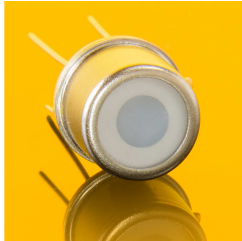


## General Features



### Properties of the TOCON\_B1

- Pre-amplified SiC based UVB + UVC detector in TO5 housing
- $3 \mu\text{W}/\text{cm}^2$  peak radiation results a voltage of approx. 2 V
- RoHS compliant
- Applications: UV-B irradiation measurement, CIE087 compliant

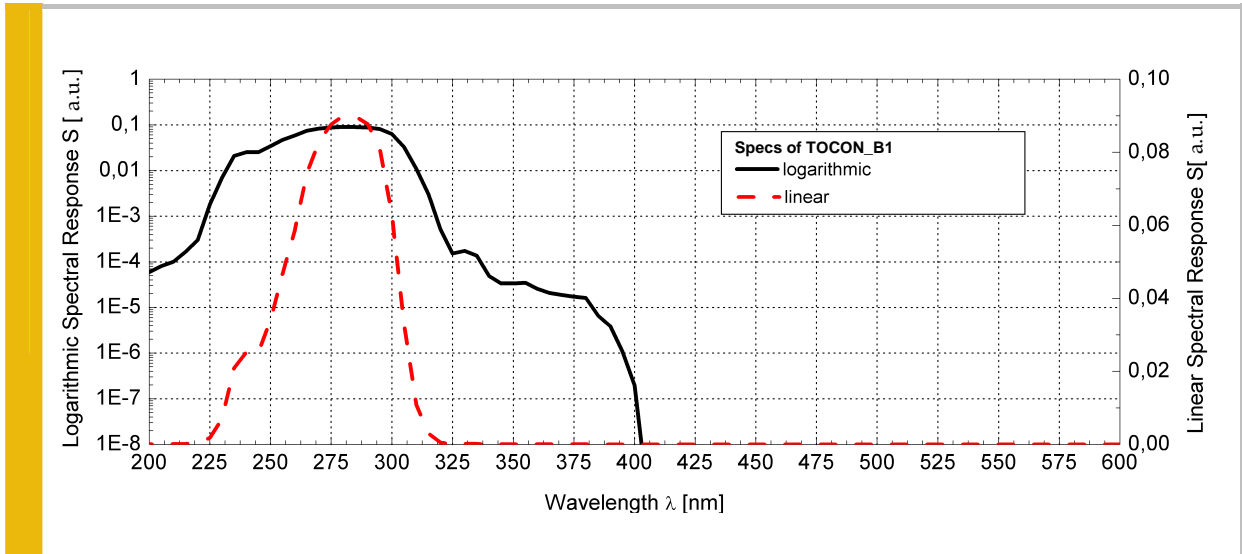
### The TOCON pre-amplified UV photodetectors

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.

