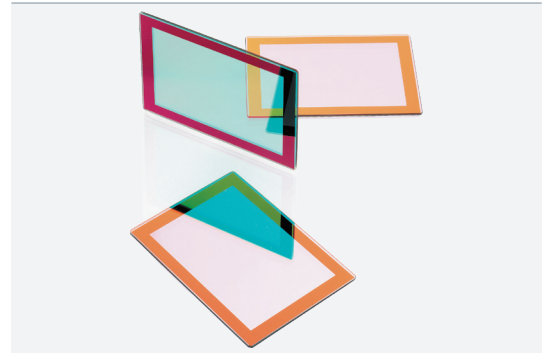




Low Defect NIR Blocking Filter for Imaging Sensors

Cover Glass for CMOS/CCD Sensors

High performance digital image capture with CMOS or CCD sensors requires efficient blocking of the Near Infrared (NIR) in a broad wavelength range. The edge shape of such a filter depends very much on the application and therefore is custom designed. Furthermore, only a low defect density can be tolerated as every defect may lead to pixel loss. Finally, some high end applications require cover glass apertures to mask sensor framework.



Benefits

- A cutting edge low defect coating technology enables large area cover glasses with no defects larger than 20 μm.
- Broad blocking range, with minimized angle of incidence dependence.
- In house patterning technology permits the custom application of chrome apertures.

Applications

Cover glass for packaging of digital imaging sensors, such as CMOS and CCD sensors.

Technical Data

Transmittance

$T_{avg} > 90\%$ at 430–570 nm

Blocking

$T_{avg} < 1\%$ at 700–1100 nm

Slope

Depending on application

Surface quality

No defects > 20 μm

Chrome reflectivity

$R < 18\%$ at visual range

Environmental stability

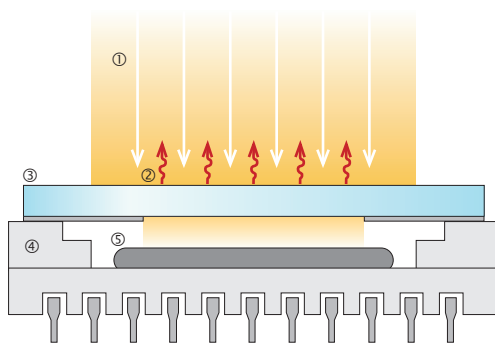
MIL-C-675B

Size limits

100 · 100 mm

Side view of a sensor packaging

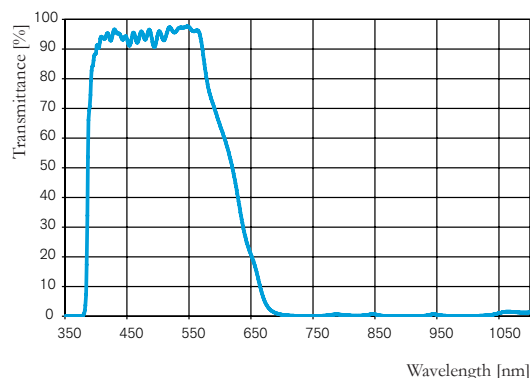
The cover glass includes the NIR blocking filter plus the



- ① Incoming light beam
- ② Reflected NIR radiation
- ③ Cover Glass including aperture and filter
- ④ Ceramic ground plate
- ⑤ CMOS/CCD sensor

Measured spectrum of an NIR blocking filter with defined linear slope and broad blocking range

Slope can be designed much steeper on request AOI=15°



Optics Balzers AG
Neugrüt 35
LI-9496 Balzers

Liechtenstein
T +423 388 9200
F +423 388 9390
info.mbo@materion.com
www.materion.com/balzersoptics