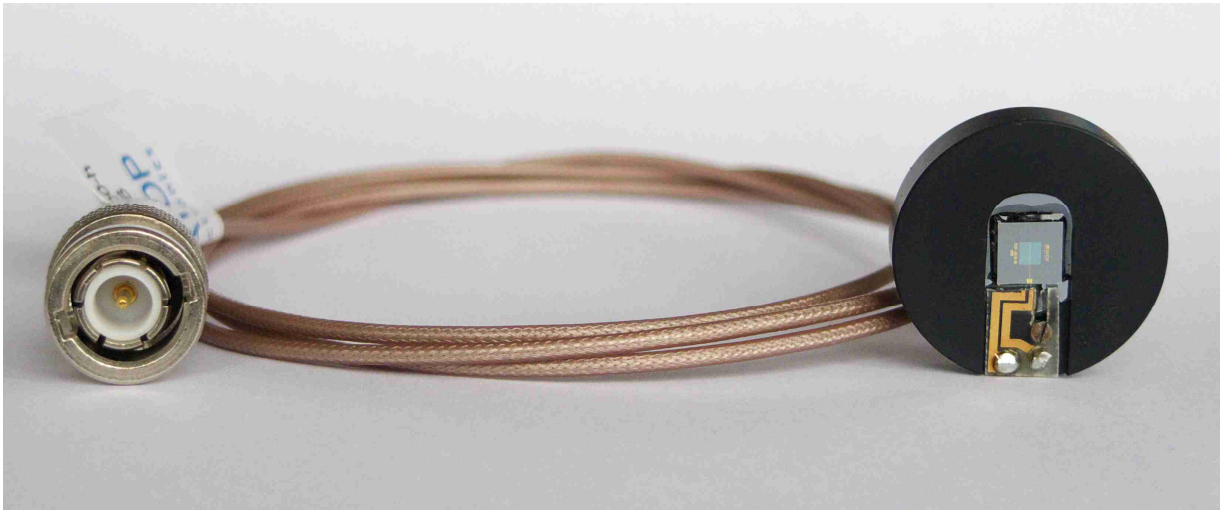
Instruction manual and data sheet PCA-90-01-10-800-x

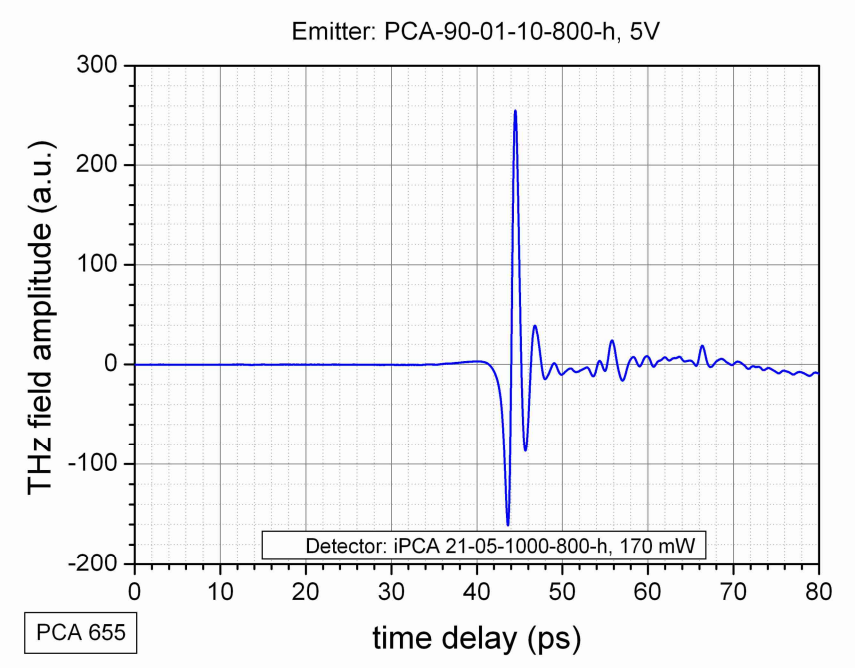
Photoconductive bow-tie antenna with finger gap structure for
laser wavelengths λ ~ 500 nm … 850 nm

