

# Ultraviolet (UVA) TOCON Datasheets



- **UV photodiode with integrated preamplifier**
- **SiC based UV sensors with 0 to 5 V voltage output**
- **measures intensities from 1.8pW/cm<sup>2</sup> up to 18W/cm<sup>2</sup>**



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# TOCON\_A4

UVA-only SiC based UV photodetector with integrated amplifier



## GENERAL FEATURES



### Properties of the TOCON\_A4

- UVA-only SiC based UV photodetector in TO5 housing with concentrator lens cap
- 0 ... 5 V voltage output
- peak wavelength at 331 nm
- max. radiation (saturation limit) at peak is 18  $\mu\text{W}/\text{cm}^2$ ,  
minimum radiation (resolution limit) is 1.8  $\text{nW}/\text{cm}^2$
- Applications: UVA radiation detection

### What is a TOCON?

A TOCON is a 5 Volt powered UV photodetector with integrated amplifier converting UV radiation into a 0 ... 5V voltage output. The  $V_{\text{out}}$  pin of the TOCON can be directly connected to a controller, a voltmeter or any other data analyzing device with voltage input. Highly modern electronic components and a hermetically sealed metal housing with UV glass window eliminates noise caused by parasitic resistance paths inside the package or EMI. A TOCON is a perfect solution for each industrial UV sensing application starting from flame detection at  $\text{pW}/\text{cm}^2$  level up to UV curing lamp control at  $\text{W}/\text{cm}^2$  level. This thirteen orders of magnitude range is covered by ten different TOCONs that differ by their sensitivity. The TOCONs are produced as UV broadband sensors or with filters for selective measurement.

### Silicon Carbide (SiC) detector chip inside

Sophisticated electronics make a TOCON a reliable component in harsh environments as well as for extremely low or extremely high UV radiation. But what makes the TOCON a quasi eternally living sensor is the sglux in-house produced SiC detector chip featured by a PTB-reported extreme radiation hardness.

## NOMENCLATURE

TOCON_	ABC, A, B, C, blue or GaP	1 ... 10
	<b>Spectral response</b>	<b>Irradiance limits (<math>V_{\text{supply}}=5\text{V}, \lambda = \lambda_{\text{peak}}</math>)</b>
	<b>ABC = broadband</b> $\lambda_{\text{max}} = 290 \text{ nm}$ $\lambda_{\text{S10\%}} = 227 \text{ nm} \dots 360 \text{ nm}$	<b>1</b> = 1,8 $\text{pW}/\text{cm}^2$ ... 18 $\text{nW}/\text{cm}^2$
	<b>A = UVA</b> $\lambda_{\text{max}} = 331 \text{ nm}$ $\lambda_{\text{S10\%}} = 309 \text{ nm} \dots 367 \text{ nm}$	<b>2</b> = 18 $\text{pW}/\text{cm}^2$ ... 180 $\text{nW}/\text{cm}^2$
	<b>B = UVB</b> $\lambda_{\text{max}} = 280 \text{ nm}$ $\lambda_{\text{S10\%}} = 243 \text{ nm} \dots 303 \text{ nm}$	<b>3</b> = 180 $\text{pW}/\text{cm}^2$ ... 1,8 $\mu\text{W}/\text{cm}^2$
	<b>C = UVC</b> $\lambda_{\text{max}} = 275 \text{ nm}$ $\lambda_{\text{S10\%}} = 225 \text{ nm} \dots 287 \text{ nm}$	<b>4</b> = 1,8 $\text{nW}/\text{cm}^2$ ... 18 $\mu\text{W}/\text{cm}^2$
	<b>Blue</b> $\lambda_{\text{max}} = 445 \text{ nm}$ $\lambda_{\text{S10\%}} = 390 \text{ nm} \dots 515 \text{ nm}$	<b>5</b> = 18 $\text{nW}/\text{cm}^2$ ... 180 $\mu\text{W}/\text{cm}^2$
	<b>Gap</b> $\lambda_{\text{max}} = 445 \text{ nm}$ $\lambda_{\text{S10\%}} = 190 \text{ nm} \dots 570 \text{ nm}$	<b>6</b> = 180 $\text{nW}/\text{cm}^2$ ... 1,8 $\text{mW}/\text{cm}^2$
	<b>E = UV-Index</b> spectral response according to CIE087	<b>7</b> = 1,8 $\mu\text{W}/\text{cm}^2$ ... 18 $\text{mW}/\text{cm}^2$
		<b>8</b> = 18 $\mu\text{W}/\text{cm}^2$ ... 180 $\text{mW}/\text{cm}^2$
		<b>9</b> = 180 $\mu\text{W}/\text{cm}^2$ ... 1,8 $\text{W}/\text{cm}^2$
		<b>10</b> = 1,8 $\text{mW}/\text{cm}^2$ ... 18 $\text{W}/\text{cm}^2$
		<b>2</b> = 0 UVI ... 30 UVI

