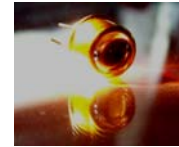


TOCON_nano

High sensitive SiC based pre-amplified UV Sensor



The **TOCON_nano** UV Sensor is designed to measure extremely low UV radiation intensities in the nW (Nanowatt) region. The device uses an integrated pre-amp and is based on a 0,22 mm² low noise SiC detector chip. Applications are burner control and other low-intensity measurements. 1 nW of radiation (on window) results a voltage of approx. 500 mV.

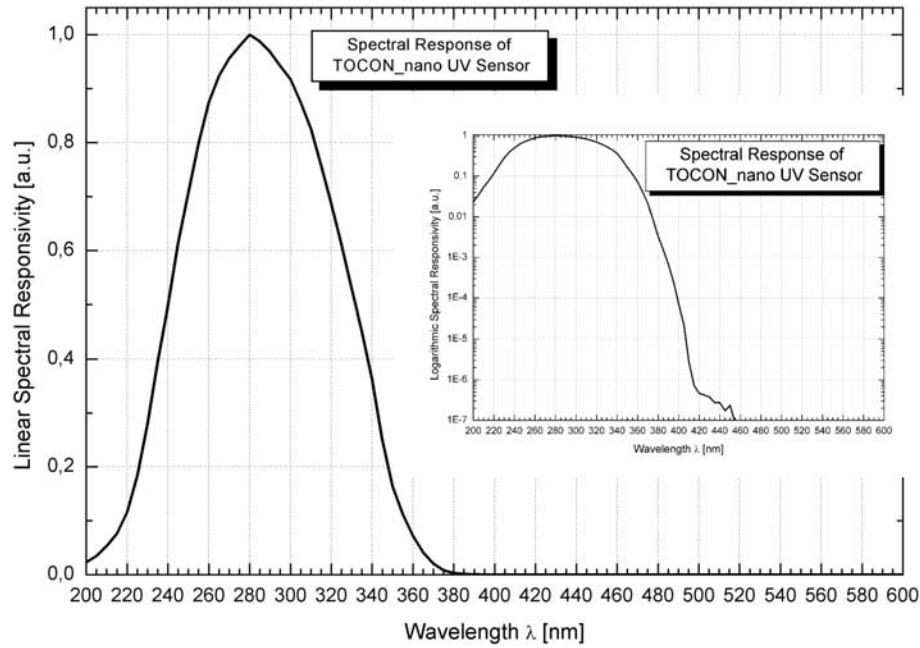


TOCON_nano

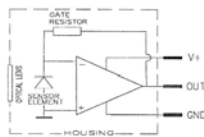
Specifications ($T_a=25^{\circ}\text{C}$)

Parameters	Typical	Units	Condition
Radiant Sensitivity	0,5	V/nW	standard window
Spectral Response	210-380	nm	5% of peak
Wavelength of peak response	280	nm	
Sensitive area of the chip	0,22	mm ²	
Virtual sensitive area with lens	12,80	mm ²	
Selectivity	$>10^{-5}$		400....2000 nm
Operation Voltage	2,5...3,2	V	
Signal Output			Rail to Rail
Temperature Coefficient	<0,3	%/K	
Dark offset voltage	<5	mV	
Rise time	10	ms	t(63%)
Storage Temperature	-20 to 80	°C	non permanent
Operating Temperature	-20 to 80	°C	non permanent
Window transparency	>210	nm	

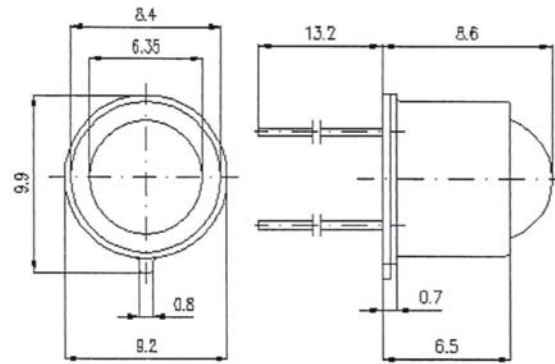
Spectral Response of TOCON_nano



Circuit



Package Dimensions



Bottom View

Wrong wiring will damage the sensor.

