

VEO_CS DIAMOND 5.0 × / F1.6

For TDI Line Scan

Key Features

- Optimized for 62.5 mm line scan sensors
- High resolution over the entire field
- Resolves 1.28 μm in object space
- With beam splitter for axial in-line illumination
- Low chromatic focal shift
- No relative illumination loss at the edge
- Best azimuth marking

Applications

- FPD (OLED / LCD) inspection
- PCB inspection
- Wafer inspection
- High resolution defect detection
- Quality assurance systems

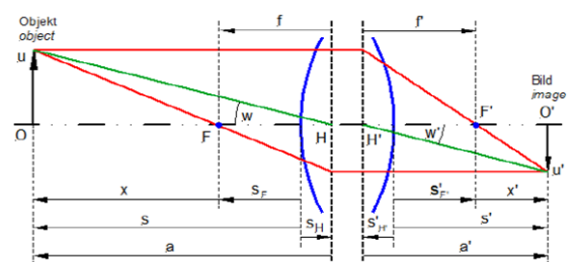


Performance

Parameter	Specification	Remarks
Magnification range	5.0 (4.9 ... 5.1)	
F/# range	F/1.6 ... F/2.8	Optimum F/1.6
Numerical aperture	0.261	
Max. sensor size [mm]	62.5	
Infinite F/#	F/1.6	
Focal length [mm]	82	
Depth of field [μm]	7.68	@ P. CoC 10 μm
Distortion	< 0.05%	
Wavelength [nm]	400 ... 1000	Visible ... NIR
Working distance [mm]	34 (33.6 ... 34.3)	B/S ... Object
Beam splitter size	25 × 25 × 80	
Total length [mm]	574 ± 2	from Object to Sensor
Interface	V70 mount	0.75 pitch
Iris	Changeable	
Relative illumination	Less than 5%	
Weight [g]	1170	

Optical Parameters

Contents	Parameter	Value
Chief Ray Angle (Max.) in object plane	CRA	3.0°
Effective focal length	f'eff [mm]	82.23
Front focal length	SF [mm]	-18.53
Back focal length	S'F' [mm]	-31.82
Principal plane distance	HH' [mm]	-17.62
Pupil magnification	$\beta'P$	0.813
Entrance pupil position	SEP [mm]	82.43
Exit pupil position	S'AP [mm]	-98.67
Vertex width	Σd [mm]	160.13