# TOCON\_A4

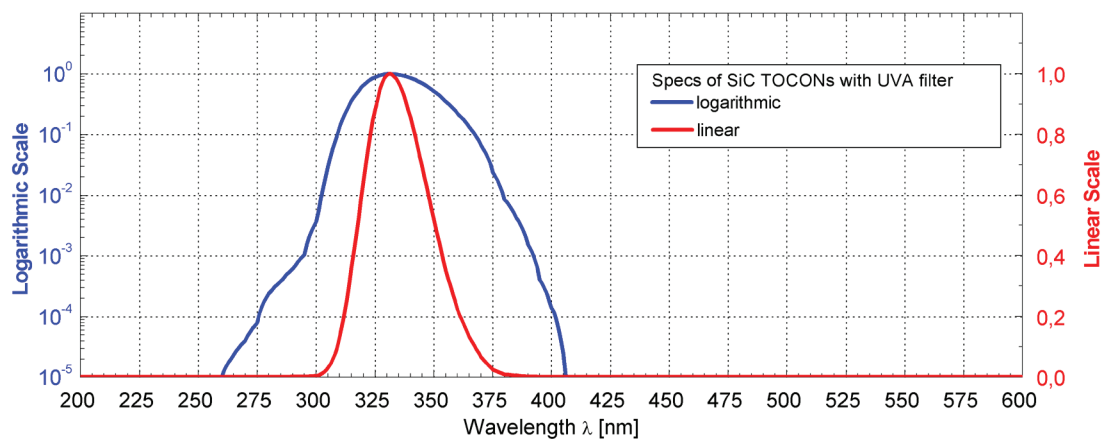
UVA-only SiC based UV photodetector with integrated amplifier



## SPECIFICATIONS

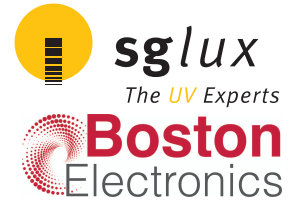
Parameter	Symbol	Value	Unit
<b>Spectral Characteristics</b>			
Typical Responsivity at Peak Wavelength	$S_{max}$	280	mV/ $\mu$ W/cm <sup>2</sup>
Wavelength of max. Spectral Responsivity	$\lambda_{max}$	331	nm
Responsivity Range ( $S=0.1*S_{max}$ )	–	309 ... 367	nm
Visible Blindness ( $S_{max}/S_{>405nm}$ )	VB	$> 10^{10}$	–
<b>General Characteristics (T=25°C, V<sub>supply</sub> =+5 V)</b>			
Supply Voltage	V <sub>Supply</sub>	2.5 ... 5	V
Saturation Voltage	V <sub>Sat</sub>	V <sub>Supply</sub> - 5%	V
Dark Offset Voltage	V <sub>Offset</sub>	700	$\mu$ V
Temperature Coefficient at Peak	T <sub>c</sub>	< -0.3	%/K
Current Consumption	I	150	$\mu$ A
Bandwidth (-3 dB)	B	15	Hz
Risetime (10-90%)	t <sub>rise</sub>	0,069	s
<i>(other risetimes on request)</i>			
<b>Maximum Ratings</b>			
Operating Temperature	T <sub>opt</sub>	-25 ... +85	°C
Storage Temperature	T <sub>stor</sub>	-40 ... +100	°C
Soldering Temperature (3s)	T <sub>sold</sub>	300	°C