General Features



Properties of the TOCON_micro

- Broad Band pre-amplified UV detector for low level radiation
- 0,22 mm² SiC detector chip with cosine correction
- Applications: scientific experiments, gas transmission analysis
- 10 μW/cm² peak radiation results a voltage of approx. 2 V

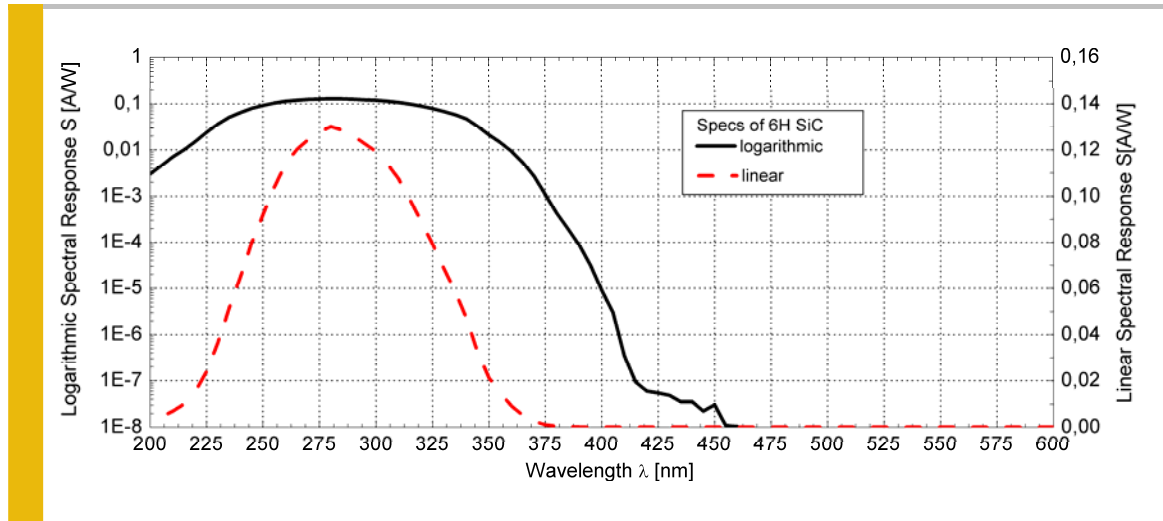
The TOCON pre-amplified UV photodetectors

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.

