

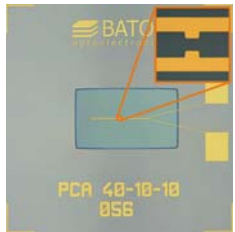
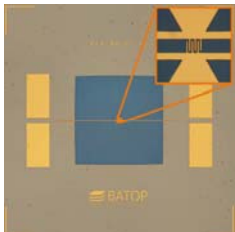
PCA – Photoconductive Antenna

Product Overview

- Single gap THz emitter or receiver antennas
- Laser wavelengths 800 nm / 1060 nm / 1550 nm (recommended laser pulse width ≤ 100 fs)
- Optional with prealigned hyperhemispheric, collimating or focusing aspheric silicon lens

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Product	Optical and THz parameters	
PCA - butterfly antenna 	Typical application Optical power Maximum sensitivity 10 dB bandwidth Dynamic range	Emitter or detector with high sensitivity at low frequencies 15 mW ~ 100 GHz ~ 250 GHz ~ 70 dB
PCA - parallel line antenna 	Typical application Optical power Maximum sensitivity 10 dB bandwidth Dynamic range	Broadband emitter, detector 10 mW ~ 600 GHz ~ 2 THz ~ 50 dB
bPCA - bow-tie antenna 	Typical application Optical power Maximum sensitivity 10 dB bandwidth Dynamic range	detector or emitter 10 mW ~ 150 GHz ~ 800 GHz ~ 75 dB
SPCA - logarithmic spiral antenna 	Typical application Optical power Maximum sensitivity 10 dB bandwidth Dynamic range	broadband emitter or detector 10 mW ~ 50 GHz ~ 300 GHz ~ 60 dB
PCA - Finger gap antenna 	Typical application Optical power Maximum sensitivity 10 dB bandwidth Dynamic range	emitter or detector, low optical excitation power 10 mW ~ 400 GHz ~ 800 GHz ~ 60 dB



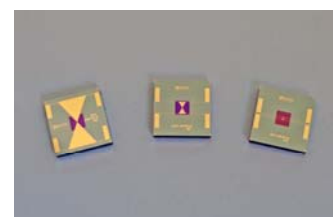
Complete PCA with BNC – connector



Front view on mounted PCA (laser side)



Back view with hyperhemispheric silicon lens

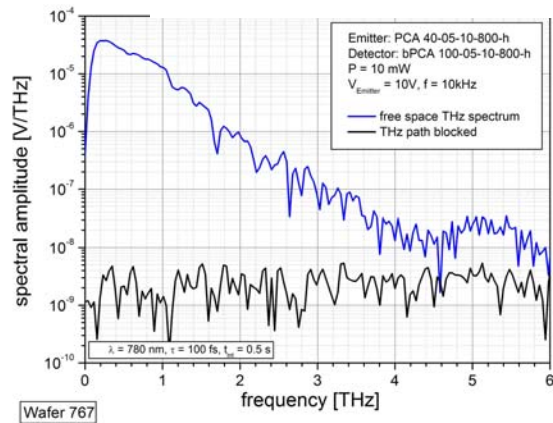
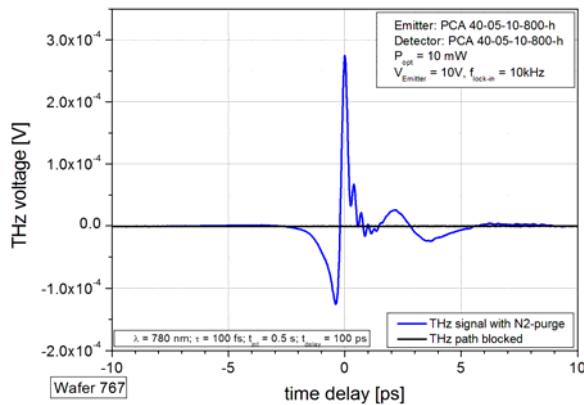


Bow-tie antennas with different geometrical parameters

Custom design, parameters and wavelengths on request.

THz-spectrum:

Emitter: **parallel line** antenna PCA 40-05-10-800-h, Detector: **bow-tie** antenna bPCA 100-05-10-800-h



Parameters and Mounting Options:

Chip size: 4 mm x 4 mm

Chip thickness: 625 μm

- Mounting:
- Unmounted PCA chip
 - Mounted on 25.4 mm diameter black aluminium mount with prealigned hyperhemispherical silicon substrate lens Ø 12 mm and 1 m coaxial cable (RG 174) with BNC or SMA connector *
 - Collimating aspheric silicon substrate lens or aspheric focusing silicon substrate lens *

- Additional options:
- CTL-D25mm: Mounted Collimating TPX Lens with THz beam Diameter 22 mm *
 - CTLF-D25mm: Mounted Collimating TPX Lens for Fiber coupled PCA, THz beam Diameter 22 mm *
 - FTL-f30mm: Mounted Focusing TPX Lens with THz beam focus length 30 mm *
 - Aspheric focusing optical lens for free space laser excitation
 - Fiber coupled antenna with FC/PC or FC/APC fiber connector and BNC or SMA electric connector
 - Preamplifier for detector antenna
 - XYZ 25 mm translation stage with differential adjuster and kinematic mirror mount with three adjuster screws for alignment of the antenna with respect to the laser beam and the THz optics
 - **Mounting on custom mounts on request**



Mounted PCA with aspheric focusing optical lens



Collimating TPX lens with THz beam diameter 22 mm



Detector antenna with preamplifier



Fiber coupled antenna

* For information about THz beam shaping please visit <http://www.batop.de>