## NORMALIZED SPECTRAL RESPONSIVITY

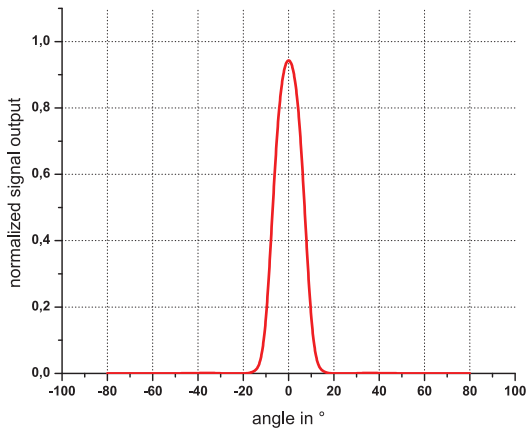


# TOCON\_A4

UVA-only SiC based UV photodetector with integrated amplifier



## FIELD OF VIEW

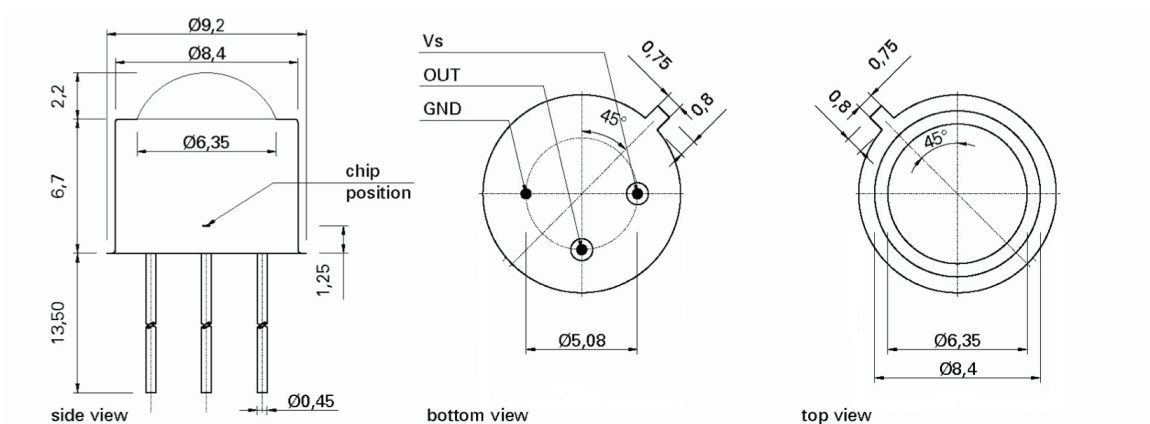


Measurement Setup:

- lamp aperture diameter: 10 mm
- distance lamp aperture to second aperture: 17 mm
- second aperture diameter: 10 mm
- distance second aperture to detector: 93 mm

pivot level = top surface of the detector window

## DRAWING



# TOCON\_A4

UVA-only SiC based UV photodetector with integrated amplifier



## ▶ APPLICATION NOTE FOR TOCONS

The TOCONS need a supply voltage of  $V_{\text{supply}} = 2.5 \dots 5V_{\text{DC}}$  and can be directly connected to a controller or voltmeter. Please note that the theoretic maximum signal output is always a little less (approx. 5%) than the supply voltage. To learn more about perfect use of the TOCONS please refer to the TOCON FAQ list published at [www.sglux.com](http://www.sglux.com).

**CAUTION!** Wrong wiring leads to destruction of the device.

For easy setup of the device please ask for a TOCON starter kit.