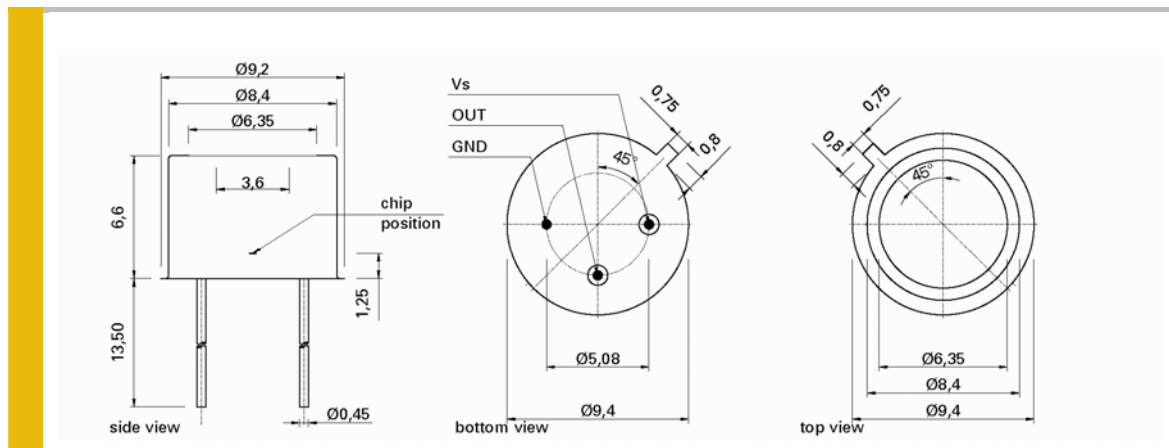
Specifications

Parameter	Symbol	Value	Unit
Maximum Ratings			
Operating Temperature Range	T_{opt}	-25 ... +85	°C
Storage Temperature Range	T_{stor}	-40 ... +100	°C
Soldering Temperature (3s)	T_{sold}	300	°C
General Characteristics (T=25°C)			
Chip area	A_{chip}	0,22	mm ²
Supply voltage	V_{supply}	2,5 ... 5,0	V
max. voltage	V_{max}	5,5	V
saturation voltage	V_{sat}	5,0	V
dark offset voltage	V_{offset}	0,5	mV
Temperature coefficient	Tc	<-0,3	%/K
Current	I	0,8	mA
Bandwidth (-3 dB)	θ	15	Hz
risetime (63%)	t_{rise}	10	ms
Spectral Characteristics (T=25°C)			
Sensitivity at peak	S_{max}	200	mV/μW/cm ²
Wavelength of max. spectral sens.	λ_{max}	280	nm
Sensitivity range (S=0,1*S _{max})	-	210 ... 380	nm
Visible blindness (S _{max} / S _{>400nm})	VB	10 ⁵	-

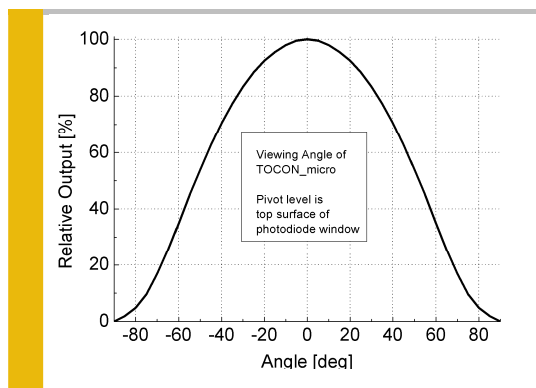
Spectral Response



Drawing



Viewing Angle



General Features



Properties of the TOCON_standard

- Broad Band pre-amplified UV detector for standard level radiation
- 0,22 mm² SiC detector chip with cosine correction
- Applications: purification control, scientific experiments
- 10 mW/cm² peak radiation results a voltage of approx. 2 V

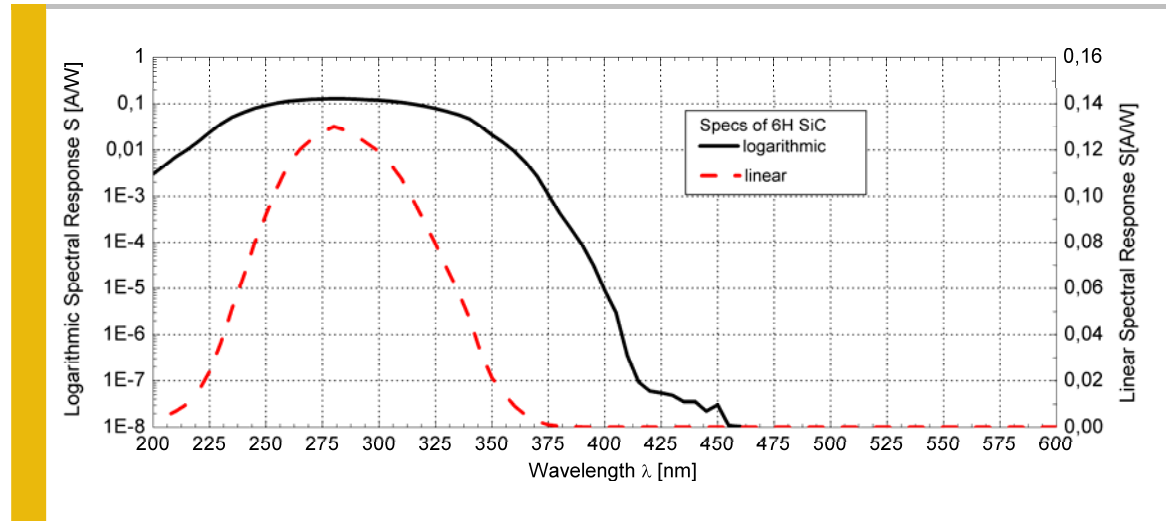
The TOCON pre-amplified UV photodetectors

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.

