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OPTICAL & OPTOELECTRONIC SYSTEMS
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LENS OB-SWIR25/4 – P/N C0413

General Description

This family of high resoluton SWIR lenses image from 0.9 – 2.3 µm making them especially well-suited for PCB inspection, specialty 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	25 mm
Image format (diagonal)	20.5 mm
F.O.V. (diagonal)	44.6 degrees
Max aperture	F/N = 4 (fixed)
Object format	N.A.
Min working distance	250 mm
Zoom value	N.A.
Focus	Manual
Iris	Optional Min F/N=16(if iris)

N. of elements	5
Dimensions	Dia 60 x 50 mm
Weight	0.6 Kg
Options	
Focus motorized	Upon request
Iris motorized	Upon request
Zoom motorized	N.A.
Other mount type	Upon request
Customization	Upon request

P/N	*wavelength range*	*mount type*	*note*
C0413.001	900-1700 nm	Canon	Without iris diaphragm
C0413.051	900-1700 nm	Canon	With iris diaphragm
C0413.002	900-1700 nm	Nikon	Without iris diaphragm
C0413.052	900-1700 nm	Nikon	With iris diaphragm
C0413.003	900-1700 nm	M42 Screw	Without iris diaphragm
C0413.053	900-1700 nm	M42 Screw	With iris diaphragm

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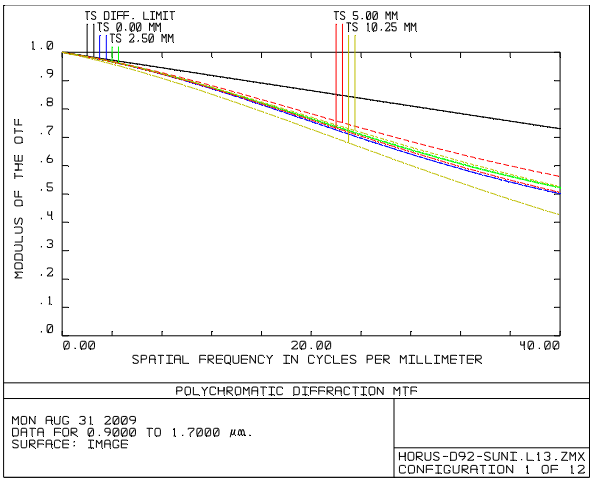
P/N	wavelength range	mount type	note
C0413.005	1700-2300 nm	Canon	Without iris diaphragm
C0413.055	1700-2300 nm	Canon	With iris diaphragm
C0413.006	1700-2300 nm	Nikon	Without iris diaphragm
C0413.056	1700-2300 nm	Nikon	With iris diaphragm
C0413.007	1700-2300 nm	M42 Screw	Without iris diaphragm
C0413.057	1700-2300 nm	M42 Screw	With iris diaphragm
C0413.010	900-2300 nm	Canon	Without iris diaphragm
C0413.060	900-2300 nm	Canon	With iris diaphragm
C0413.011	900-2300 nm	Nikon	Without iris diaphragm
C0413.061	900-2300 nm	Nikon	With iris diaphragm
C0413.012	900-2300 nm	M42 Screw	Without iris diaphragm
C0413.062	900-2300 nm	M42 Screw	With 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 best focus plane. The colored lines represent the F.O.V, starting in the center (0%) to the corner (100%).



