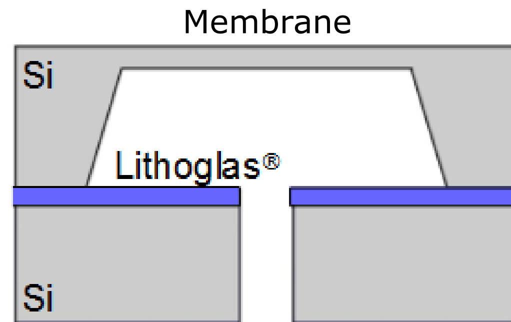
Lithoglas®

Next Generation Pressure Sensor

Conventional Structure

Next Generation Structure

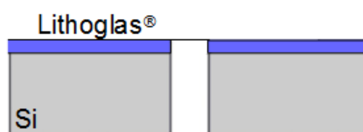


Example: gauge pressure sensor

Lithoglas® Silicon-to-Silicon Bond

- Bulk glass is replaced by glass coated silicon
- Lower signal drift through matching CTE and Young's modulus
- Si offers smaller tolerances and less noise
- Smaller and more precise structures (holes) in silicon
- Higher flexural strength
- Thinner device, smaller footprint
- Robust anodic bond instead of direct Si-Si fusion
- Lower bond voltages (< 100 V) compared to bulk glass bonding

Design Rules:



typ. application: absolute or differenntial pressure sensor

Wafer Material	*Silicon with Thin Glass Coating*
Glass Film Thickness	*3 - 5 µm (on silicon dioxide layer)*
Wafer Size (Diameter)	*Semi Std. 100 mm, 150 mm, 200 mm*
Wafer Thickness	*≥ 200 µm, ≤ 3000 µm*
Through Hole Diameter	*≥ 200 µm (upon request)*
Side Wall Angle of Hole	*90°*
Through Hole Ptich	*≥ 500 µm*
Through Hole Shape	*circular*

Lithoglas® – Think glass!
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