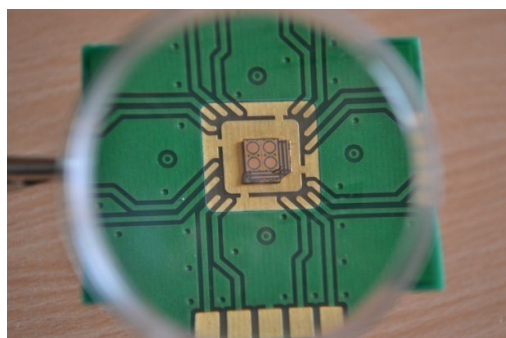
CUTTING EDGE TECHNOLOGY

- 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/SELLING 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

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