

General Features



Properties of the TOCON_A3

- Pre-amplified SiC UVA detector in TO5 housing with concentrator lens
- 7 $\mu\text{W}/\text{cm}^2$ peak radiation results a voltage of approx. 2 V
- RoHS compliant
- Applications: UVA radiation detection

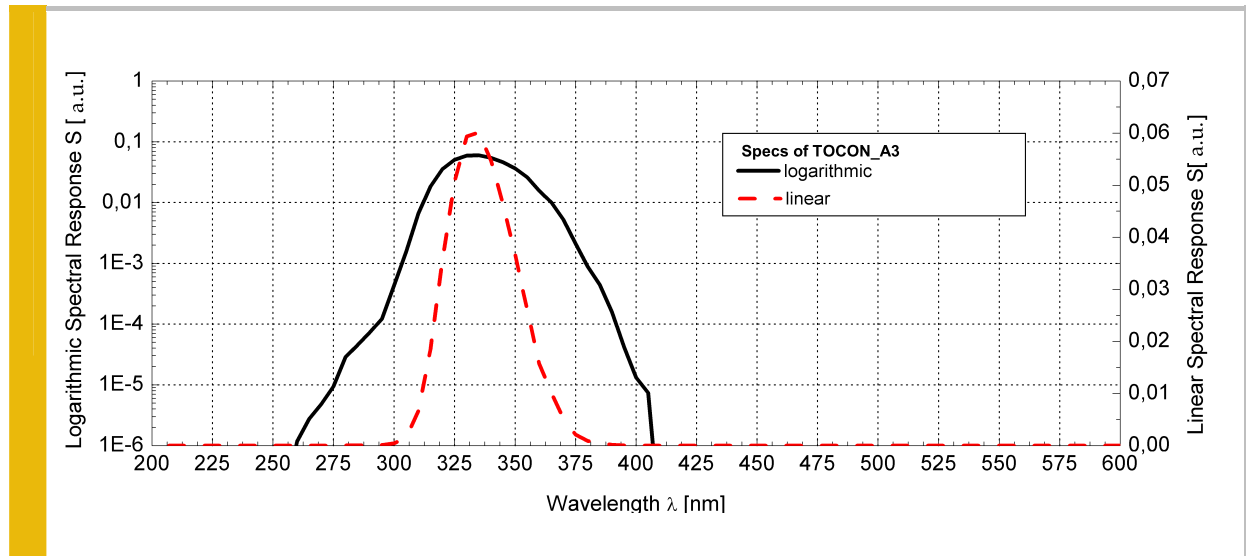
The TOCON pre-amplified UV photodetectors

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.

