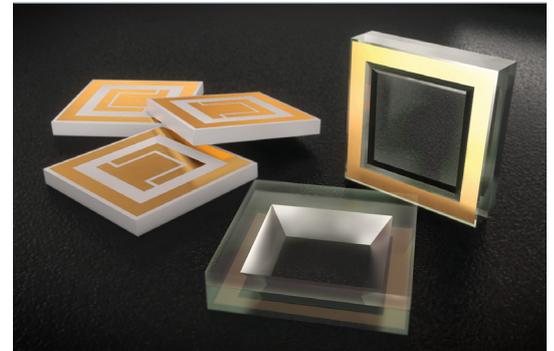




# Reflector CupLid – Optical Cavity Window with Al-Reflector

Surface mount Optical Reflector Window for efficient light extraction of edge-emitting Laser Diodes and LEDs in UV, Visible or Infrared

For hermetic packaging of laser diodes and LEDs Materion Balzers Optics has developed Reflector CupLids , a space-saving surface-mount photonic package with integrated mirrors on 45° -angled side-walls. Reflector CupLids form a fine-leak hermetic package by solder bonding a window cavity onto a flat ceramic submount (alumina or AlN ) under vacuum or inert gas atmosphere. Reflector CupLids are available with different anti-reflective coatings in UV, Visible or Near Infrared and can be shipped fully-furnished with tack-welded solder preforms for easy handling and assembly. For prototyping we provide several reference designs of AlN submounts for either wirebond or flipchip die-attach.



## Benefits

- Space-saving surface-mount photonic package for fully automated die attach and PCB assembly
- Fineleak hermetic package with excellent heat dissipation on AlN ceramic submount
- CupLid cavity window coated with multi-layer anti-reflective coating and Al mirrors on 45° sidewalls
- Fully-furnished packaging solution consisting of CupLid cavity window, AuSn or SnSb solder preform & matching AlN submount

## Applications

- Automotive LiDAR systems
- Automotive Laser Head Lights
- Augmented Reality Laser Light Engines
- UV Disinfection / UV Curing
- Lighting Horticulture

## Technical Data

### Spectral Characteristics AR Coatings

UVC	Rabs < 0.5%, 265 280 nm, AOI<40° Ravg < 0.4%, 265 280 nm, AOI<40°
UVA	Ravg < 0.3%, 325 375 nm, AOI<15°
Broadband	Ravg < 0.3%, 440 650 nm, AOI<15°
Visible AR	Ravg < 0.5%, 440 650 nm, AOI<30° Ravg < 1.0%, 440 650 nm, AOI<45° Ravg < 4.5%, 440 650 nm, AOI<60°
V-Coating (Laser Line)	Rabs < 0.1%, for all common laser lines Rfrom 365 nm–1550 nm

Above spectral specification are for reference only.

MWIR windows available upon request.

### Mechanical Dimensions

Window size	Custom sizes available
Window thickness	0.3–1.5 mm
Spacer height	0.3–0.8 mm

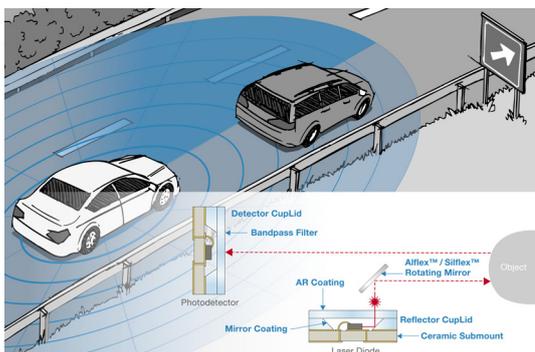
### Metallization

GeLot™ as adhesion layer and diffusion barrier

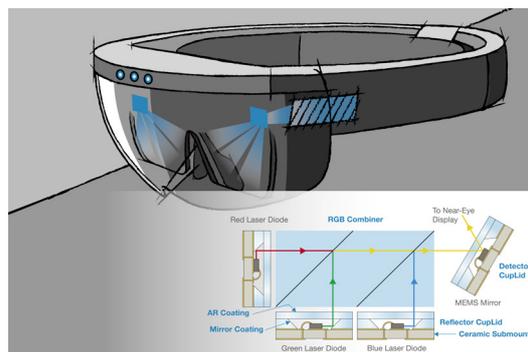
### Solder Preform on the Lip of the CupLid

AuSn or SnSb solder preform tack welded onto the lip of the CupLid, available on request

## Automotive LiDAR



## Augmented Reality Smart Glasses

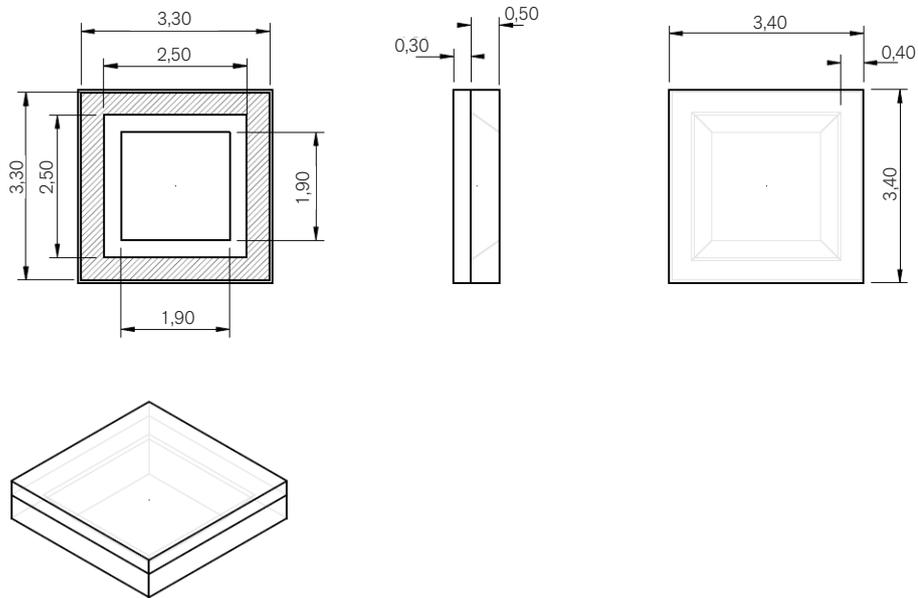




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**Mechanical Drawing of an Example CupLid**



Dimensions in millimeters.  
Custom window size available on request. Contact us for design guidelines.