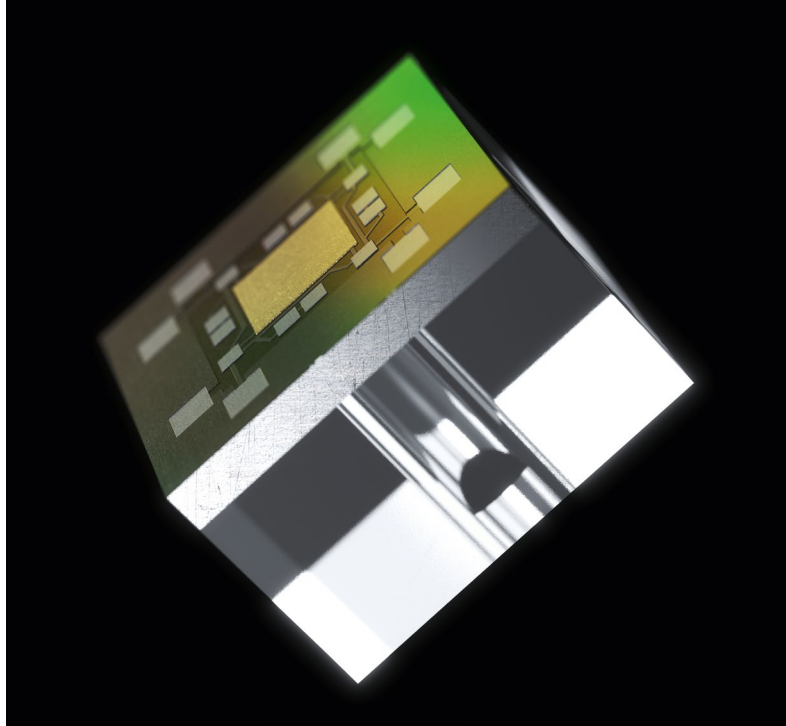
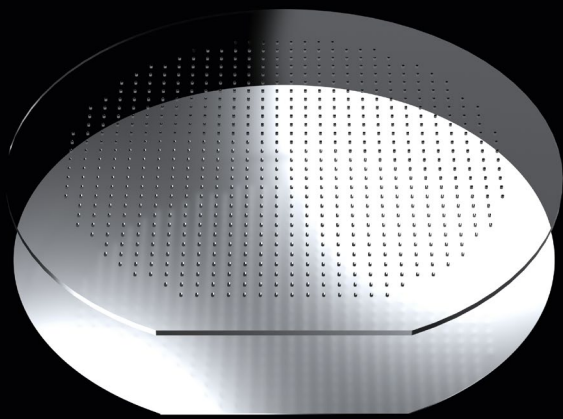




FLEXINITY®

Structured glass wafers for reliable pressure sensor packaging

Pressure sensors operate under continuous mechanical load. Over time, even small material changes can cause drift, deformation, leakage or loss of interface integrity.

SCHOTT FLEXINITY® structured glass wafers are designed for pressure sensor packaging applications where dimensional stability, precise structuring, anodic bonding capability and long-term material reliability are critical.

FLEXINITY® structured glass wafers are based on selected SCHOTT materials such as BOROFLOAT® 33 and MEMPax® and support compact and scalable pressure sensor designs with tight tolerances, stable glass behavior and application-specific through-structures.

Why glass matters in pressure sensing

In pressure sensing, performance is not defined by electronics alone. Measurement stability depends on how materials behave under load, temperature changes and media exposure.

Glass can help thermally decouple the silicon chip from surrounding package components. This reduces thermally induced stress and supports stable pressure sensor performance over time.

Glass provides dimensional stability, high surface quality and reliable interface behavior. This helps pressure sensor designs maintain stable signal response, minimal drift and long-term barrier integrity.

Application areas

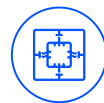
FLEXINITY® structured glass wafers can support pressure sensor applications in:

- Automotive systems
- Industrial pressure measurement
- Medical equipment
- Mobile and compact sensor devices
- Harsh or chemically demanding environments
- High-volume MEMS pressure sensor manufacturing

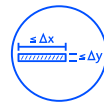
Key advantages



Stable material behavior under load
Supports pressure sensor designs that require reliable performance under continuous mechanical stress.



Thermal decoupling
Helps thermally decouple the silicon chip from surrounding package components, reducing thermally induced stress in pressure sensor designs.



Tight feature and position tolerances
Feature size and position tolerances of $< 20 \mu\text{m}$, equivalent to $\pm 10 \mu\text{m}$, support precise alignment with partner components.



Anodic bonding capability
Low surface roughness and selected glass materials with CTE compatibility to silicon support reproducible bonding interfaces.



Flexible design geometries
Customized structured wafers enable defined openings, layouts and geometries for pressure sensor packages.

SCHOTT

Structured glass wafers for reliable pressure sensor packaging

How FLEXINITY® supports pressure sensor performance

FLEXINITY® supports pressure sensor performance by combining precise glass geometries, stable material behavior and reliable bonding interfaces. This helps reduce drift, support reproducible signal response and protect critical interfaces against media, humidity and contaminants.

Standard structuring capabilities*	
Thickness range (depending on glass type)	0.1 – 3.3 mm
Format	Max. 600 mm in diameter 
Layout	Through structures according to customer specifications
Structuring radius	$\geq 100 \mu\text{m}$
Feature size tolerance	$< 20 \mu\text{m}$ (equiv. $\pm 10 \mu\text{m}$)
Wall taper angle	$90^\circ \pm 0.5^\circ$
Edge exclusion zone	$\geq 3 \text{ mm}$
Position tolerance of features	$< 20 \mu\text{m}$ (equiv. $\pm 10 \mu\text{m}$)
Position tolerance of structure to reference positions	$\pm 50 \mu\text{m}$
Surface roughness R_a	$\leq 1.5 \text{ nm}$
Coefficient of mean linear thermal expansion α (20°C; 300°C) (statistic measurement)	$3.3 \cdot 10^{-6}/\text{K}$
Transformation temperature T_g	532 °C

* Limitations in feature design and demands deviating from these capabilities will be evaluated upon request

