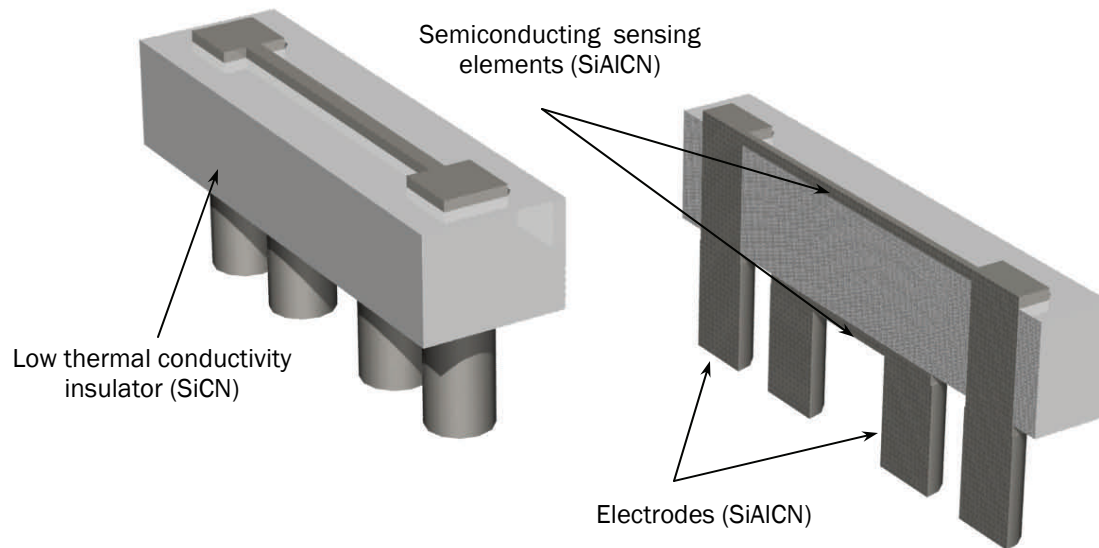


MEMS TEMPERATURE AND HEAT FLUX SENSORS

RELIABLE SENSORS BASED ON MEMS TECHNOLOGY



Features

- Excellent thermo-mechanical properties at high temperatures (up to 1400°C) using polymer-derived ceramics (PDC)
- Tunable electrical conductivity enabling all parts of the sensors to be fabricated from the same base material. The electrical conductivity of PDCs can be tailored within a large range: from insulator (10^{-8} (W.cm)⁻¹) to semi-metallic (10^4 (W.cm)⁻¹). As a result, reliability problems associated with thermal mismatch can be minimized
- High reliability due to lower process residual and operational thermal stress
- Suitable for batch manufacturing

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Potential Applications

- Direct temperature and heat flux sensing inside engines of UAVs, jet turbines, automobiles
- Real-time measuring and monitoring of high-temperature engine operations without disturbing the system
- High reliability environmental sensing/monitoring