TOCON_ABC3
Broadband pre-amplified SiC UV Photodetector

General Features

Properties of the TOCON_ABC3

- Broadband pre-amplified SiC UV detector in TO5 housing with diffuser
- 700 nW/cm^2 peak radiation results a voltage of approx. 2 V
- RoHS compliant
- Applications: UV radiation detection, occupational safety

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°C, V_{supply}=+5 V)*			
Supply voltage	V_{supply}	*2,5 … 5,0*	*V*
Saturation voltage	V_{sat}	V_{supply}	*V*
Dark offset voltage	V_{offset}	*50*	*µV*
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°C, V_{supply}=+5 V)*			
Sensitivity at peak	S_{max}	*2,8*	*mV/nW/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} / $S_{>405nm}$)	*VB*	*>10^{10}*	-

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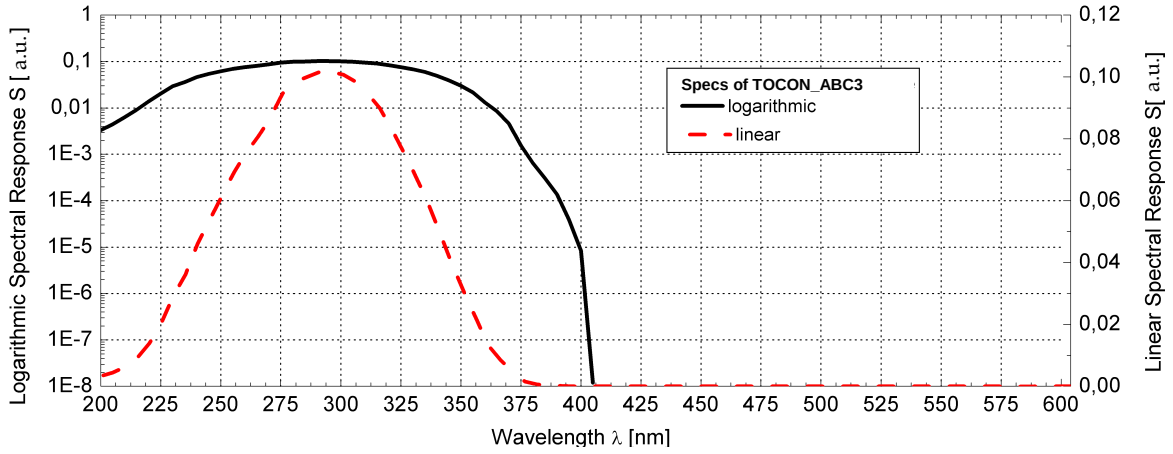
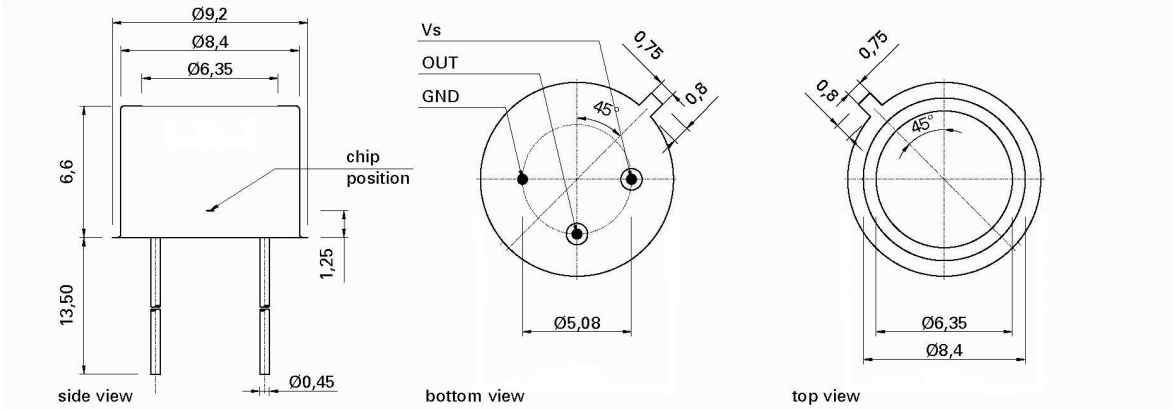
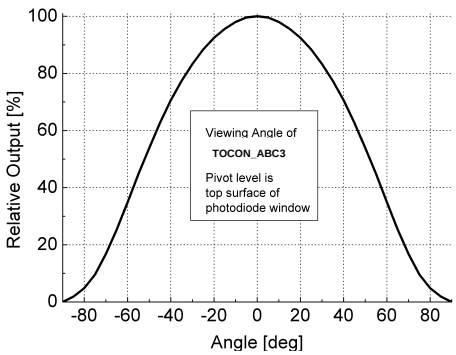
Spectral Response



Drawing



Field of View



TOCON Product Portfolio

Selection of TOCONs with UV broadband sensitivity:

Option	Approx. min irradiance	Approx. max irradiance (V_{supply} = 5 V)
TOCON_ABC1	1,8 pW/cm²	18 nW/cm²
TOCON_ABC2	18 pW/cm²	180 nW/cm²
TOCON_ABC3	**180 pW/cm²**	**1,8 µW/cm²** *this device*
TOCON_ABC4	1,8 nW/cm²	18 µW/cm²
TOCON_ABC5	18 nW/cm²	180 µW/cm²
TOCON_ABC6	180 nW/cm²	1,8 mW/cm²
TOCON_ABC7	1,8 µW/cm²	18 mW/cm²
TOCON_ABC8	18 µW/cm²	180 mW/cm²
TOCON_ABC9	180 µW/cm²	1,8 W/cm²
TOCON_ABC10	1,8 mW/cm²	18 W/cm²

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

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Upgrades

TOCON housings for easy mounting of the TOCON_ABC3

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_ABC3

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_ABC3

The **UV*MICROLOG*** 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.

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