### **Miniature steel housing with M12x1 thread for the TOCON series**

- Optional feature for all TOCON detectors
- Robust stainless steel M12x1 thread body, length 32 mm
- Integrated sensor connector (Binder 4-Pin plug) with 2m connector cable
- Easy to mount and to connect



### **Plastic probes**

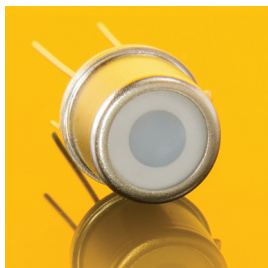
- Optional feature for all TOCON detectors
- UV probes in small plastic housings with a TOCON inside
- Customized housings available
- Easy to mount and to connect
- Integrated sensor connector (Binder 4-Pin plug)
- Cable available

# TOCON\_A5

UVA-only SiC based UV photodetector with integrated amplifier



## GENERAL FEATURES



### Properties of the TOCON\_A5

- UVA-only SiC based UV photodetector in TO5 housing with diffusor
- 0 ... 5 V voltage output
- peak wavelength at 331 nm
- max. radiation (saturation limit) at peak is 180  $\mu\text{W}/\text{cm}^2$ ,  
minimum radiation (resolution limit) is 18  $\text{nW}/\text{cm}^2$
- Applications: UVA irradiation measurement

### What is a TOCON?

A TOCON is a 5 Volt powered UV photodetector with integrated amplifier converting UV radiation into a 0 ... 5V voltage output. The  $V_{\text{out}}$  pin of the TOCON can be directly connected to a controller, a voltmeter or any other data analyzing device with voltage input. Highly modern electronic components and a hermetically sealed metal housing with UV glass window eliminates noise caused by parasitic resistance paths inside the package or EMI. A TOCON is a perfect solution for each industrial UV sensing application starting from flame detection at  $\text{pW}/\text{cm}^2$  level up to UV curing lamp control at  $\text{W}/\text{cm}^2$  level. This thirteen orders of magnitude range is covered by ten different TOCONs that differ by their sensitivity. The TOCONs are produced as UV broadband sensors or with filters for selective measurement.

### Silicon Carbide (SiC) detector chip inside

Sophisticated electronics make a TOCON a reliable component in harsh environments as well as for extremely low or extremely high UV radiation. But what makes the TOCON a quasi eternally living sensor is the sglux in-house produced SiC detector chip featured by a PTB-reported extreme radiation hardness.

