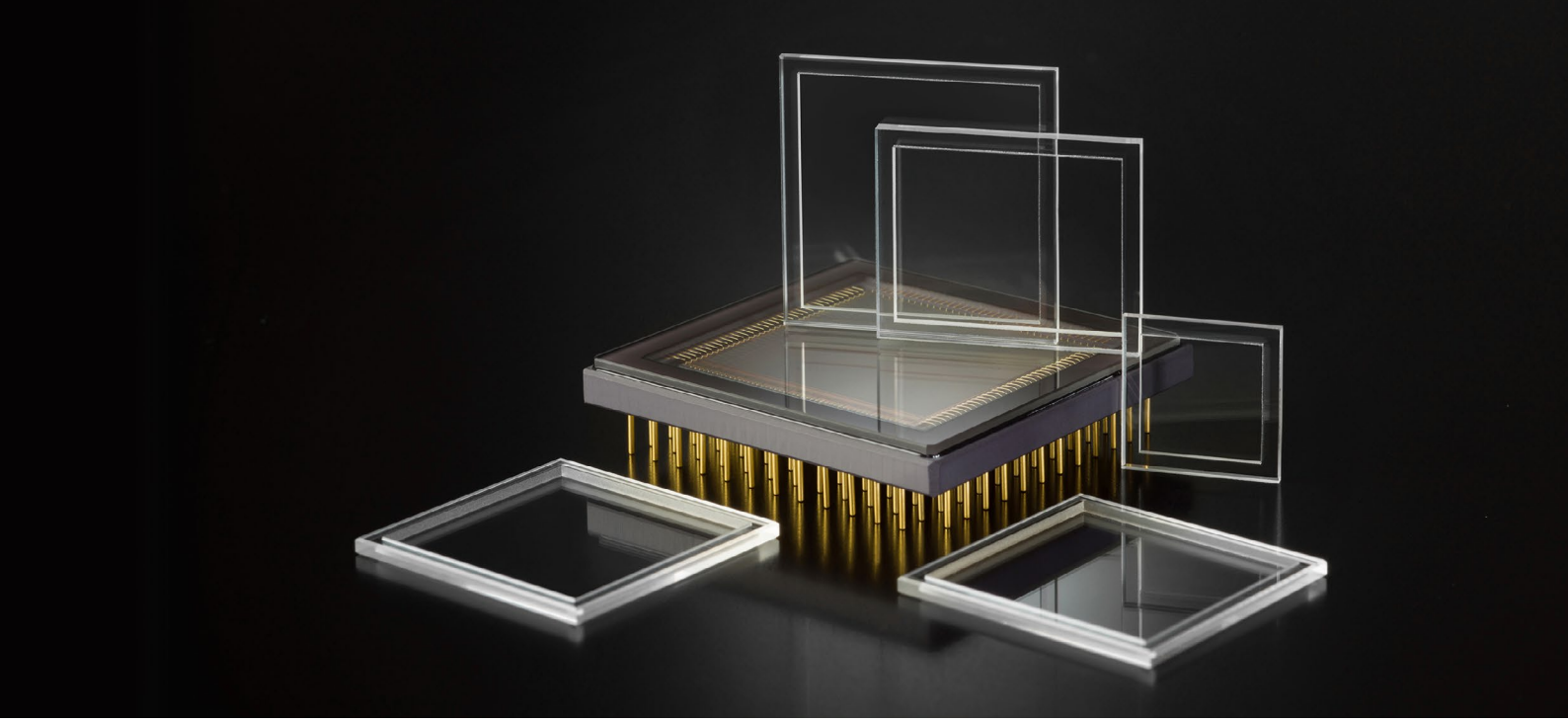


SCHOTT® Cavity Cap

Ready-to-integrate 3D glass cap solution for photonic chip and sensor packaging

SCHOTT® Cavity Cap is a pre-assembled glass packaging solution for optoelectronic devices, photonic chips, optical sensors, light emitters and MEMS-related components.

It combines SCHOTT cover glass expertise with high-precision FLEXINITY® structured spacer glass, creating a 3D glass cap with an optical window and defined cavity space for sensitive electronic and optical components.

By delivering the window and spacer as an assembled glass solution, SCHOTT® Cavity Cap helps reduce package integration complexity, remove the customer-side window-to-spacer bonding step and support repeatable packaging quality in compact device designs.

Integrated cover glass and spacer solution

Photonics and optoelectronic packaging often require more than a transparent cover. Sensitive components need optical access, mechanical protection, defined cavity space and reliable integration into compact packages.

