



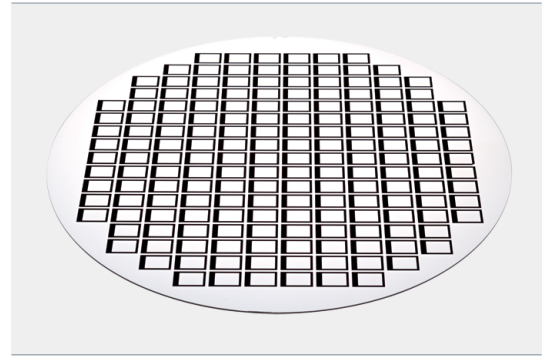
MATERION

// BALZERS OPTICS

# Wafer Level Packaging

## Coated Glass Wafer for Advanced Optical Packaging

Wafer Level Packaging is the cutting edge technology for high volume optical packaging. The glass wafer is merged with the silicon wafer before dicing. Some of the applications require a spacer between the two wafers. Materion Balzers Optics provides glass wafers with low defect optical coatings – if required with Chrome apertures for light beam shaping.

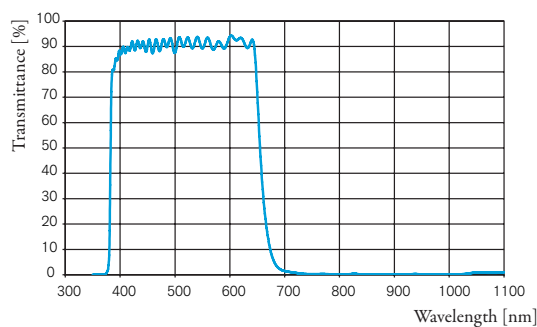


### Benefits

- High cleanliness at assembly step
- High yields due to clean work pieces
- Reduced handling efforts
- Lowers cost due to parallel assembly step on devices
- Enables further miniaturization

### Applications/Technical Data

#### IR Cut Filters on WLP



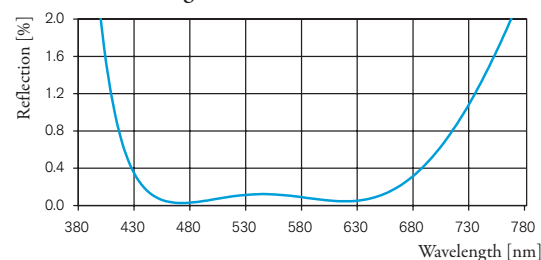
#### Application CMOS Packaging

**Size of wafer** 200 mm round, 0.3/0.4 mm thick

**Typical glass type** SCHOTT D263<sup>®</sup> T eco

**Defect Level** No defects > 50  $\mu\text{m}$

#### Anti Reflex Coatings on WLP



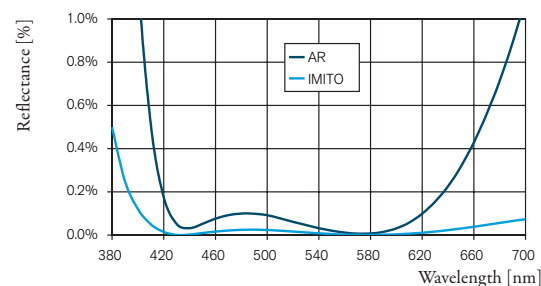
#### Applications MEMS/CMOS Packaging

**Size of wafer** 200 mm round, 1.1 mm thick

**Typical glass type** BOROFLUAT<sup>®</sup>

**Defect Level** No defects > 20  $\mu\text{m}$

#### Index Matched ITO on WLP

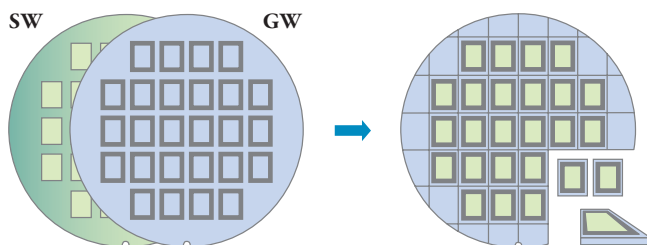


#### Applications LCOS Microdisplays Packaging

**Size of wafer** 200 mm round, 0.7/1.1 mm thick

**Typical glass type** Corning 1737, Eagle XG

**Defect Level** No defects > 10  $\mu\text{m}$  on ITO side



Schematic Wafer Level Packaging: Entire semiconductor wafer (SW) with array of sensors is covered by a cover glass wafer (GW) – see left side. Combined wafers are cut into pieces (right side).