## NOMENCLATURE

TOCON_	ABC, A, B, C, blue or GaP	1 ... 10
	<b>Spectral response</b>	<b>Irradiance limits (<math>V_{\text{supply}}=5\text{V}</math>, <math>\lambda = \lambda_{\text{peak}}</math>)</b>
	<b>ABC = broadband</b> $\lambda_{\text{max}} = 290 \text{ nm}$ $\lambda_{\text{S10\%}} = 227 \text{ nm} \dots 360 \text{ nm}$	<b>1</b> = 1,8 $\text{pW}/\text{cm}^2$ ... 18 $\text{nW}/\text{cm}^2$
	<b>A = UVA</b> $\lambda_{\text{max}} = 331 \text{ nm}$ $\lambda_{\text{S10\%}} = 309 \text{ nm} \dots 367 \text{ nm}$	<b>2</b> = 18 $\text{pW}/\text{cm}^2$ ... 180 $\text{nW}/\text{cm}^2$
	<b>B = UVB</b> $\lambda_{\text{max}} = 280 \text{ nm}$ $\lambda_{\text{S10\%}} = 243 \text{ nm} \dots 303 \text{ nm}$	<b>3</b> = 180 $\text{pW}/\text{cm}^2$ ... 1,8 $\mu\text{W}/\text{cm}^2$
	<b>C = UVC</b> $\lambda_{\text{max}} = 275 \text{ nm}$ $\lambda_{\text{S10\%}} = 225 \text{ nm} \dots 287 \text{ nm}$	<b>4</b> = 1,8 $\text{nW}/\text{cm}^2$ ... 18 $\mu\text{W}/\text{cm}^2$
	<b>Blue</b> $\lambda_{\text{max}} = 445 \text{ nm}$ $\lambda_{\text{S10\%}} = 390 \text{ nm} \dots 515 \text{ nm}$	<b>5</b> = 18 $\text{nW}/\text{cm}^2$ ... 180 $\mu\text{W}/\text{cm}^2$
	<b>Gap</b> $\lambda_{\text{max}} = 445 \text{ nm}$ $\lambda_{\text{S10\%}} = 190 \text{ nm} \dots 570 \text{ nm}$	<b>6</b> = 180 $\text{nW}/\text{cm}^2$ ... 1,8 $\text{mW}/\text{cm}^2$
	<b>E = UV-Index</b> spectral response according to CIE087	<b>7</b> = 1,8 $\mu\text{W}/\text{cm}^2$ ... 18 $\text{mW}/\text{cm}^2$
		<b>8</b> = 18 $\mu\text{W}/\text{cm}^2$ ... 180 $\text{mW}/\text{cm}^2$
		<b>9</b> = 180 $\mu\text{W}/\text{cm}^2$ ... 1,8 $\text{W}/\text{cm}^2$
		<b>10</b> = 1,8 $\text{mW}/\text{cm}^2$ ... 18 $\text{W}/\text{cm}^2$
		<b>2</b> = 0 UVI ... 30 UVI

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Rev. 3.1 Due to our strive for continuous improvement, specifications are subject to change within our PCN policy according to JESD46C.

# TOCON\_A5

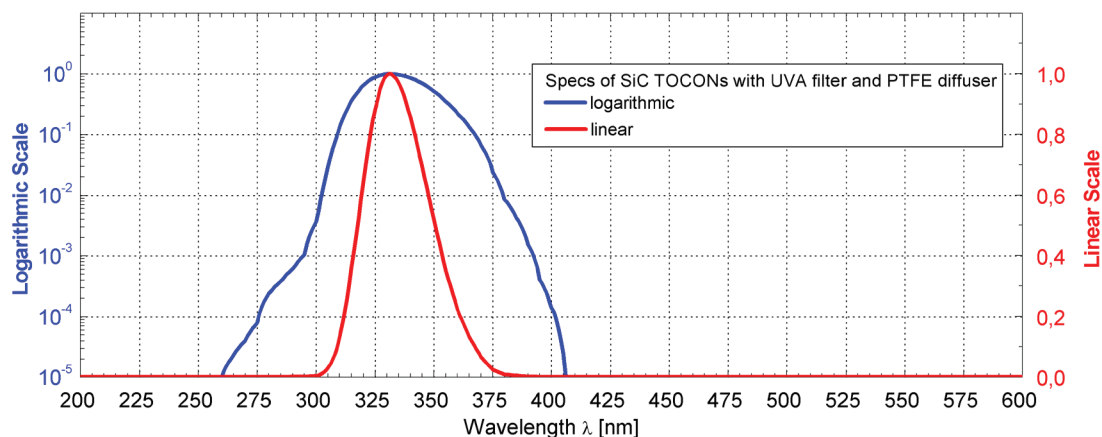
UVA-only SiC based UV photodetector with integrated amplifier



