# Instruction manual and data sheet PCA-30-14-14-800-x

Photoconductive THz antenna for laser excitation wavelengths λ ~ 500 nm … 850 nm

PCA – Photoconductive Antenna

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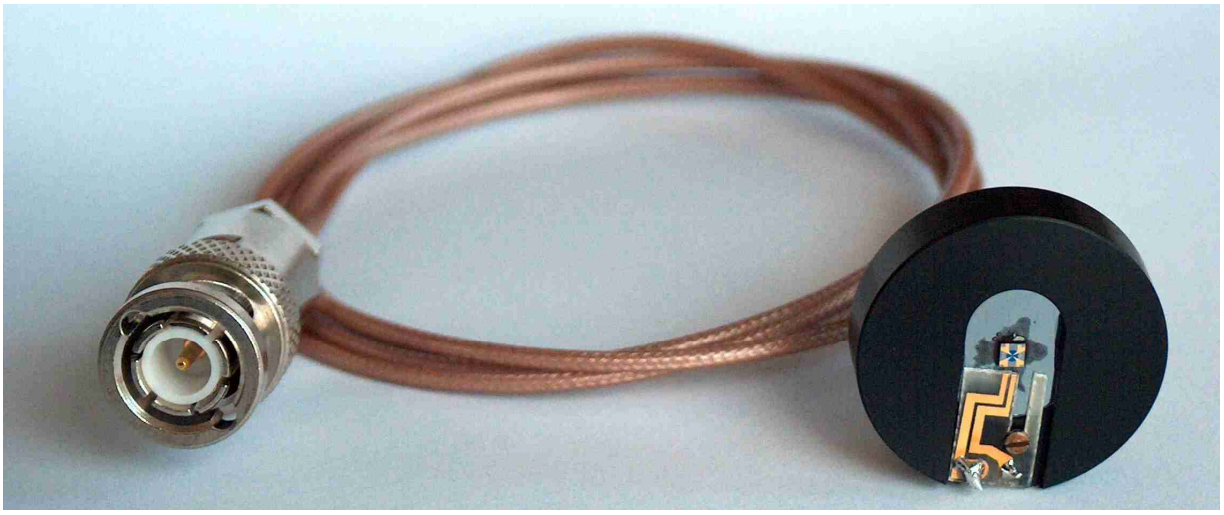
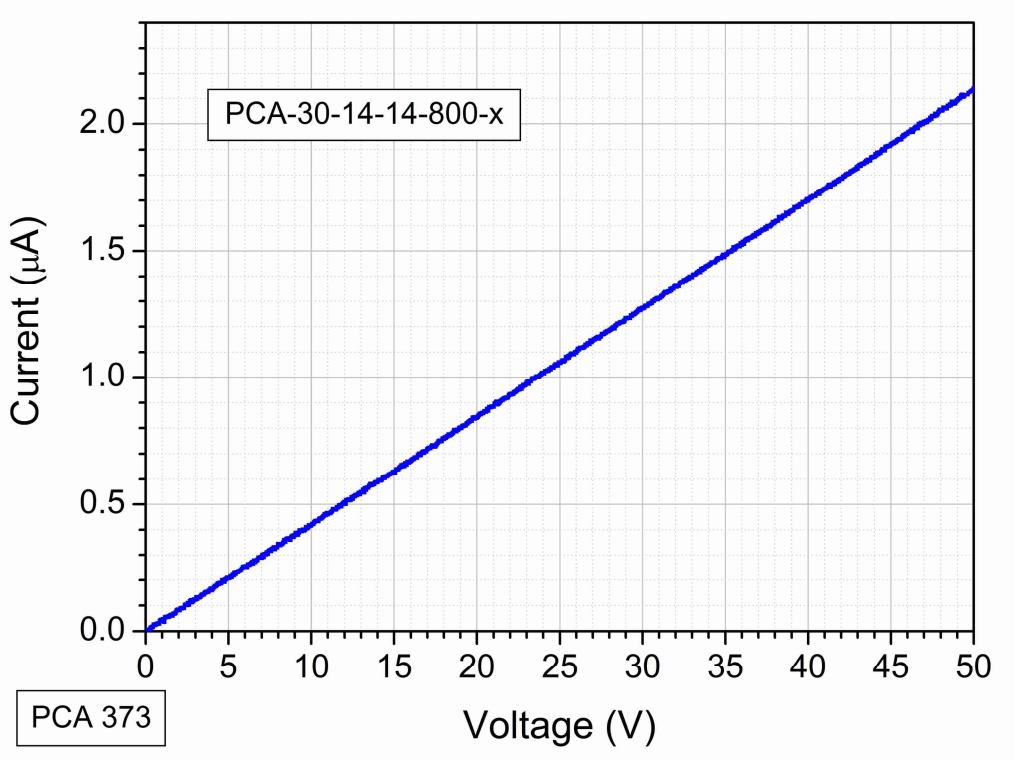


