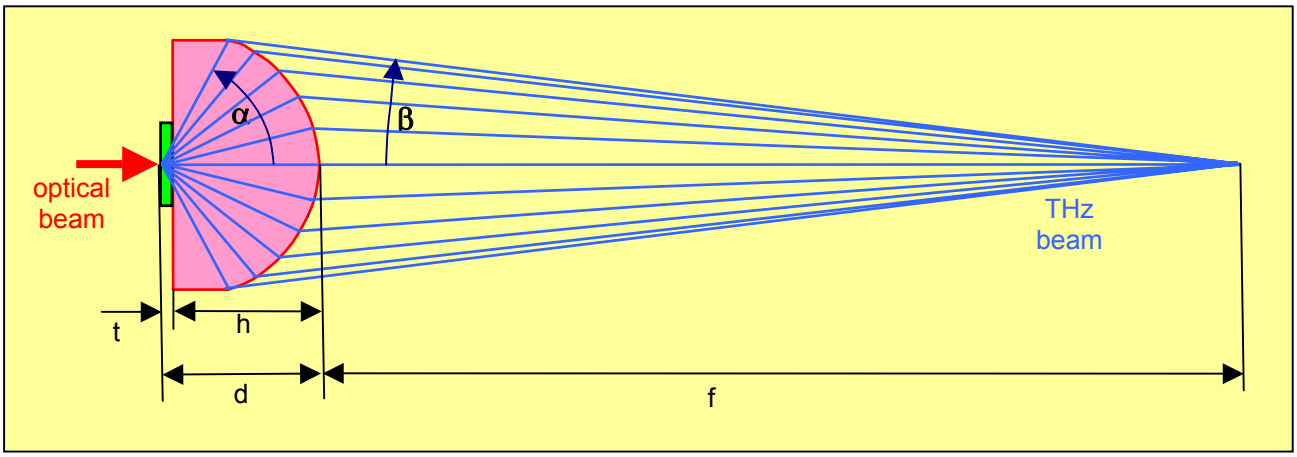
Mounted PCA on patented* focussing aspheric silicon substrate lens
data sheet PCA-I-g-w-λ-a

Photoconductive antenna	substrate	semi-insulating GaAs
	thickness t	600 µm
Aspheric lens	material	undoped HRFZ-silicon
	specific resistance ρ	>10 kΩcm
	refractive index n	3.4
	diameter	12 mm
	height h	8 mm
	distance d	8.6 mm
	rough AR surface	
Terahertz beam	focal length f	50 mm
	collection angle α	57.6°
	convergence angle ß	6.8°
Airy disc diameter	at 300 GHz	5 mm
	at 1 THz	1.5 mm
	at 3 THz	0.5 mm



*Patent DE 10 2006 037470 A1

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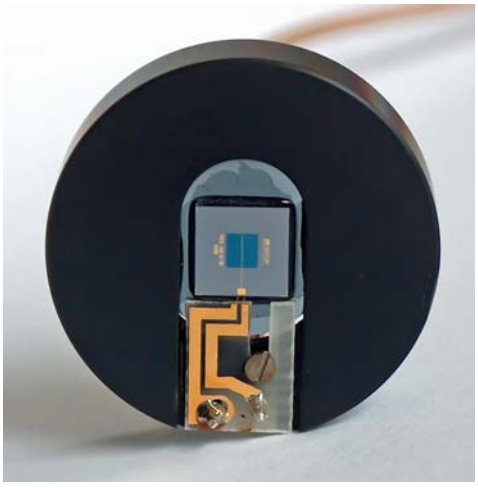
Aluminum mount	25.4 mm diameter, 6 mm thick
Coaxial cable	type RG178 B/U, impedance 50Ω, capacitance 96pF/m, 1 m long
Connector type	BNC or SMA

- The PCA chip is optically adjusted and glued on the aspheric silicon lens
- The silicon lens is glued on the aluminum mount.
- The two antenna contacts are wire bonded on a printed circuit board, which provides the connection to a 1m long coaxial cable with BNC or SMA connector
- A central hole in the aluminum mount allows the Terahertz radiation to escape from the aspheric silicon lens as a collimated beam with a focus 50 mm away and an Airy disc diameter dependent on the THz frequency.

PCA with aspheric silicon lens, coaxial cable RG 178 and BNC connector

Front view on mounted PCA (laser side)



Back view on mounted PCA (THz side)

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