

FTL-f30mm
mounted **focusing TPX lens with focus length 30 mm**



Fig. 1: FTL-f30mm

Description

FTL-f30mm is a mounted TPX (Polymethylpentene) lens. It is used in combination with CTL-D25mm or CTLF-D25mm to focus the terahertz radiation emitted by a photoconductive antenna (PCA). The collimated THz beam of a photoconductive emitter antenna with a collimating TPX lens (CTL-D25mm or CTLF-D25mm) is focused using the mounted TPX lens FTL-f30mm. The focus length is 30 mm.

Focusing TPX lens	material	TPX (Polymethylpentene)
	refractive index n	1.45 @ 1 THz
	absorption coeff. α	0.3 cm^{-1}
	diameter	25.4 mm
	thickness	10.3 mm
	back focal length	30 mm
Focused THz beam	focal length f	30 mm
	aperture angle α	16.8°
Airy disc diameter	at 300 GHz	2.1 mm
	at 1 THz	0.6 mm
	at 3 THz	0.2 mm
Lens Tube	outer diameter	30.5 mm
	total length	16.5 mm
Compatible PCAs	The FTL-f30mm can be used with both CTL-D25mm and CTLF-D25mm.	



Fig. 2: FTL-f30mm in combination with CTLF-D25mm mounted with SMR1

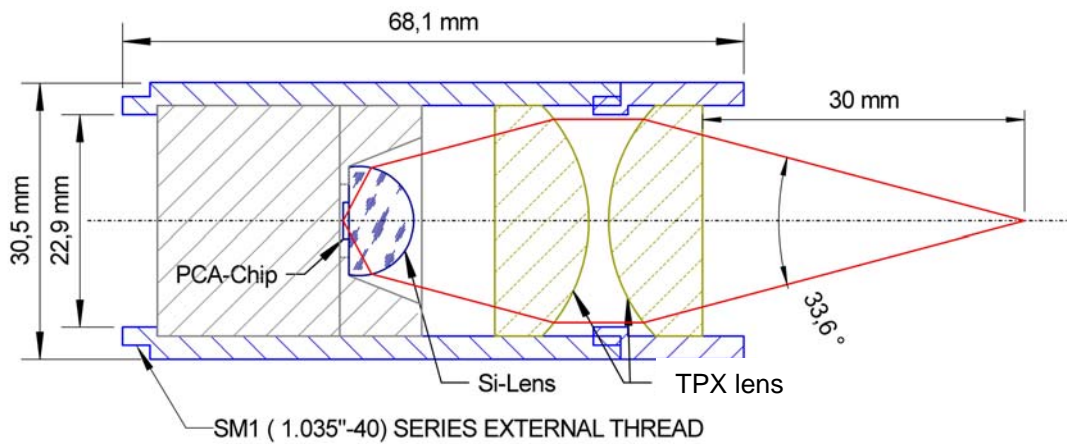


Fig. 3: Schematic section view of FTL-f30mm and CTLF-D25mm together with a mounted FC-PCA

Recommended mounting options

The lens tube's SM1 thread allows FTL-f30mm to be attached to BATOP's collimating mounted terahertz lenses (CTL-D25mm and CTLF-D25mm). Together they can be mounted with Thorlabs' SMR1.



Fig. 4: Mounting option: FTL-f30mm and CTL-D25mm mounted with SMR1