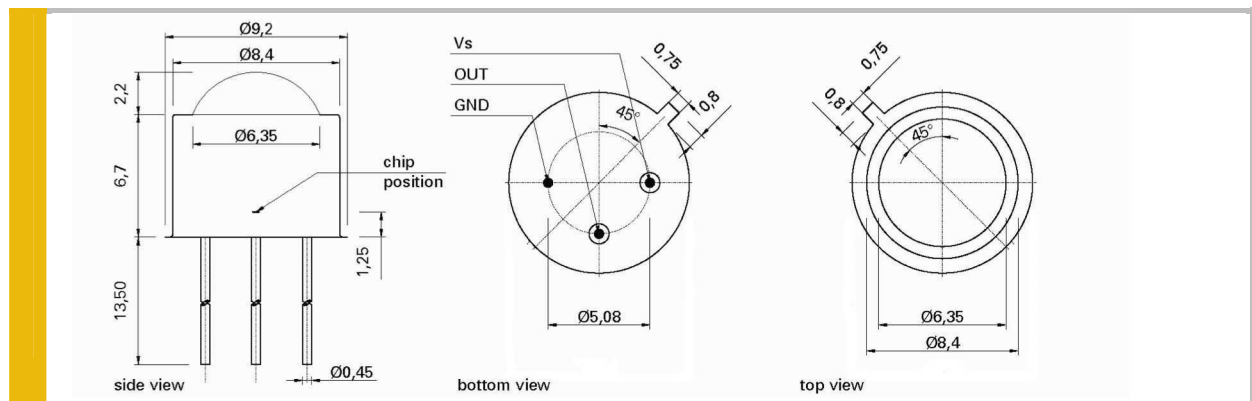
Specifications

| Parameter | Symbol | Value | Unit |
|---|------------------------|---------------------|-------------------------------------|
| Maximum Ratings | | | |
| Operating Temperature Range | T_{opt} | -25 ... +85 | $^{\circ}\text{C}$ |
| Storage Temperature Range | T_{stor} | -40 ... +100 | $^{\circ}\text{C}$ |
| Soldering Temperature (5s) | T_{sold} | 300 | $^{\circ}\text{C}$ |
| General Characteristics ($T=25^{\circ}\text{C}$, $V_{\text{supply}}=+5\text{ V}$) | | | |
| 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 | T_C | <+0,3 | %/K |
| Current consumption | I | 0,8 | mA |
| Bandwidth (-3 dB) | θ | 15 | Hz |
| Risetime (63%) (other risetimes on demand) | t_{rise} | 10 | ms |
| Spectral Characteristics ($T=25^{\circ}\text{C}$, $V_{\text{supply}}=+5\text{ V}$) | | | |
| Sensitivity at peak | S_{max} | 280 | $\text{mV}/\mu\text{W}/\text{cm}^2$ |
| Wavelength of max. spectral sens. | λ_{max} | 335 | nm |
| Sensitivity range ($S=0,1 * S_{\text{max}}$) | - | 310...395 | nm |
| Visible blindness ($S_{\text{max}} / S_{>405\text{nm}}$) | VB | $>10^{10}$ | - |

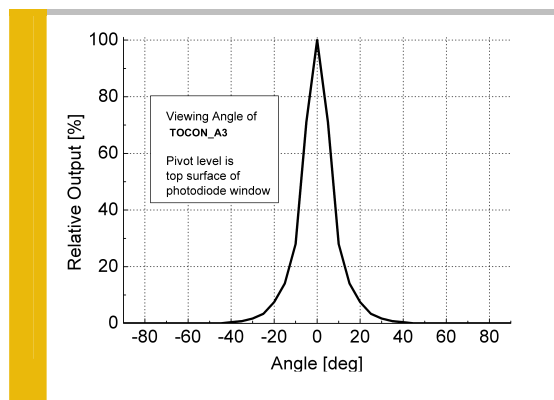
Spectral Response



Drawing



Field of View



TOCON Product Portfolio

Selection of TOCONs with UVA sensitivity:

| Option | Approx. min irradiance | Approx. max irradiance ($V_{supply} = 5V$) |
|----------|-----------------------------|---|
| TOCON_A3 | 1,8 nW/cm ² | 18 μ W/cm ² <i>this device</i> |
| TOCON_A4 | 18 nW/cm ² | 180 μ W/cm ² |
| TOCON_A5 | 180 nW/cm ² | 1,8 mW/cm ² |
| TOCON_A6 | 1,8 μ W/cm ² | 18 mW/cm ² |
| TOCON_A7 | 18 μ W/cm ² | 180 mW/cm ² |
| TOCON_A8 | 180 μ W/cm ² | 1,8 W/cm ² |
| TOCON_A9 | 1,8 mW/cm ² | 18 W/cm ² |

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

Upgrades

TOCON housings for easy mounting of the TOCON_A3

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

Sensor Monitor 5.0 for monitoring, datalogging and process control with TOCON_A3



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_A3



The **UVMICROLOG** is designed for logging of ultraviolet radiation, temperature, pressure and acceleration. Sophisticated microcontroller technology and low noise SiC TOCON based UV detectors allow up to 3 months of permanent measurement and logging without battery charging. The unit can be mounted with a belt or screws.