

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 $> 20 \ \mu m$
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

S 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°



Wavelength [nm]

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MBO 031 PE (2110-1) 1/1

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