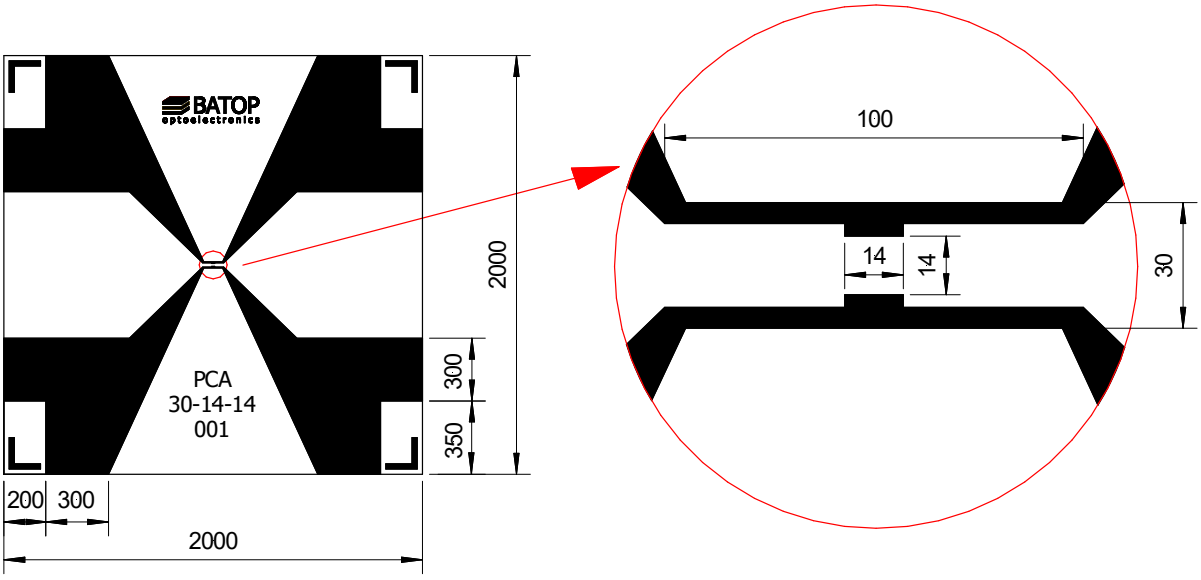
## 1. Antenna parameters

| Parameter | minimum ratings | standard | maximum ratings |
|---|---|---|---|
| Dark resistance | 10 MΩ | 20 MΩ | 30 MΩ |
| Voltage | | 40 V | 50 V |
| Optical mean power | | 30 mW | 40 mW |

*Dark current voltage characteristic*



## 2. Antenna design




all dimensions in micrometers

**Photo PCA 30-14-14 (survey)**

**Photo PCA 30-14-14**

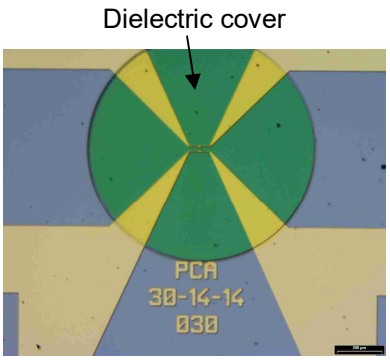
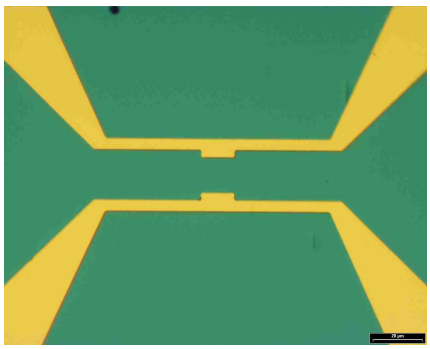



**Photo PCA 30-14-14 (detail)**



***Main PCA data***

- Laser excitation wavelength 800 nm
- Antenna gap: 14 µm
- Antenna length 30 µm
- Antenna chip size 2 mm x 2 mm

## 3. Order information

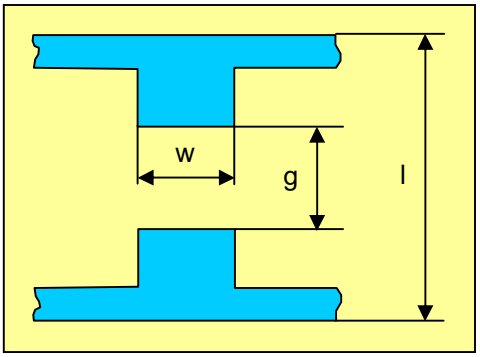
PCA-30-14-14-800-**x** Photoconductive antenna

length l = 30 µm

gap g = 14 µm

width w = 14 µm

laser wavelength λ = 800 nm
(500 nm … 850 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 **h**yperhemispherical 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 |

For information about THz beam guiding possibilities please click here