SCHOTT® Cavity Cap provides a glass-based 3D package component with high optical transmittance, tight geometrical properties and customizable cavity designs. The cap can be adapted in glass type, dimensions, spacer height, opening geometry and coating requirements.

Application areas

SCHOTT® Cavity Cap can be used as a package component for:

- Optical sensors
- Laser diodes and LEDs
- MEMS and MOEMS devices
- Electronic and semiconductor devices
- Photonic chips
- AR/VR and LiDAR-related optical components
- Machine vision and professional imaging applications

Key advantages

Ready to integrate
Pre-assembled window and spacer solution with no window-to-spacer bonding required at customer side.

Additive-free bonding
Wafer-level bonding of window and spacer without adhesives or additional materials.

High optical transmittance
Top window light transmission for applications from UV to NIR.

Tight geometrical properties
Opening tolerances of <20 µm, equivalent to ±10 µm, support precise package designs.

3D cavity design
Defined spacer height and opening geometries provide space for electronic and optical components underneath the window.

Broad glass material portfolio
Available with selected SCHOTT glasses such as D 263® T, AF 32®, BOROFLOAT® 33, MEMpax®.

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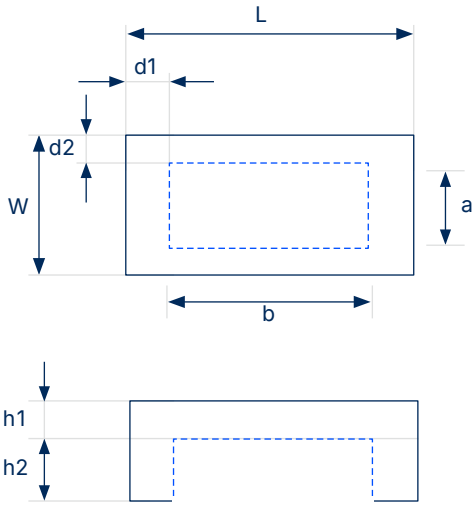
	D 263® Family	MEMpax®	AF 32®	BOROFLOAT® 33
CTE (ppm/K)	7.2	3.3	3.2	3.3

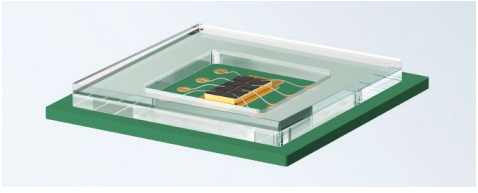
Technical data – window	
Luminous transmittance τ_{vD65} at 0.3 mm	~ 91.7 %
Thickness (h1)	0.1 – 1.1 mm
AR coating (single-side/double-side)	On demand

Technical data – spacer	
Spacer height (h2)	0.2 – 3.3 mm
Opening size (a, b)	Variable; min. 0.3 mm
Opening tolerances	< 20 µm (equiv. ± 10 µm)
Dam width (d1, d2)	Down to 0.5 mm

Technical data – cap	
Cap size (L, W)	Variable; min. 3 x 3 mm
Cap size tolerance	± 100 µm
Cap height (h1+h2)	Min. 0.3 mm
Edge quality (inner edge)	< 10 µm
Edge quality (diced outer edge)	< 100 µm
Edge chamfering	On demand

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



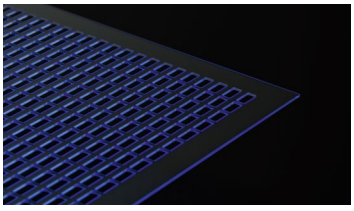


SCHOTT® Cavity Cap on submount

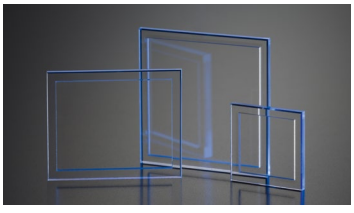
From glass components to assembled cap



Cut-to-size cover glass
High-transmittance glass window selected according to optical and application requirements.



Structured FLEXINITY® spacer glass
High-precision spacer with defined openings, dam widths and cavity geometry.



Assembled SCHOTT® Cavity Cap
Ready-to-integrate 3D glass cap solution for compact photonic and optoelectronic packages.

Bonding of window and spacer

SCHOTT® Cavity Cap uses wafer-level bonding of the glass window to the structured spacer. The bonding is additive-free, with no adhesives or extra materials required.

This pre-assembled approach helps reduce integration complexity because the window-to-spacer bonding step is already completed.

ENGLISH 08/2026 kn

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