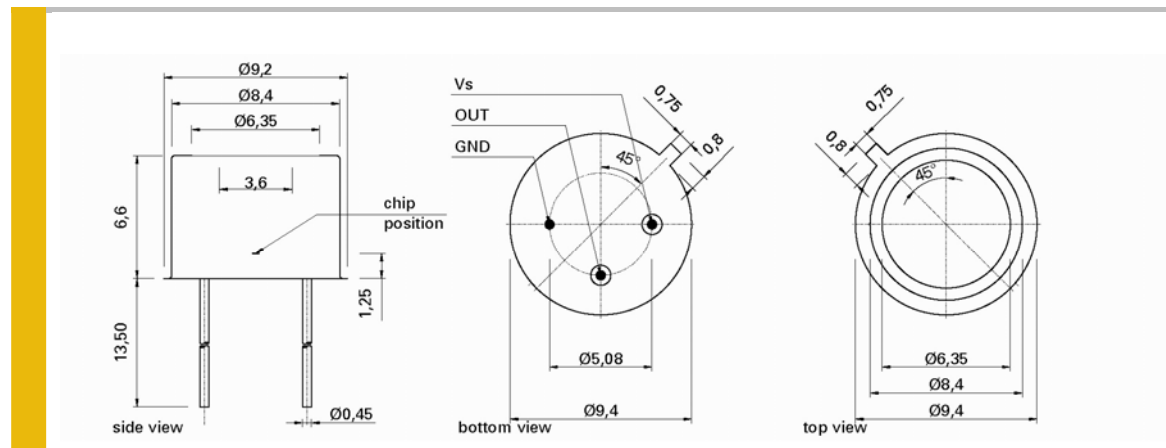
Specifications

Parameter	Symbol	Value	Unit
Maximum Ratings			
Operating Temperature Range	T_{opt}	-25 ... +85	°C
Storage Temperature Range	T_{stor}	-40 ... +100	°C
Soldering Temperature (3s)	T_{sold}	300	°C
General Characteristics (T=25°C)			
Chip area	A_{chip}	0,22	mm ²
Supply voltage	V_{supply}	2,5 ... 5,0	V
max. voltage	V_{max}	5,5	V
saturation voltage	V_{sat}	5,0	V
dark offset voltage	V_{offset}	0,5	mV
Temperature coefficient	Tc	<-0,3	%/K
Current	I	0,8	mA
Bandwidth (-3 dB)	θ	15	Hz
risetime (63%)	t_{rise}	10	ms
Spectral Characteristics (T=25°C)			
Sensitivity at peak	S_{max}	200	mV/mW/cm ²
Wavelength of max. spectral sens.	λ_{max}	280	nm
Sensitivity range ($S=0,1 \cdot S_{max}$)	-	210 ... 380	nm
Visible blindness ($S_{max} / S_{>400nm}$)	VB	10^5	-

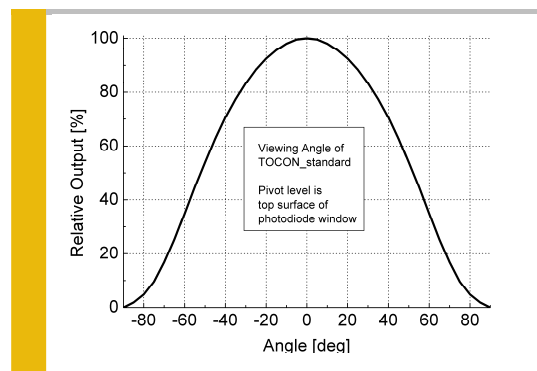
Spectral Response



Drawing



Viewing Angle



General Features



Properties of the TOCON_mega

- Broad Band pre-amplified UV detector for very strong radiation
- radiation hard steel attenuating mesh for long term stability
- Applications: UV hardening control & other high radiation sources
- 0,1W/cm² peak radiation results a voltage of approx. 500 mV

