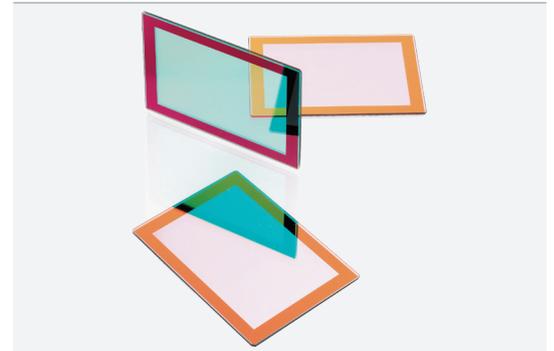


# Low Defect NIR Blocking Filter for Imaging Sensors

## 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  $\mu\text{m}$ .
- 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

$T_{\text{avg}} > 90\%$  at 430–570 nm

#### Blocking

$T_{\text{avg}} < 1\%$  at 700–1100 nm

#### Slope

Depending on application

#### Surface quality

No defects  $> 20 \mu\text{m}$

#### Chrome reflectivity

$R < 18\%$  at visual range

#### Environmental stability

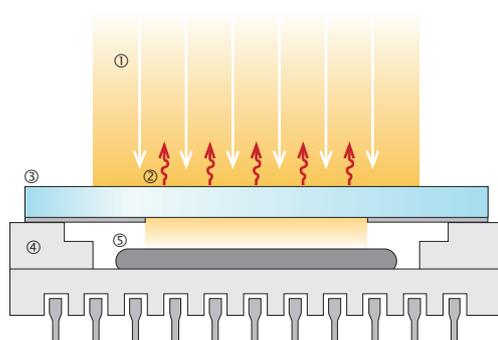
MIL-C-675B

#### 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
- 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°