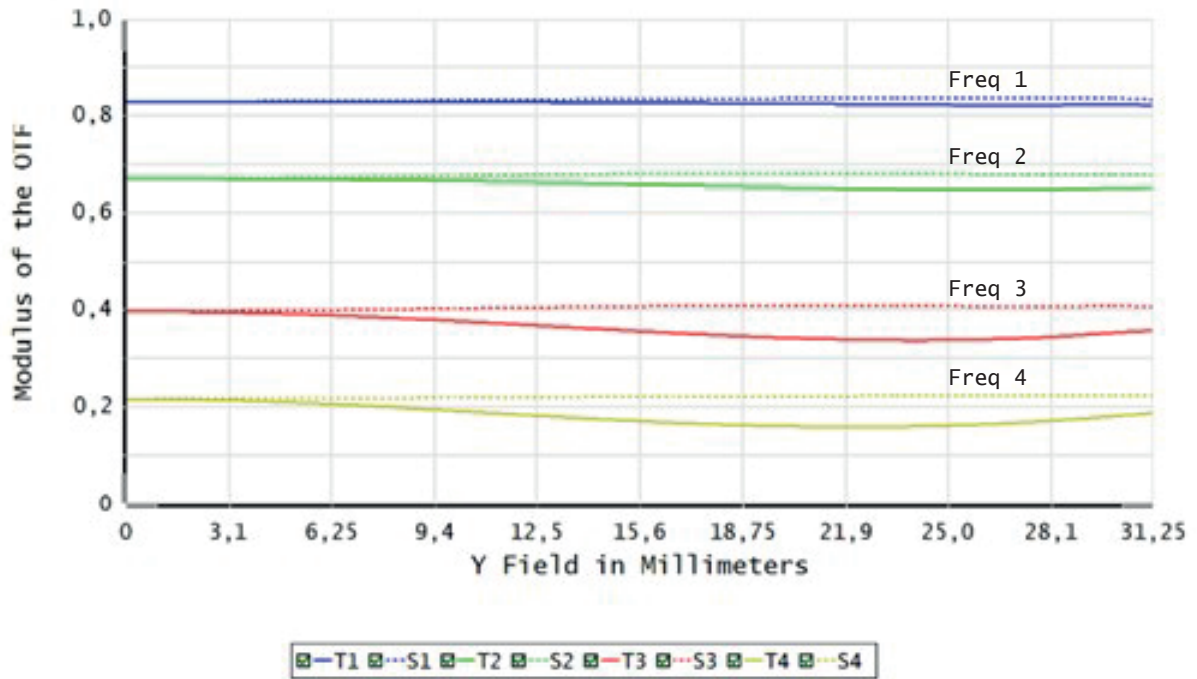
VIEWWORKS

vision.viewworks.com

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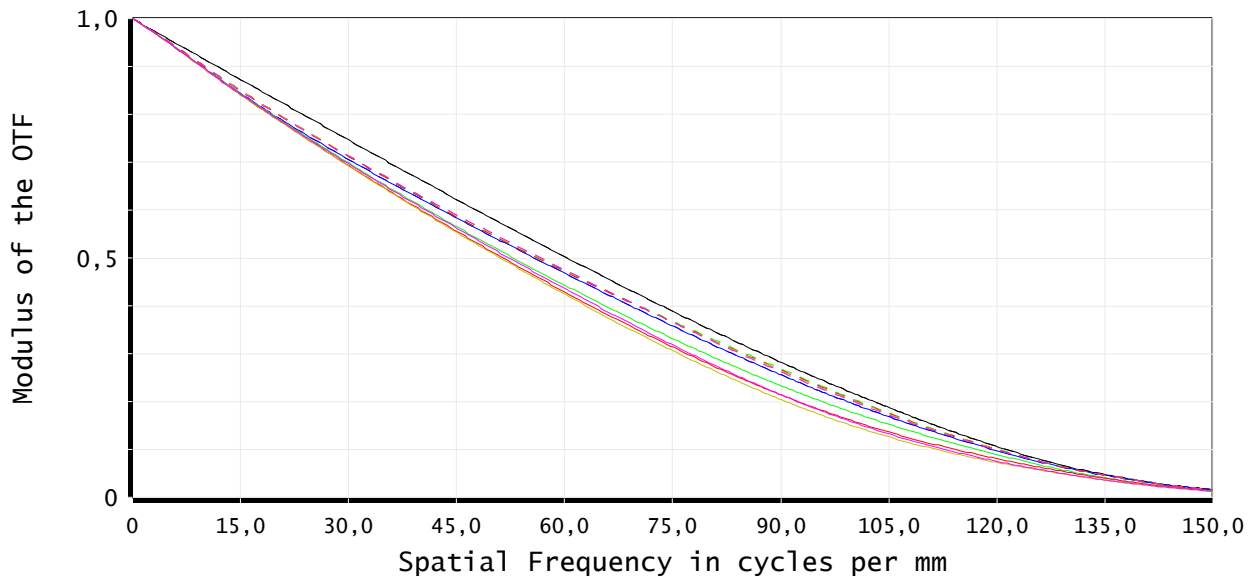
MTF



FFT MTF vs. Field

Freq 1: 18.00 cyc/mm Freq 2: 36.00 cyc/mm Freq 3: 72.00 cyc/mm Freq 4: 100.00 cyc/mm

Legend items refer to Tangential (T) / Sagittal (S) frequency



- | | | | |
|--------------------------|--------------------------|-----------------------|-----------------------|
| — Diff. Limit-Tangential | --- Diff. Limit-Sagittal | — 0,00 mm-Tangential | --- 0,00 mm-Sagittal |
| — 31,25 mm-Tangential | --- 31,25 mm-Sagittal | — 27,06 mm-Tangential | --- 27,06 mm-Sagittal |
| — 22,10 mm-Tangential | --- 22,10 mm-Sagittal | — 15,63 mm-Tangential | --- 15,63 mm-Sagittal |