Optical parameters for wavelength range 0.9 – 1.7 µm

Resolution	MTF > 45%@40lp/mm
Distortion	< 5%
Average axial chromatic aberration	< 0.0439 mm

Transmission	> 92%
Antireflection Coating	R ≤ 1%
Vignetting	< 17%

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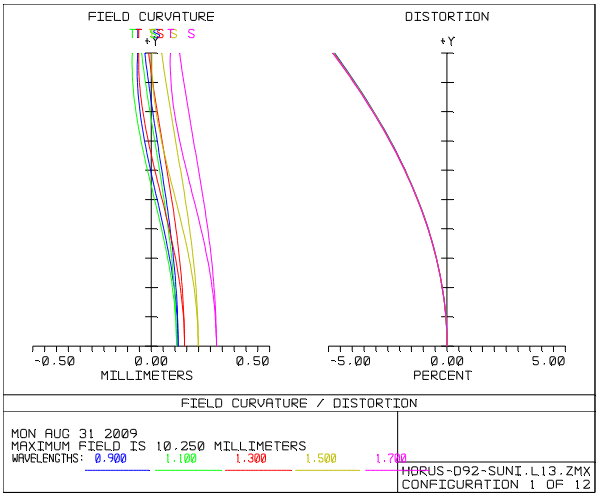
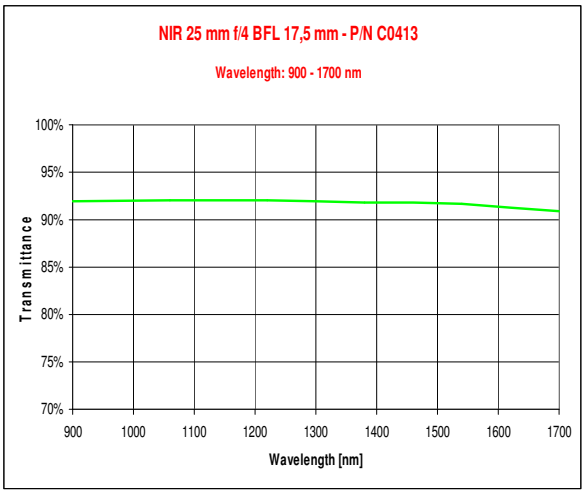
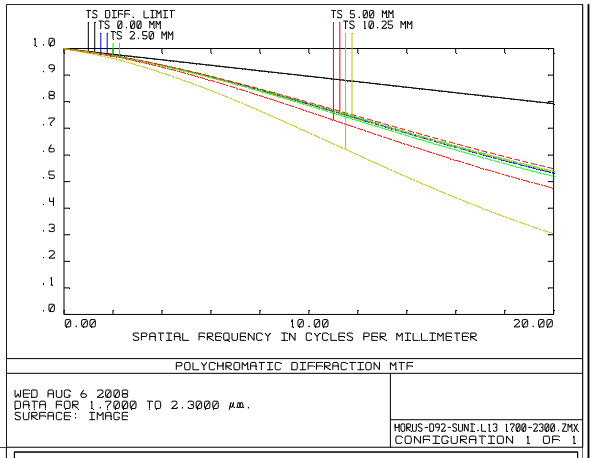
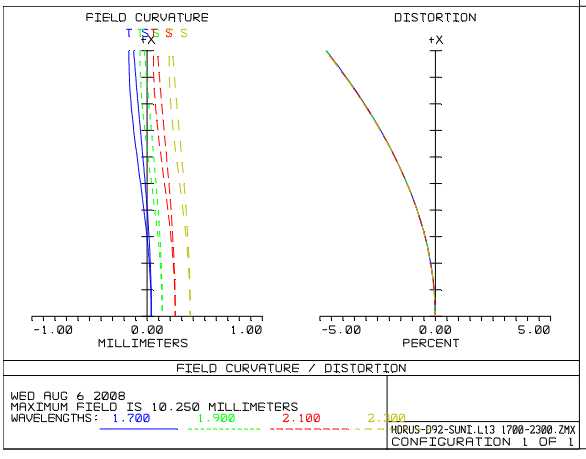


