

LENS OB-SWIR50/4 – P/N C0410

General Description

This family of high resolution SWIR lenses image from 0.9 – 2.3 μm making them especially well-suited for PCB inspection, special laser applications, surveillance and alignment and tracking. A high F/N and excellent transmission characteristics allow superior imaging in these wavelengths of interest.



Optical and mechanical parameters

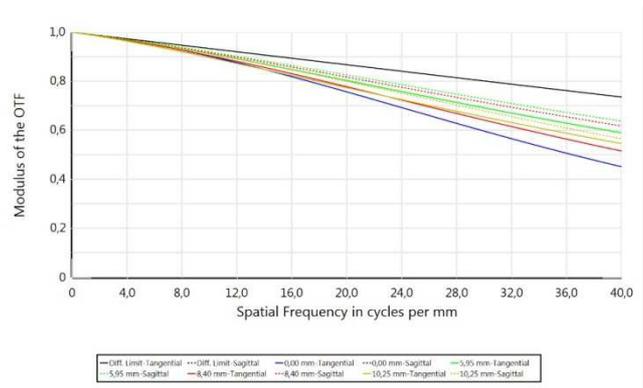
| | |
|-------------------------|------------------------------------|
| Focal length | 50 mm |
| Image format (diagonal) | 20.5 mm |
| F.O.V. (diagonal) | 23 degrees |
| Max aperture | F/N = 4 (fixed) |
| Object format | N.A. |
| Min working distance | 1.5 m |
| Zoom value | N.A. |
| Focus | Manual |
| Iris | Optional / If iris Min F/N = 22 |

| N. of elements | 4 |
|------------------|----------------|
| Dimensions | Dia 50 x 60 mm |
| Weight | 155 gr |
| Options | |
| Motorized focus | Upon request |
| Motorized iris | Upon request |
| Motorized zoom | N.A. |
| Other mount type | Upon request |
| Customization | Upon request |

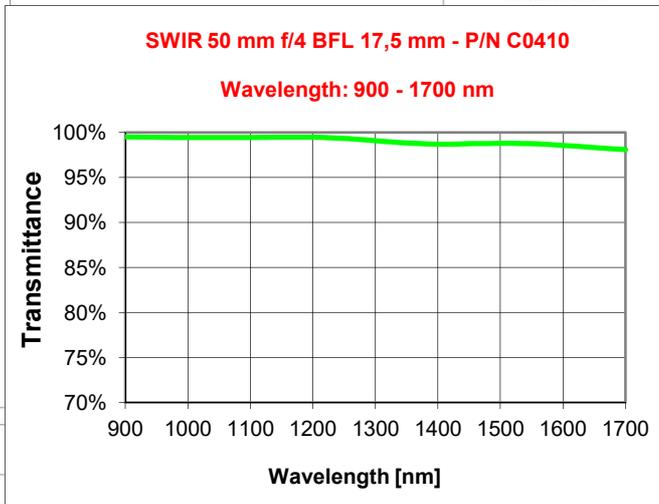
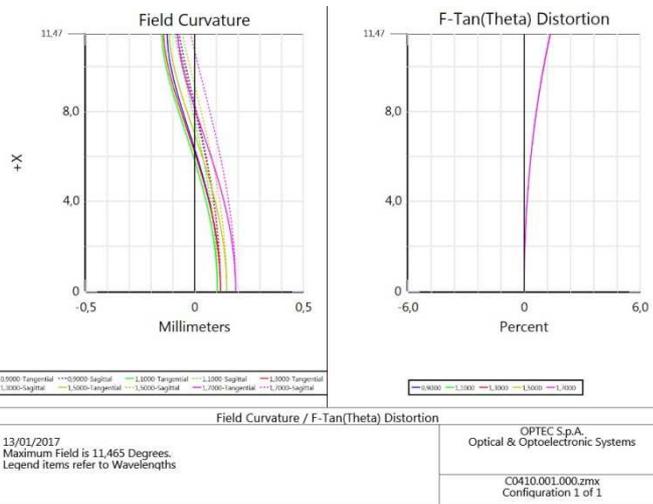
| P/N | wavelength range | mount type | note |
|-----------|------------------|------------|------------------------|
| C0410.001 | 900-1700 nm | C-Mount | Without iris diaphragm |
| C0410.005 | 1700-2300 nm | C-Mount | Without iris diaphragm |
| C0410.010 | 900-2300 nm | C-Mount | Without iris diaphragm |

MTF, Field Curvature, Distortion and Transmission from 900 to 1700 nm

The calculated MTF values are displayed below and are verified at the maximum F/N and the best focus plane. The colored lines represent the F.O.V. starting from the center (0%) to the corner (100%).