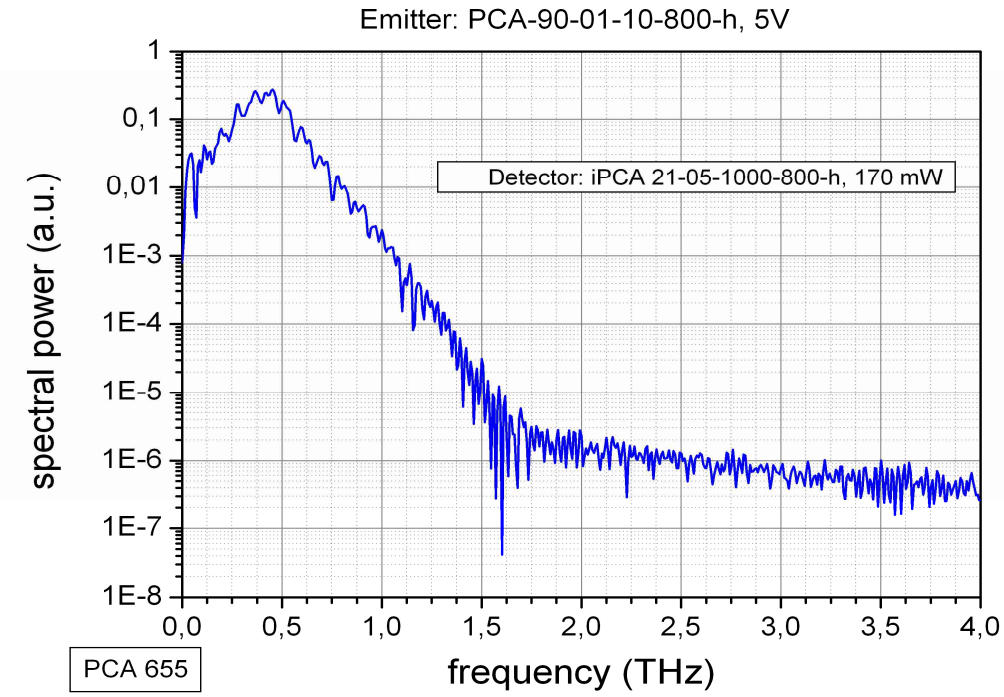
PCA – Photocconductive Antenna

Table of contents:



1. *Spectral performance*

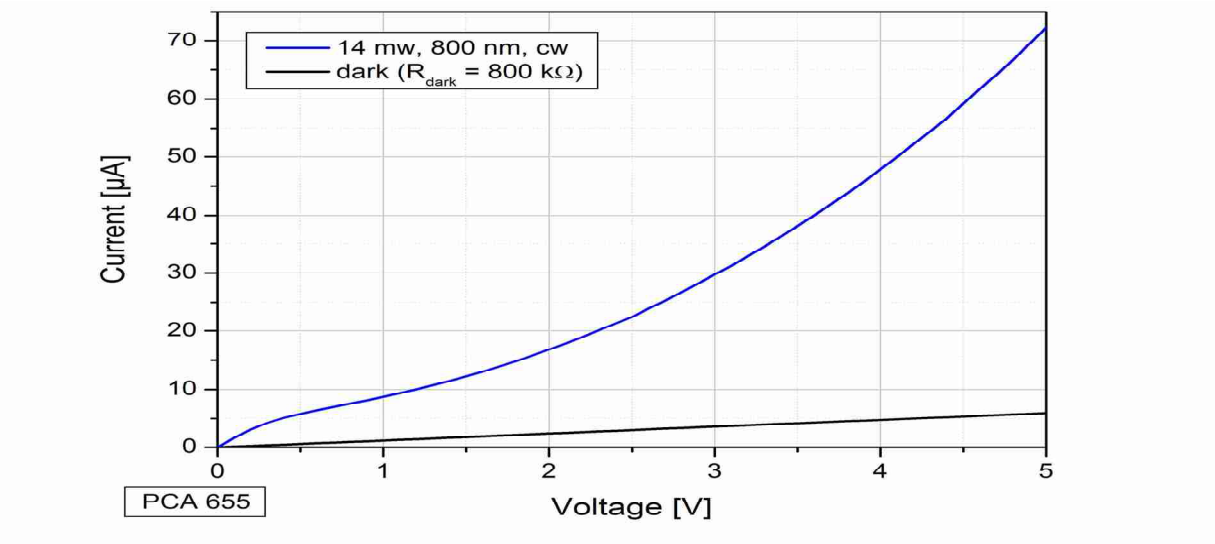




2. Antenna parameters

Parameter	minimum ratings	standard	maximum ratings
Dark resistance	600 k☐	800 k☐	1 M☐
Voltage		4 V	5 V
Optical mean power		10 mW	20 mW