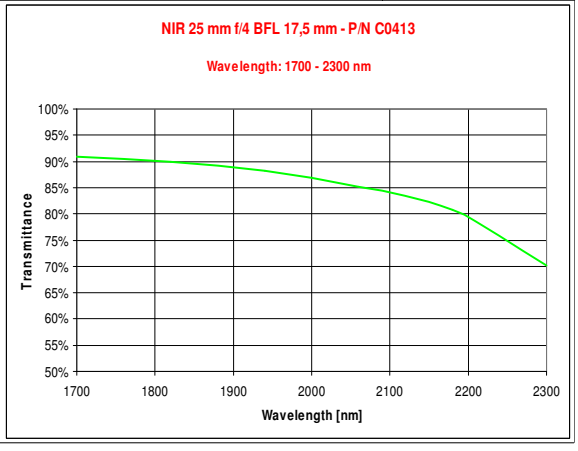


MTF, Field Curvature, Distortion and Transmission from 1700 to 2300 nm

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 in the center (0%) to the corner (100%)







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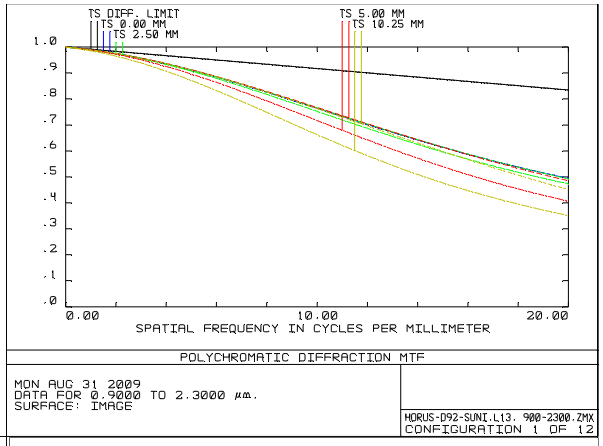
Optical parameters for wavelength range 1.7 – 2.3 µm

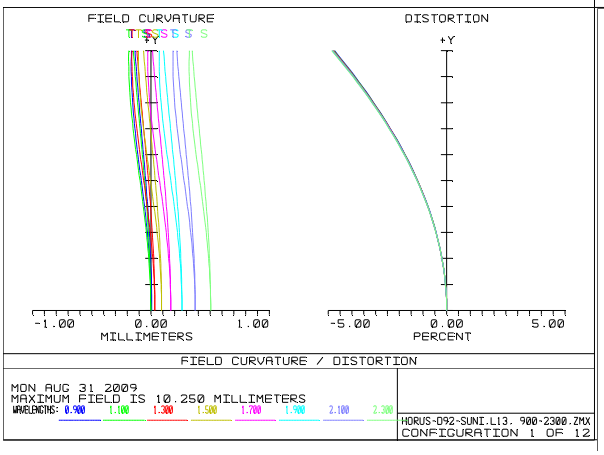
Resolution	MTF > 45%@20lp/mm
Distortion	< 5%

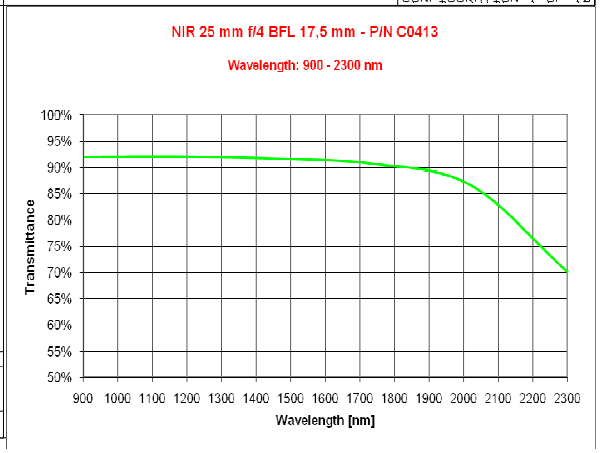
Transmission	> 70%
Antireflection Coating	R ≤ 1%

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 in the center (0%) to the corner (100%)







Optical parameters for wavelength range 0.9 – 2.3 µm

Resolution	MTF > 40%@20lp/mm
Distortion	< 5%

Transmission	> 70%
Antireflection Coating	R ≤ 1%