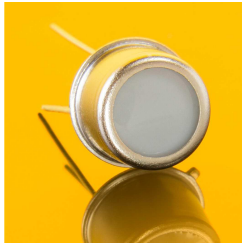


## General Features



### Properties of the TOCON\_GaP4

- GaP detector for irradiation measurements
- 17 mW/cm<sup>2</sup> peak radiation results a voltage of approx. 2 V
- RoHS compliant
- Applications: measurement of UV...VIS (570nm) irradiation, occupational safety

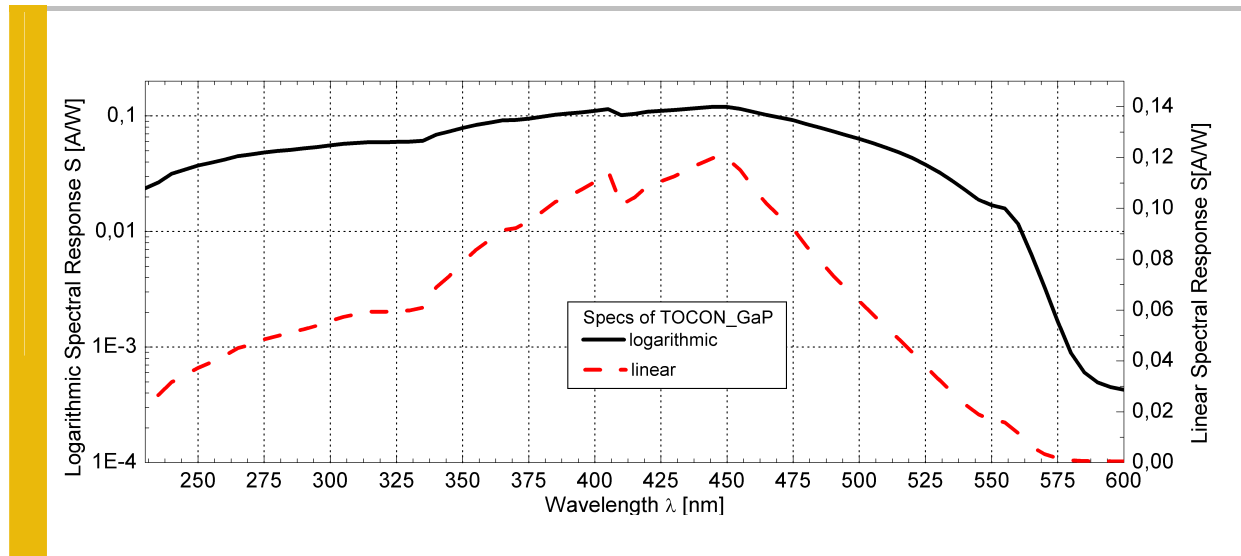
### The TOCON pre-amplified photodetectors

The TOCON devices are using modern hybride technology to cancel unwanted signal disturbances caused by moisture or electromagnetic radiation. The stable 0...5V output voltage can be directly connected to a SPC controller or a voltage multimeter. No external amplifier is needed.