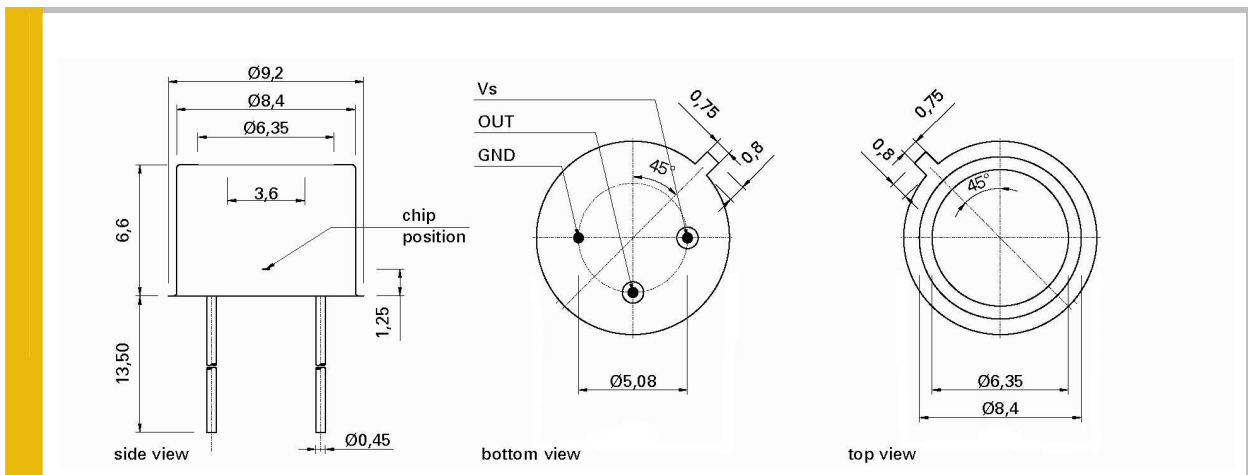
## Specifications

Parameter	Symbol	Value	Unit
<b>Maximum Ratings</b>			
Operating Temperature Range	$T_{\text{opt}}$	-25 ... +85	°C
Storage Temperature Range	$T_{\text{stor}}$	-40 ... +100	°C
Soldering Temperature (5s)	$T_{\text{sold}}$	300	°C
<b>General Characteristics (<math>T=25^\circ\text{C}</math>, <math>V_{\text{supply}}=+5\text{ V}</math>)</b>			
Supply voltage	$V_{\text{supply}}$	2,5 ... 5,0	V
Saturation voltage	$V_{\text{sat}}$	$V_{\text{supply}}$	V
Dark offset voltage	$V_{\text{offset}}$	0,05	mV
Temperature coefficient	$T_C$	<+0,3	%/K
Current consumption	$I$	0,8	mA
Bandwidth (-3 dB)	$\theta$	15	Hz
Risetime (63%) (other risetimes on demand)	$t_{\text{rise}}$	10	ms
<b>Spectral Characteristics (<math>T=25^\circ\text{C}</math>, <math>V_{\text{supply}}=+5\text{ V}</math>)</b>			
Sensitivity at peak	$S_{\text{max}}$	670	mV/ $\mu\text{W}/\text{cm}^2$
Wavelength of max. spectral sens.	$\lambda_{\text{max}}$	280	nm
Sensitivity range ( $S=0,1 \cdot S_{\text{max}}$ )	-	230 ... 315	nm
Visible blindness ( $S_{\text{max}} / S_{>405\text{nm}}$ )	VB	$>10^{10}$	-

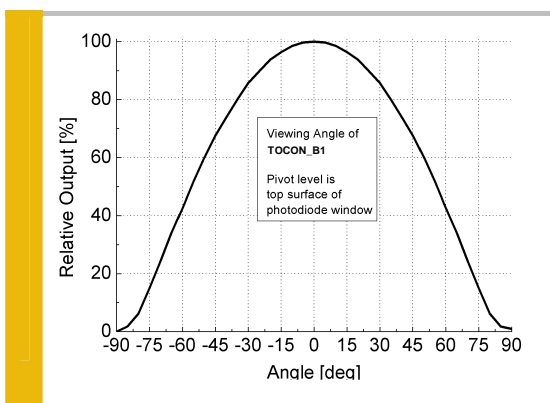
## Spectral Response



## Drawing



## Field of View



## TOCON Product Portfolio

Selection of TOCONs with UV-B sensitivity:

Option	Approx. max irradiance ( $V_{out} = 5 V$ )
<b>TOCON_B1</b>	<b><math>7,5 \mu W/cm^2</math></b> <i>this device</i>
TOCON_B2	$75 \mu W/cm^2$
TOCON_B3	$0,75 mW/cm^2$

TOCONS are also available with other spectral sensitivity (UVA, UVC, UV broadband).

## Upgrades

### TOCON housings for easy mounting of the TOCON\_B1

#### 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\_B1



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\_B1



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.