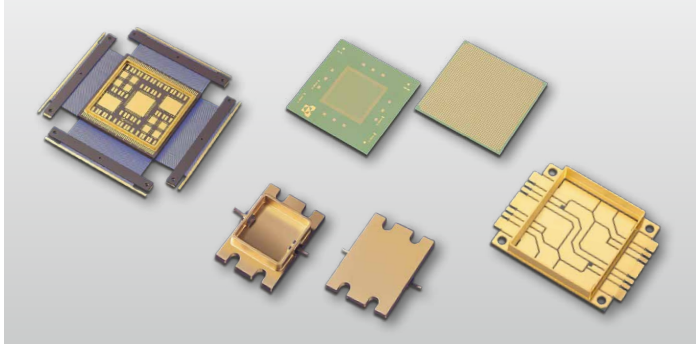


## ELECTRONIC PACKAGES

### CERAMIC PACKAGES FOR HIGH ACCURATE AUTOMOTIVE SENSORS

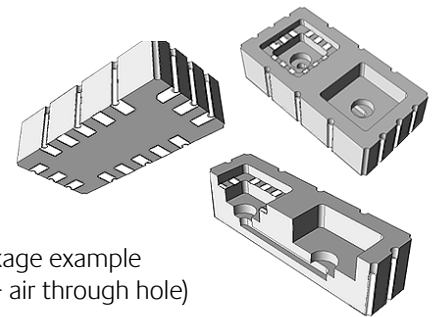


#### APPLICATIONS

- ▶ Advanced Driver Assistance System (ADAS) technology
- ▶ Electronic Stability Control (ESC)
- ▶ Tire Pressure Monitoring System
- ▶ Roll Over Sensor
- ▶ Pressure Sensor
- ▶ Power Module

#### FEATURES

- ▶ Small size: from 1 mm<sup>2</sup>
- ▶ Low profile: 0.7 mm
- ▶ Suitable material properties (mechanical and thermal properties)
- ▶ Solder fillet suitable for Automated Optical Inspection
- ▶ Hermetic sealing options (e.g. seam welding)
- ▶ High rigidity: High Accuracy Sensor



Ceramic package example  
(Dual cavity + air through hole)

#### TECHNICAL ADVANTAGE OF CERAMICS

- ▶ Thinner ceramic layers for low profile and rigid substrate
- ▶ Cavity structure for easy assembly (W/B, sealing)
- ▶ Fine design rule for dense bonding pads



#### MATERIAL PROPERTIES

- ▶ High young's modulus of elasticity (anti-deformation)
- ▶ Low coefficient of thermal expansion
- ▶ High rigidity material property
- ▶ High 2<sup>nd</sup> level reliability
  - Advantage to support of sensitive MEMS
  - Various design options (e.g. channel structure)