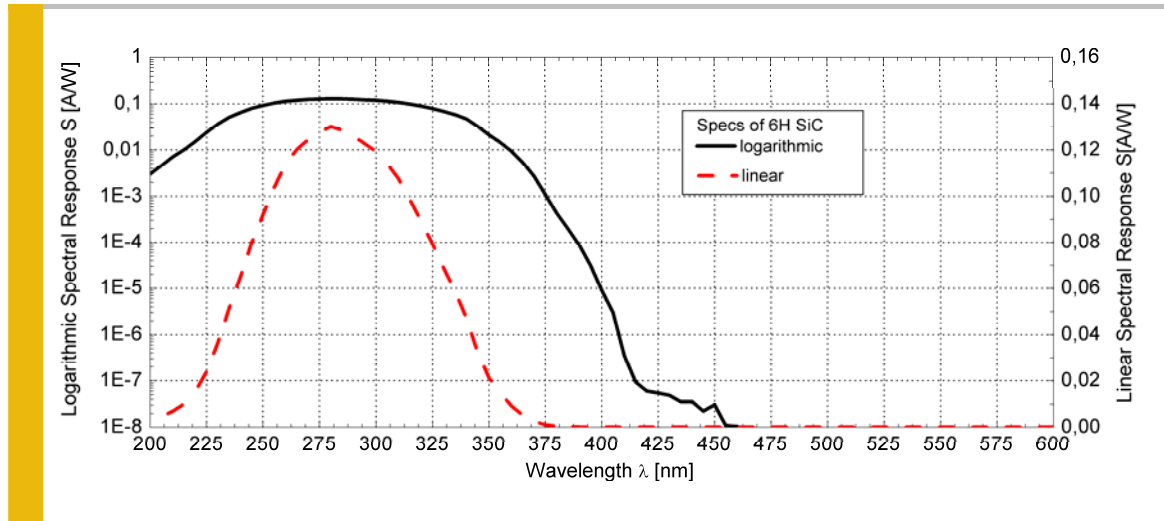
The TOCON pre-amplified UV photodetectors

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.

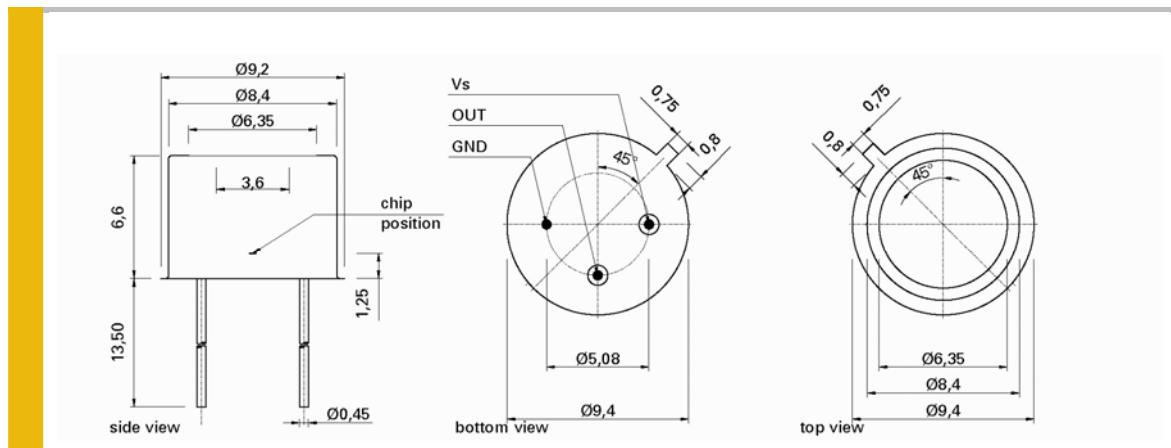
Specifications

Parameter	Symbol	Value	Unit
Maximum Ratings			
Operating Temperature Range	T_{opt}	-25 ... +85	°C
Storage Temperature Range	T_{stor}	-40 ... +100	°C
Soldering Temperature (3s)	T_{sold}	300	°C
General Characteristics (T=25°C)			
Chip area	A_{chip}	0,22	mm ²
Supply voltage	V_{supply}	2,5 ... 5,0	V
max. voltage	V_{max}	5,5	V
saturation voltage	V_{sat}	5,0	V
dark offset voltage	V_{offset}	0,5	mV
Temperature coefficient	Tc	<-0,3	%/K
Current	I	0,8	mA
Bandwidth (-3 dB)	θ	15	Hz
risetime (63%)	t_{rise}	10	ms
Spectral Characteristics (T=25°C)			
Sensitivity at peak	S_{max}	5	V/W/cm ²
Wavelength of max. spectral sens.	λ_{max}	280	nm
Sensitivity range (S=0,1*S _{max})	-	210 ... 380	nm
Visible blindness (S _{max} / S _{>400nm})	VB	10 ⁵	-

Spectral Response



Drawing



Viewing Angle

