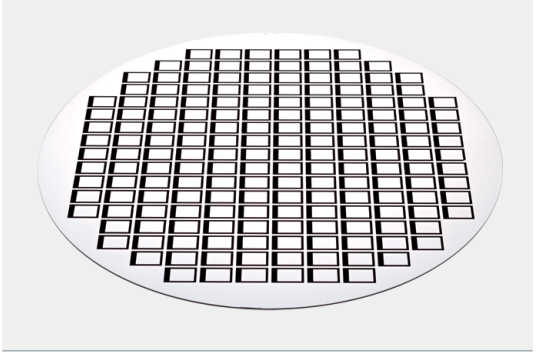
MATERION
// BALZERS OPTICS

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.

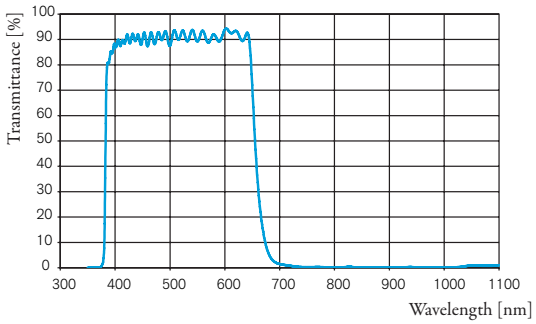


Benefits

- 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

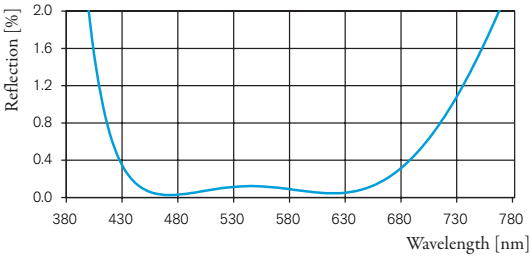
Applications/Technical Data

IR Cut Filters on WLP



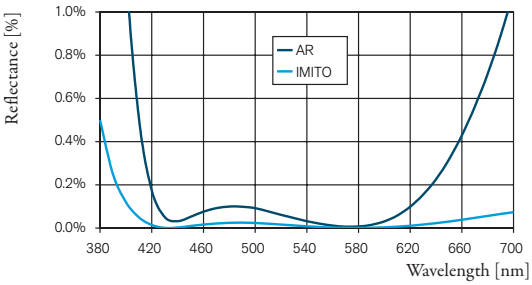
Application CMOS Packaging
Size of wafer 200 mm round, 0.3/0.4 mm thick
Typical glass type SCHOTT D263® T eco
Defect Level No defects > 50 µm

Anti Reflex Coatings on WLP

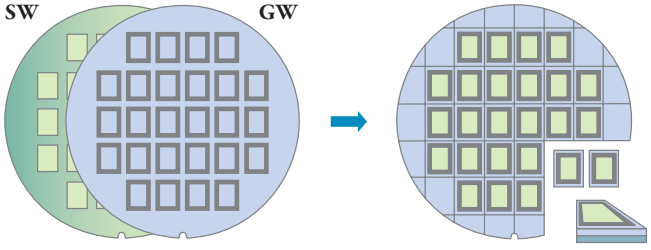


Applications MEMS/CMOS Packaging
Size of wafer 200 mm round, 1.1 mm thick
Typical glass type BOROFLOAT®
Defect Level No defects > 20 µm

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 µm 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).

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