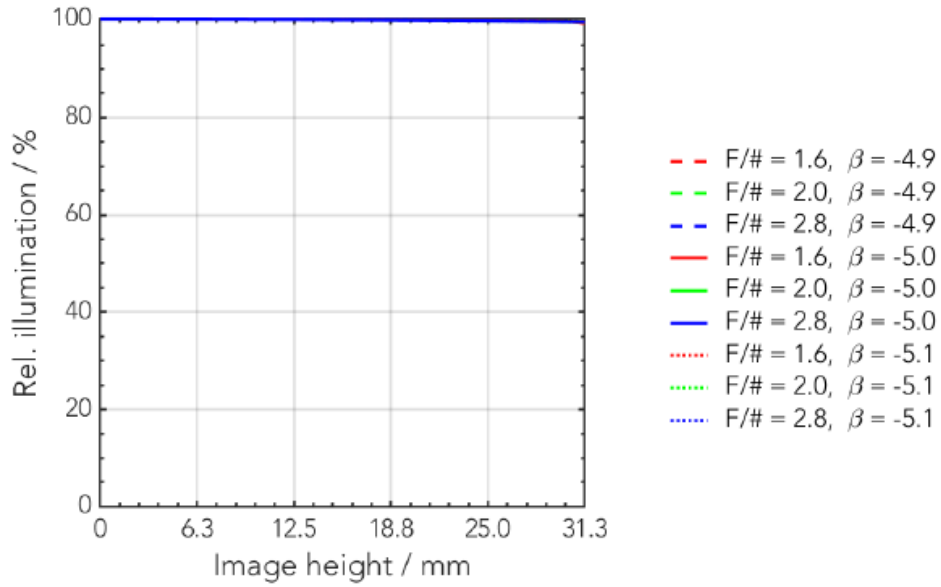
Polychromatic Diffraction MTF

Data for 0.4360 to 0.6450 μm

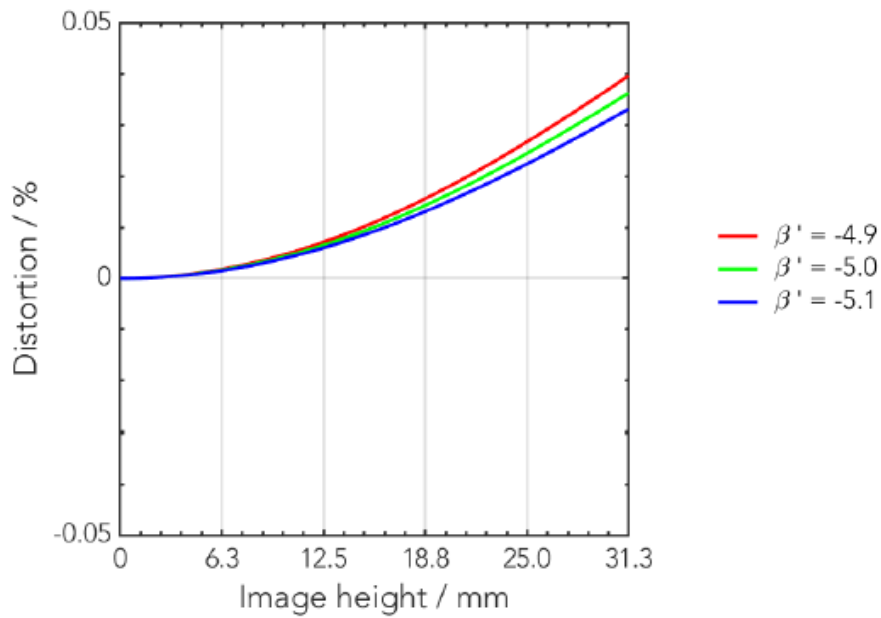
Surface: Image (image level)

Legend items refer to Field positions

Relative Illumination



Distortion



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Dimensions

Unit: mm

