

Terahertz camera Lens

➤ TeraLens

A high-performance solution for real-time camera THz imaging

Focus ring and depth of field control through iris aperture

High numerical aperture for optimum power collection

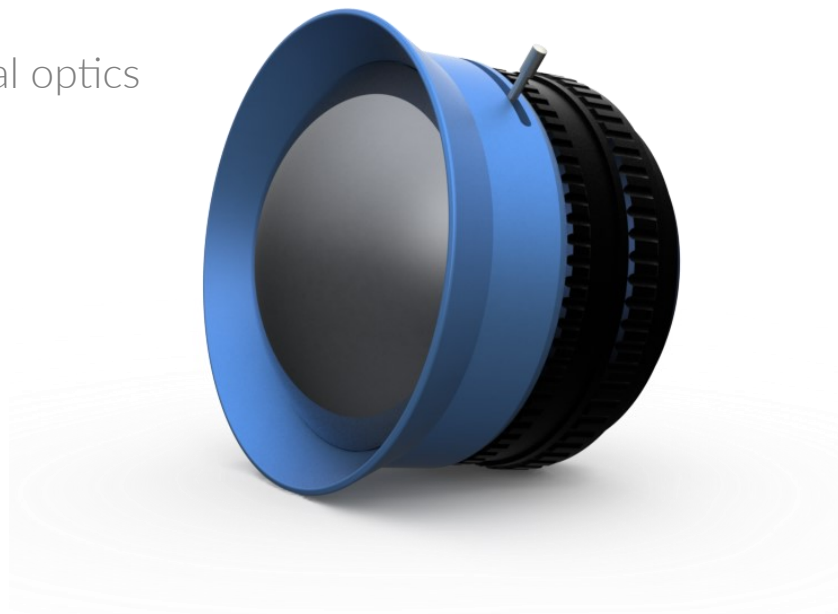
High quality HRFZ-Si THz aspherical optics

Broad spectral range (0.1 to 5THz)

High quality parylene AR coatings

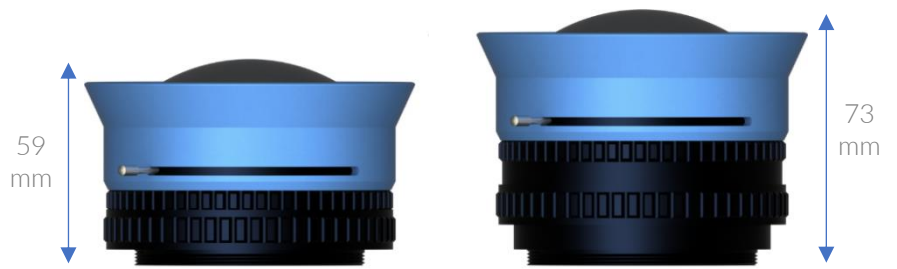
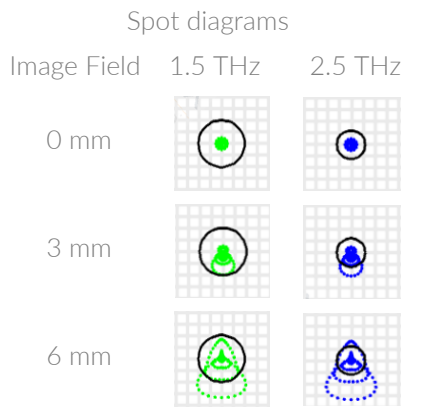
Focal length 40mm

The **TeraLens** is an optimized aspherical solution for real time THz imaging using dedicated camera sensors. Its low $f/0.83$ ensures an optimum power collection while the low distortion level and low vignetting provide high quality imaging. The constant optical index of HRFZ-Si makes it suitable for a broad spectral range (from 0.1 up to 5THz) and ensures diffraction limited imaging up to 4 THz thanks to the aspherical design. Customized AR coatings, tailored to your specific application, will guar-

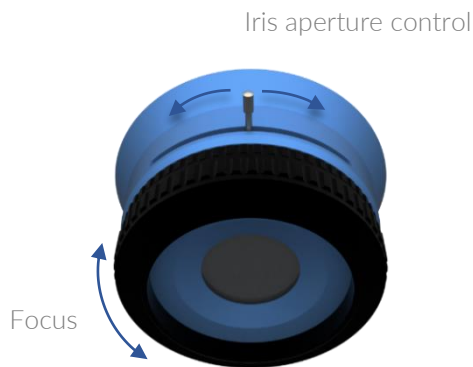
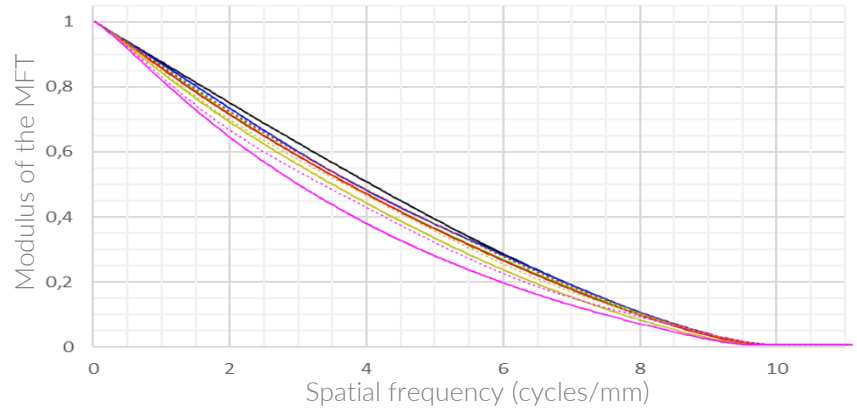


antee excellent power transmission. A focusing ring allows to obtain sharp images from 13 cm to 50 cm with an optimum working distance of 20 cm. A variable aperture allows to increase the depth of field. The imaging field is 55 mm at 20 cm working distance for a 12mm sensor. The mechanical assembly, either through an adaptation mount for camera modules, or through a standard optical post assembly makes it a versatile and simple to use camera lens.

> 40mm - f/0.83 - x0.22



Optical MTF at 2.5 THz for 0 to 6 mm image fields



Features:

- High collection power
- Anti-reflective coated surfaces
- High quality, aspherical, diffraction limited optics
- Low distortion and vignetting
- Focusing ring and aperture control
- Available camera adaptation ring and optical post assembly mount

Applications:

- High resolution, real time THz imaging
- Nondestructive testing
- 3D profiling and objects reconstruction
- Camera sensors characterizations

Specifications	TeraLens
Optical data	
Frequency range	From 0.1 to 5 THz
Wavelength	From 3000 to 60 μm
Focal length	40.8 mm
Working f-number	0.83
Optimum working distance	20 cm
Magnification	x0.22
Object field dimension	55mm (12mm sensor)
Depth of field	1.75mm
Optical distortion	<1.3%
Vignetting	<10%
Frequency at 10% MFT	8 cycles/mm
Frequency at 10% MFT Full field	7.4 cycles/mm
Options	
Adapter ring	✓
Optical post assembly mount	✓
Dimension and weight	
Diameter	95 mm
Length	59-73 mm
Weight	<450 g