

Terahertz camera lens

➤ TeraLens

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

Focus ring and depth of field control through iris aperture

Low numerical aperture for optimum power collection

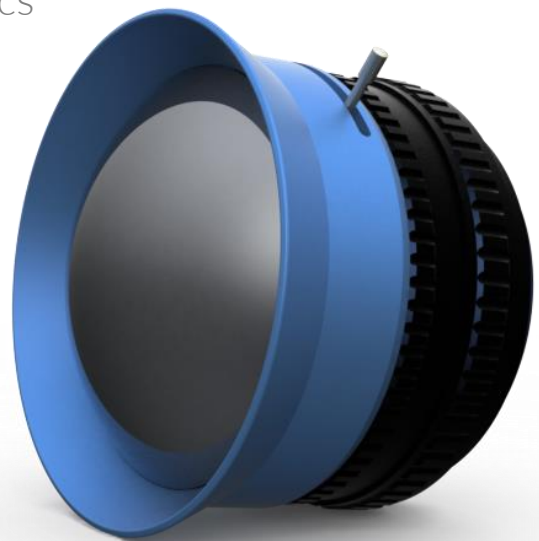
High quality HRFZ-Si THz aspherical optics

Broad spectral range (0.1 to 5THz)

High quality parylene AR coatings

Focal length 40mm - F/0.83

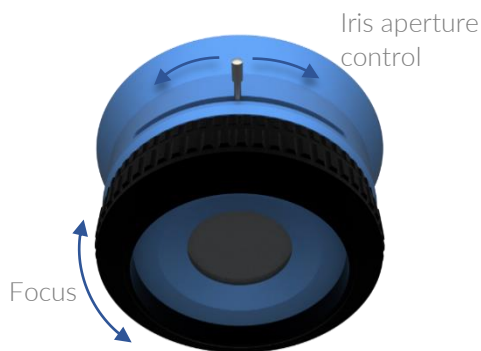
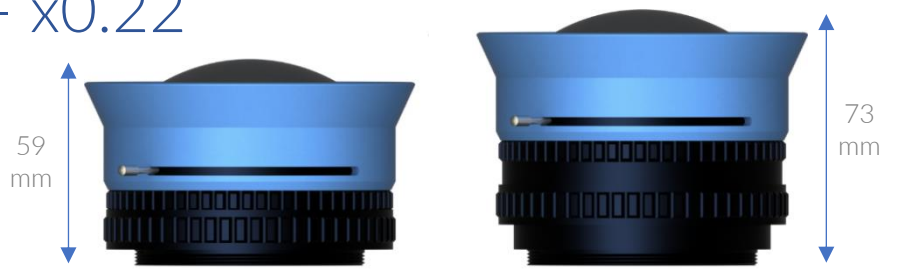
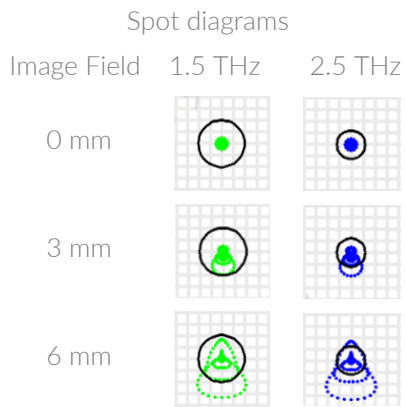
X0.22 magnification



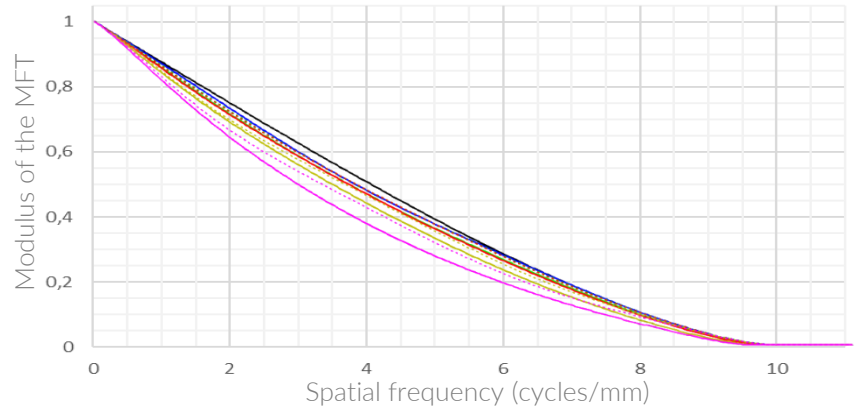
The **TeraLens** is an optimized aspherical solution for real time THz imaging using dedicated camera sensors. Its low $f/0.83$ ensures an optimum power collection while the low distortion level and low vignetting provide high quality imaging. The constant optical index of HRFZ-Si makes it suitable for 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 guarantee 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
Numerical aperture	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