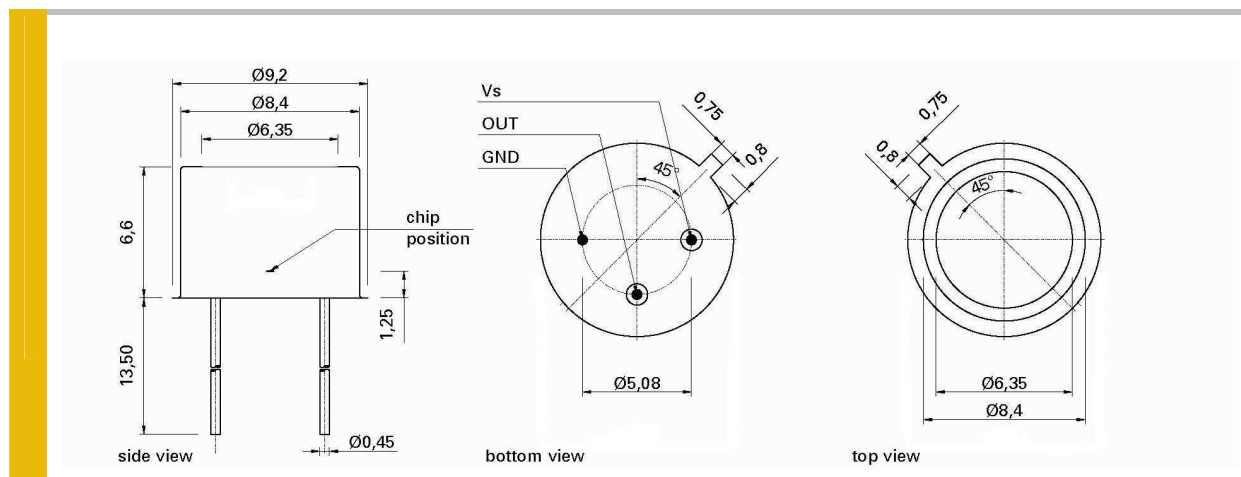
## Specifications

| Parameter                                                         | Symbol          | Value        | Unit                  |
|-------------------------------------------------------------------|-----------------|--------------|-----------------------|
| <b>Maximum Ratings</b>                                            |                 |              |                       |
| Operating Temperature Range                                       | $T_{opt}$       | -25 ... +85  | °C                    |
| Storage Temperature Range                                         | $T_{stor}$      | -40 ... +100 | °C                    |
| Soldering Temperature (5s)                                        | $T_{sold}$      | 300          | °C                    |
| <b>General Characteristics (T=25°C, V<sub>supply</sub>=+5 V)</b>  |                 |              |                       |
| Supply voltage                                                    | $V_{supply}$    | 2,5 ... 5,0  | V                     |
| Saturation voltage                                                | $V_{sat}$       | $V_{supply}$ | V                     |
| Dark offset voltage                                               | $V_{offset}$    | 0,05         | mV                    |
| Temperature coefficient of $V_{offset}$                           | $T_{co}$        | <7           | %/K                   |
| Current consumption                                               | $I$             | 0,8          | mA                    |
| <b>Spectral Characteristics (T=25°C, V<sub>supply</sub>=+5 V)</b> |                 |              |                       |
| Sensitivity at peak                                               | $S_{max}$       | 120          | mV/mW/cm <sup>2</sup> |
| Wavelength of max. spectral sens.                                 | $\lambda_{max}$ | 445          | nm                    |
| Sensitivity range (S=0,1*S <sub>max</sub> )                       | -               | 190 ... 570  | nm                    |

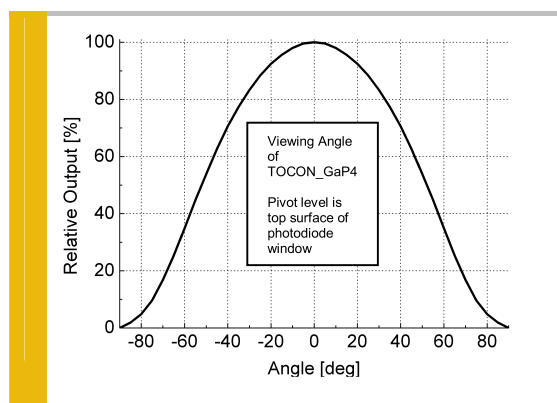
## Spectral Response



## Drawing



## Field of View



## TOCON Product Portfolio

Selection of TOCONs for UV-VIS radiation:

| Option            | Approx. min irradiance       | Approx. max irradiance ( $V_{supply} = 5 V$ ) |
|-------------------|------------------------------|-----------------------------------------------|
| TOCON_GaP1        | 4,2 nW/cm <sup>2</sup>       | 43 μW/cm <sup>2</sup>                         |
| TOCON_GaP2        | 42 nW/cm <sup>2</sup>        | 430 μW/cm <sup>2</sup>                        |
| TOCON_GaP3        | 420 nW/cm <sup>2</sup>       | 4,3 mW/cm <sup>2</sup>                        |
| <b>TOCON_GaP4</b> | <b>4,2 μW/cm<sup>2</sup></b> | <b>43 mW/cm<sup>2</sup> this device</b>       |
| TOCON_GaP5        | 42 μW/cm <sup>2</sup>        | 430 mW/cm <sup>2</sup>                        |
| TOCON_GaP6        | 420 μW/cm <sup>2</sup>       | 4,3 W/cm <sup>2</sup>                         |

TOCONs are also available with other spectral sensitivity (UV broadband, UVA, UVB, UV-Index, UVC, blue light, VIS).

## Upgrades

### TOCON housings for easy mounting of the TOCON\_GaP4

#### TOCON\_housing



#### Advantages of the TOCON\_housing

- Easy to mount and connect
- Robust stainless steel M12x1 thread body, length 32 mm
- Integrated sensor connector (Binder 5-Pin plug)
- Comes with 2 m connector cable

#### TOCON\_PTFE\_housing



#### Advantages of the TOCON\_PTFE\_housing

- Easy to mount and connect, cleanable
- Dirt-repellant, water proof at wetside (IP 68)
- Teflon (PTFE) M12x1 thread body, length 31 mm
- Wide field of view
- Integrated sensor connector (Binder 5-Pin plug)
- Comes with 2 m connector cable

*The PTFE housing reduces the signal output by 95 %.*

### Sensor Monitor 5.0 for monitoring, datalogging and process control with TOCON\_GaP4



The **Sensor Monitor 5.0** series are measurement and control modules for monitoring and automation of irradiation processes. They display radiation, dose and state information.

A selection of devices with one or two channels, optional USB & RS232 data output and computer software is offered.

### UVMICROLOG for datalogging and permanent measurements with TOCON\_GaP4



The **UVMICROLOG** is designed for logging of UV-VIS radiation, temperature, pressure and acceleration. Sophisticated microcontroller technology allows up to 3 months of permanent measurement and logging without battery charging. The unit can be mounted with a belt or screws.