Polychromatic Diffraction MTF
 13/01/2017
 Data for 0,9000 to 1,7000 µm.
 Surface: Image
 Legend items refer to Field positions
 OPTEC S.p.A.
 Optical & Optoelectronic Systems
 C0410.001.000.zmx
 Configuration 1 of 1



Optical parameters for wavelength range 0.9 – 1.7 µm

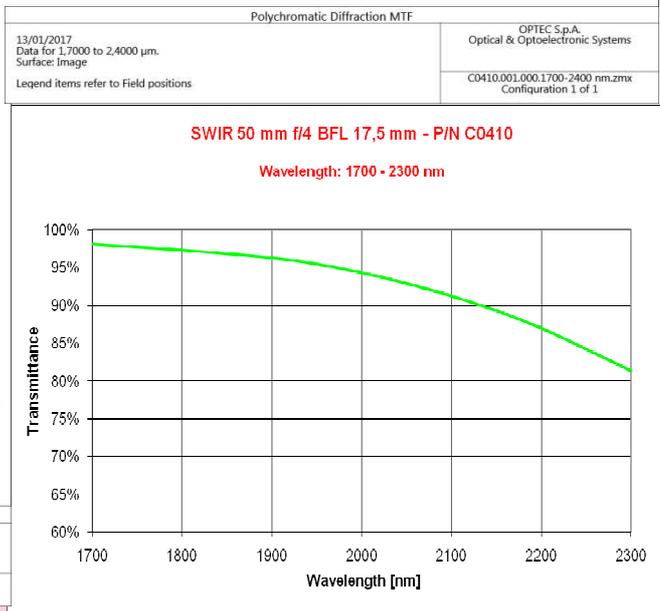
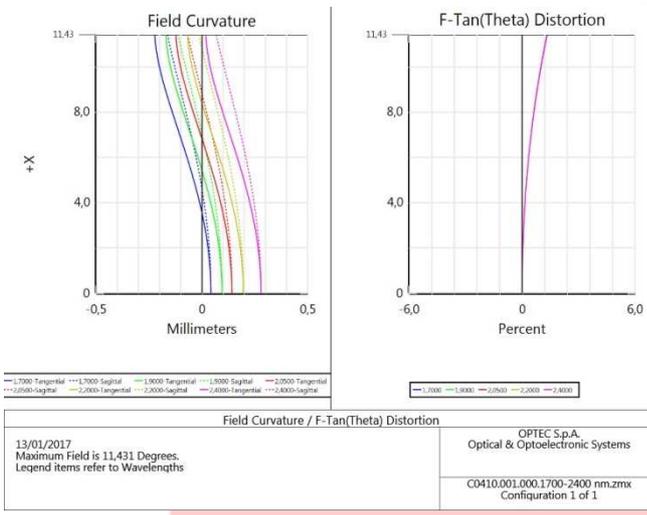
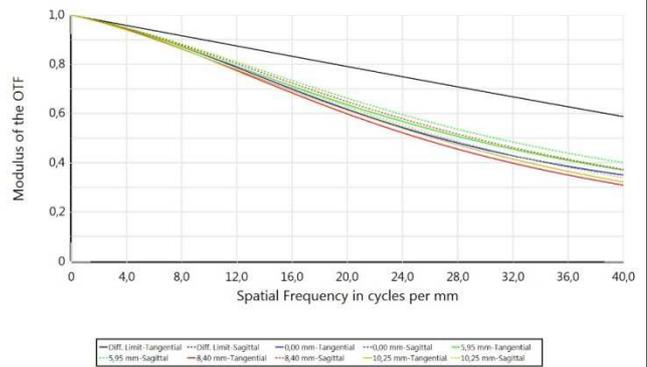
| | |
|------------------------------------|------------------|
| Resolution | MTF >40%@40lp/mm |
| Distortion | < 2% |
| Average axial chromatic aberration | <0.016 mm |

| | |
|-----------------------------------|--------|
| Lens Transmission without coating | > 98% |
| Antireflection Coating | R < 1% |
| Vignetting | 0% |

Specification are subject to change without notice

MTF, Field Curvature, Distortion and Transmission from 1700 to 2300 nm

The calculated MTF values are displayed Below and are verified at the maximum F/N and the best focus plane. The colored lines represent the F.O.V. starting from the center (0%) to the corner (100%).



