

TOCON_A3

UVA pre-amplified SiC UV Photodetector

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.

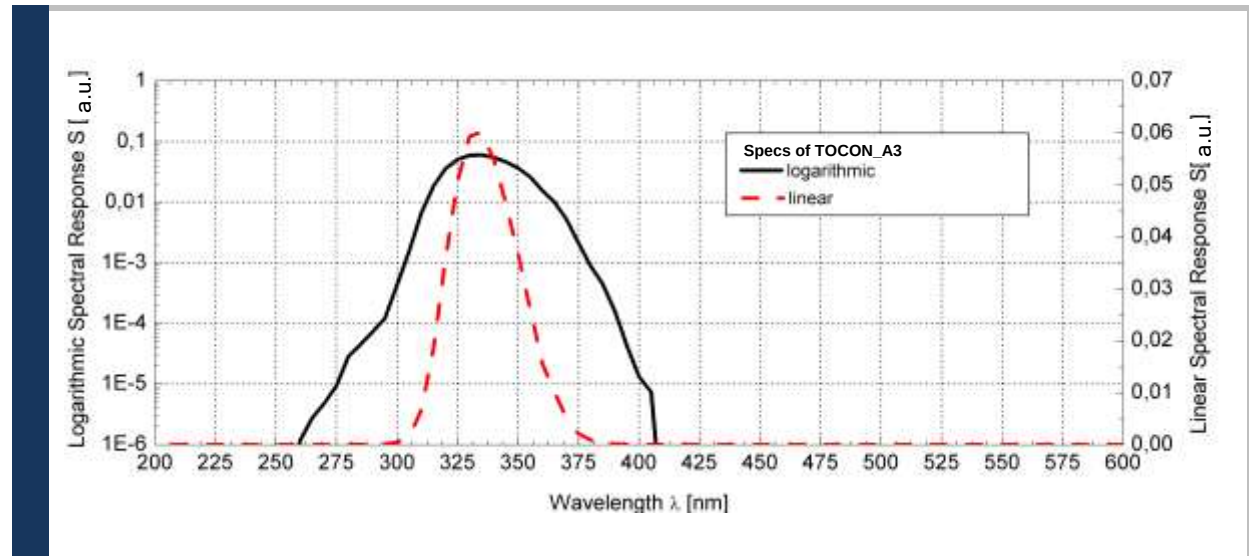
Specifications

Parameter	Symbol	Value	Unit
Maximum Ratings			
Operating Temperature Range	T_{opt}	-25 ... +85	°C
Storage Temperature Range	T_{stor}	-40 ... +100	°C
Soldering Temperature (5s)	T_{sold}	300	°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	Tc	<+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 ($S=0,1 \cdot S_{\text{max}}$)	-	310...395	nm
Visible blindness ($S_{\text{max}} / S_{>405\text{nm}}$)	VB	$>10^{10}$	-

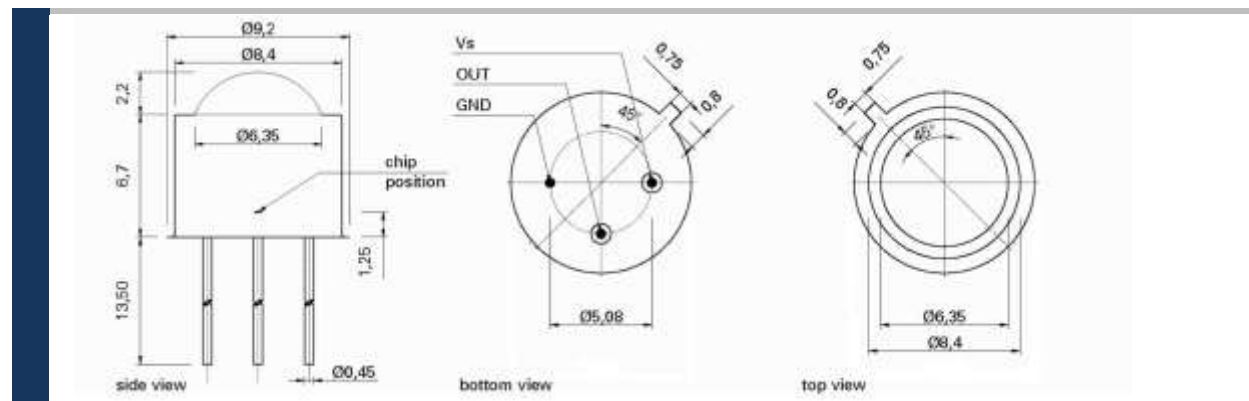
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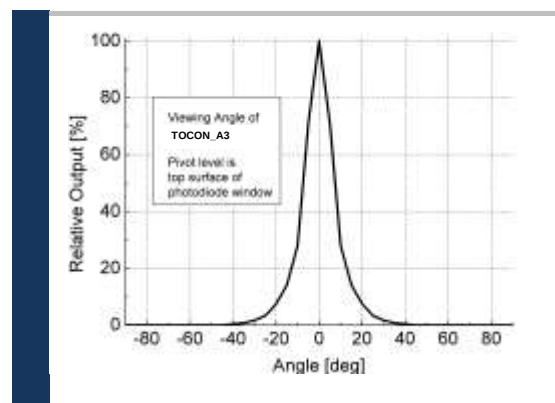
Spectral Response



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).

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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.