Current voltage characteristic of PCA-90-01-10-800



1. 3. Antenna design

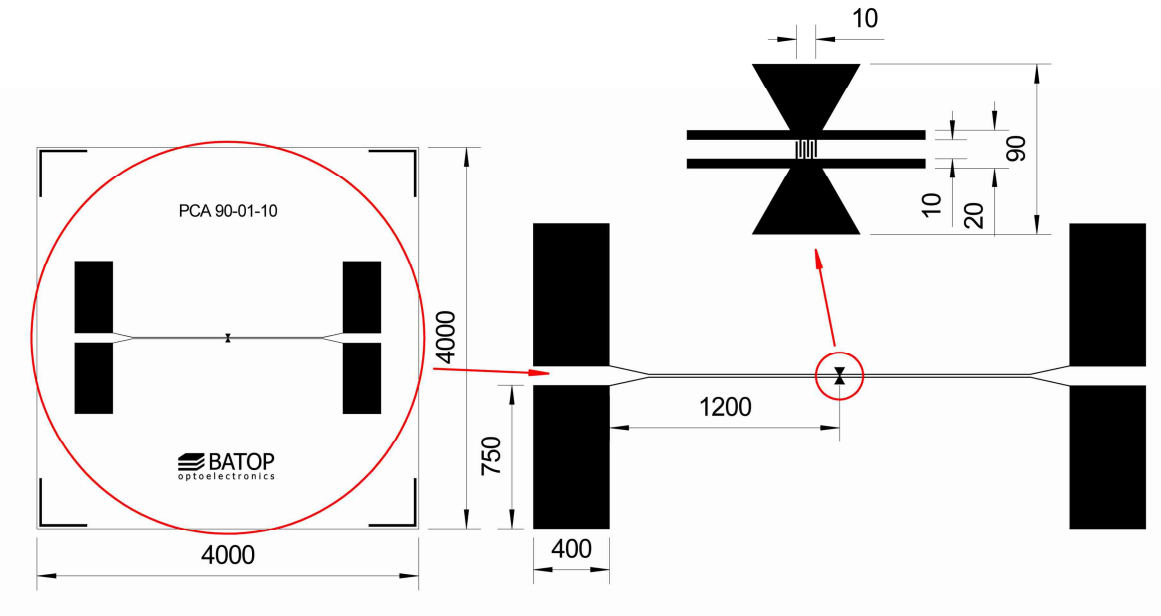


Photo PCA 90-01-10-800 (survey)

Dielectric cover

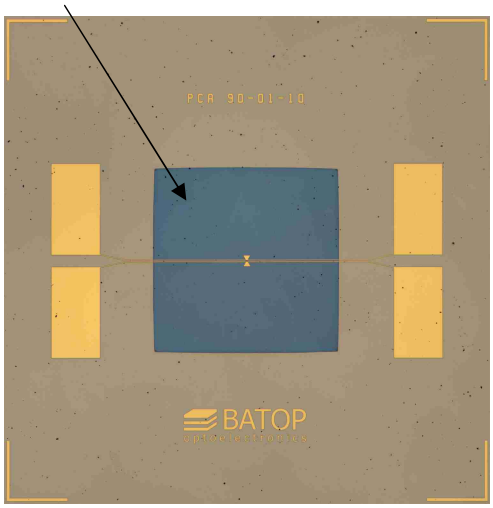
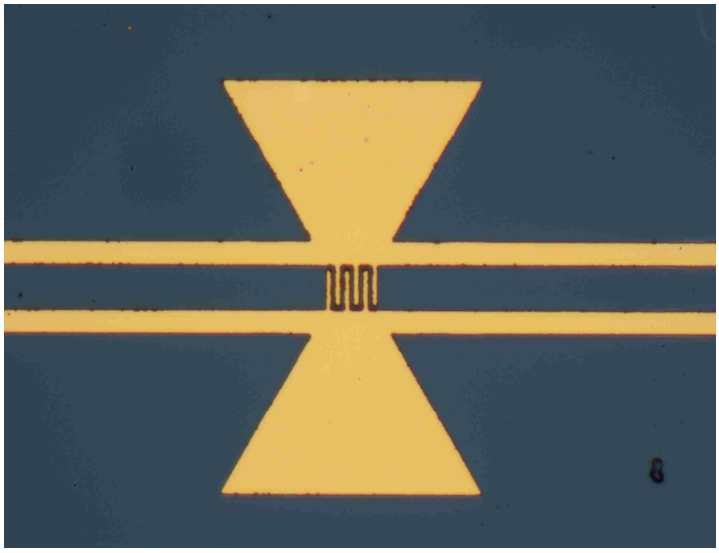


Photo PCA 90-01-10-800 (detail)



Main PCA data

- Laser excitation wavelength 800 nm
- Finger gap: 1 µm
- Antenna length 90 µm
- Antenna chip size 4 mm x 4 mm

4. Order information

PCA-90-01-10-800-**x**	Photoconductive antenna	
	length of the bow-tie antenna	l = 90 µm
	gap distance between the fingers	g = 1 µm
	width of the finger gap structure	w = 10 µm
	laser wavelength	λ = 800 nm

x denotes the type of mounting as follows:

x = 0	unmounted chip 2 mm x 2 mm with 4 bond contact pads
x = h	mounted on an Al disc with 25.4 mm ∅ and hyperhemispherical silicon substrate lens, 1m coaxial cable with BNC or SMA connector
x = a	mounted on an Al disc with 25.4 mm ∅ and aspheric focusing silicon substrate lens, 1m coaxial cable with BNC or SMA connector
x = c	mounted on an Al disc with 25.4 mm ∅ and aspheric collimating silicon substrate lens CL-12 for 12 mm THz beam diameter, 1m coaxial cable with BNC or SMA connector
x = h-f	fiber coupled antenna with hyperhemispherical silicon substrate lens
x = l	with aspheric focusing optical lens for free space laser excitation
x = p	with preamplifier for detector antenna