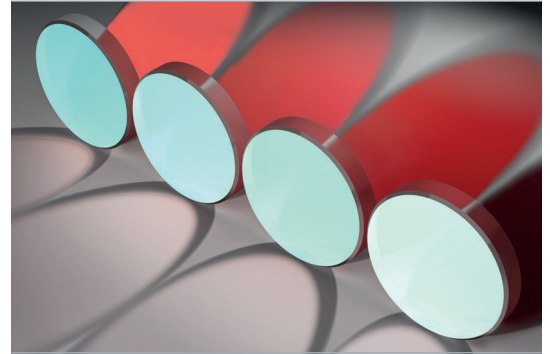


# Red-Bandpassfilter RTR SP for 600–750 nm

## Dielectrical narrowband red Bandpassfilter for elimination of undesired radiation on receiver photodiodes

Red-Bandpassfilters SP are used in various optical sensor applications for blocking both ambient visible and NIR wavelength range while selectively transmitting signal light of a specified visible spectral range (e.g. red) for sensing application. Bandpassfilters are key components to achieve very high signal to noise ratios in optical sensing or distance measurements. Materion Balzers Optics Red-Bandpassfilter SP based on proven sputtering technology do not use colored glass substrates but clear glass substrates, which allow components to fulfill EU RoHS directive demands.



### Benefits

- High-transmissive and durable dielectrical filter
- Spectral design flexibility for center wavelength, transmission bandwidth (VIS), blocking ranges and levels
- Enabling superior signal-to-noise ratio in sensing applications
- Various, customer specific sizes and shapes on standard low loss flat glass substrates
- Excellent environmental stability thus long lifetime
- EU RoHS directive compliant

### Applications

- Optical sensors and instruments
- Optical ranging systems
- Factory automation
- Safety and security

### Technical Data

#### Red-Bandpassfilter SP

Optical filter specification (CWL 660nm) e.g.:

Tavg. ≤ 0.5% at 300 – 625 nm

Tabs. = 50% at 640 ± 5 nm

Tavg. > 88% at 650 – 670 nm

Tabs. = 50% at 680 ± 5 nm

Tavg. ≤ 0.5% at 695 – 1150 nm

AOI = 0°

AOI = 0°–20° around 12 nm guidance value

r-pol.

#### Passband wavelength

Customized CWL filter solutions on request. Other selected center wavelengths for customer specific filters in wavelength-range 300–1100 nm (e.g.) 633 nm, 640 nm, 650 nm, 670 nm

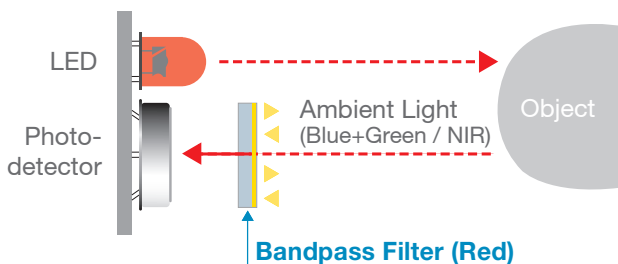
#### Transmittance

> 85–95% avg. in passband (typical)

#### Blocking

Depending on customer requirements

### Visualized application of Red-Bandpassfilter RTR SP



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Subject to technical change without notice



**Angle of incidence**

Spectral tolerance for filter edge position 0.5%–1% (typically) for fixed AOI. Different AOI on request

**Temperature shift**

≤ 0.01nm of CWL per °C

**Environmental resistance and durability**

The coating withstands the following tests on glass substrates

**Temperature**

(MIL-M-13508C, para. 4.4.4.)

5 hrs each at -62 °C and +71 °C

(ISO 9022-2)

16 hrs at -62 °C and 2 hrs at +71 °C

**Abrasion**

(MIL-M-13508C, para. 4.4.5.)

50 strokes/cheesecloth

(ISO 9211-4-01)

50 strokes/cheesecloth

**Adhesion**

(MIL-M-13508C, para.4.4.6.)

Scotch tape test, quick

(ISO 9211-4-02-02)

1 s/25 mm, tape 3M

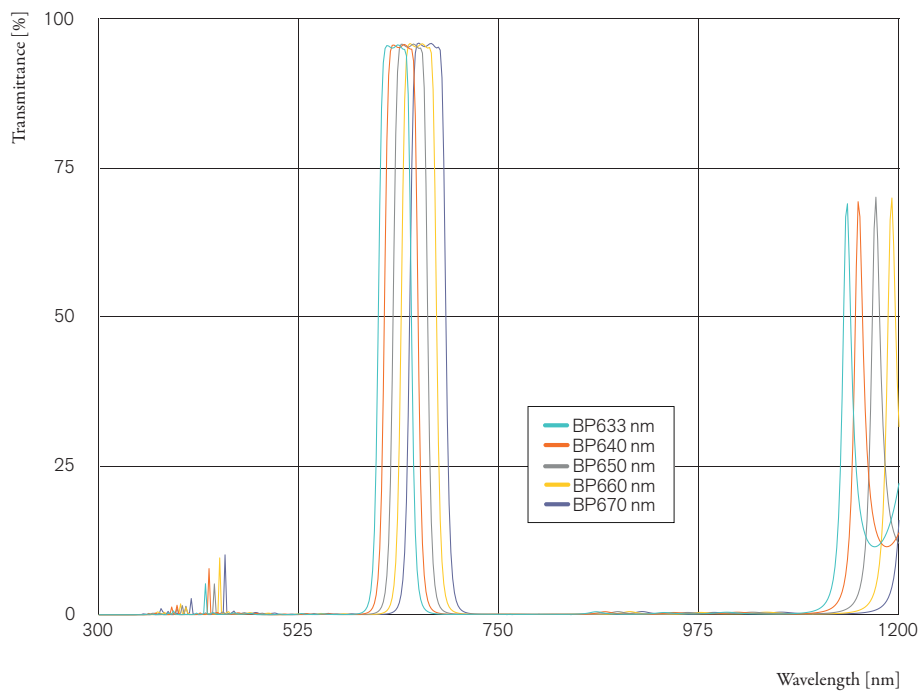
**Humidity**

(MIL-M-13508C, para. 4.4.7.)

24 hrs. at 49 °C r.h. 95%

(ISO 9022-2)

Transmission spectrum of dielectric Red-Bandpassfilter SP



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