Optical parameters for wavelength range 1.7 – 2.3 μm

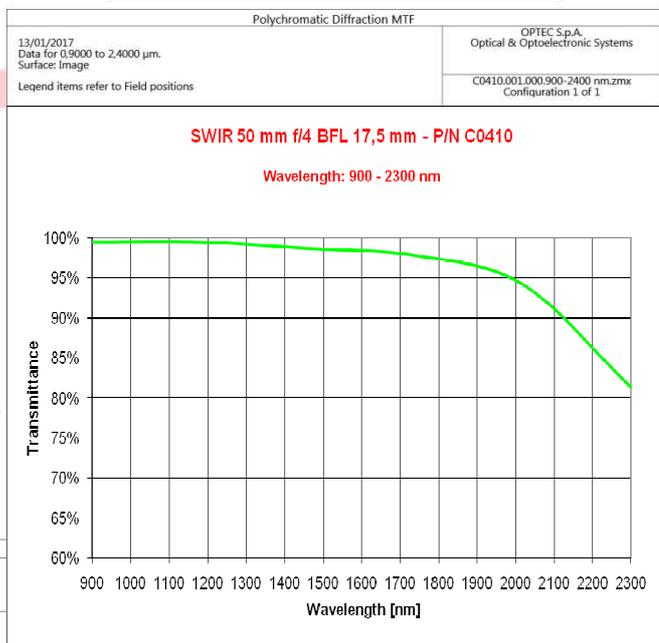
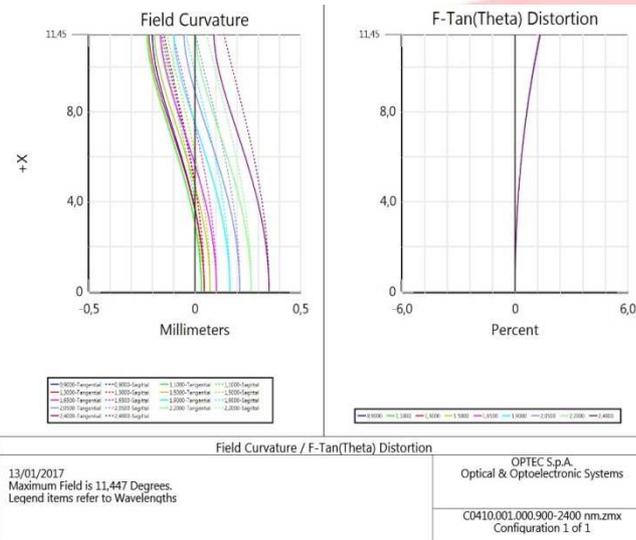
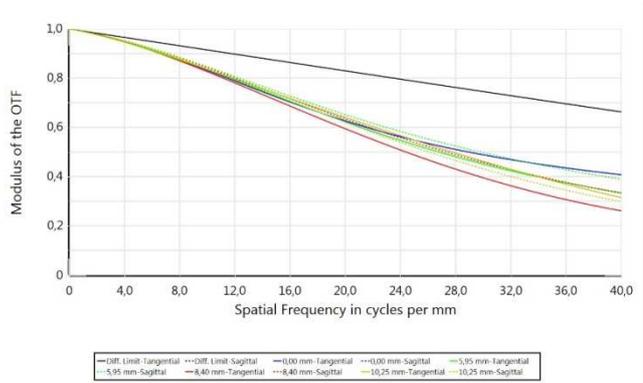
| | |
|------------|---------------------|
| Resolution | MTF > 30% @ 40lp/mm |
| Distortion | < 2% |

| | |
|-----------------------------------|--------|
| Lens Transmission without coating | > 81% |
| Antireflection Coating | R ≤ 1% |

Specification are subject to change without notice

MTF, Field Curvature, Distortion and Transmission from 900 to 2300 nm

The calculated MTF values are displayed Below and are verified at the maximum F/N and the best focus plane. The colored lines represent the F.O.V. starting from the center (0%) to the corner (100%).



Optical parameters for wavelength range 0.9 – 2.3 μm

| | |
|------------|-------------------|
| Resolution | MTF > 20%@40lp/mm |
| Distortion | < 2% |

| | |
|-----------------------------------|--------|
| Lens Transmission without coating | > 81% |
| Antireflection Coating | R ≤ 1% |

More details are available upon request and technical drawings are open for the customers and their needs.

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