## SPECIFICATIONS

Parameter	Symbol	Value	Unit
<b>Spectral Characteristics</b>			
Typical Responsivity at Peak Wavelength	$S_{max}$	28	mV/ $\mu$ W/cm <sup>2</sup>
Wavelength of max. Spectral Responsivity	$\lambda_{max}$	331	nm
Responsivity Range ( $S=0.1*S_{max}$ )	–	309 ... 367	nm
Visible Blindness ( $S_{max}/S_{>405nm}$ )	VB	$> 10^{10}$	–
<b>General Characteristics (T=25°C, V<sub>supply</sub> =+5 V)</b>			
Supply Voltage	V <sub>Supply</sub>	2.5 ... 5	V
Saturation Voltage	V <sub>Sat</sub>	V <sub>Supply</sub> - 5%	V
Dark Offset Voltage	V <sub>Offset</sub>	50	$\mu$ V
Temperature Coefficient at Peak	T <sub>c</sub>	< -0.3	%/K
Current Consumption	I	150	$\mu$ A
Bandwidth (-3 dB)	B	15	Hz
Risetime (10-90%)	t <sub>rise</sub>	0,062	s
<i>(other risetimes on request)</i>			
<b>Maximum Ratings</b>			
Operating Temperature	T <sub>opt</sub>	-25 ... +85	°C
Storage Temperature	T <sub>stor</sub>	-40 ... +100	°C
Soldering Temperature (3s)	T <sub>sold</sub>	300	°C

## NORMALIZED SPECTRAL RESPONSIVITY

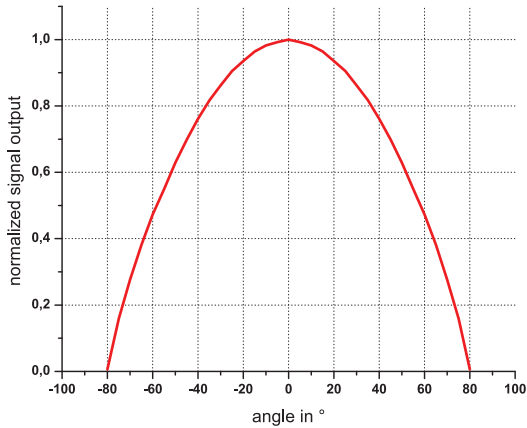


# TOCON\_A5

UVA-only SiC based UV photodetector with integrated amplifier



## FIELD OF VIEW

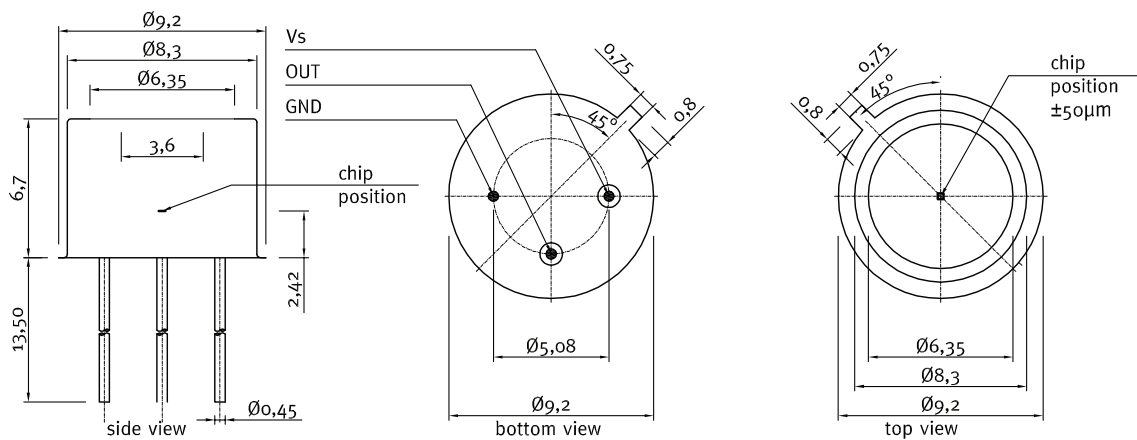


### Measurement Setup:

- lamp aperture diameter: 10 mm
- distance lamp aperture to second aperture: 17 mm
- second aperture diameter: 10 mm
- distance second aperture to detector: 93 mm

pivot level = top surface of the detector window

## DRAWING





# TOCON\_A5

UVA-only SiC based UV photodetector with integrated amplifier

## APPLICATION NOTE FOR TOCONs

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### Miniature steel housing with M12x1 thread for the TOCON series

- Optional feature for all TOCON detectors
- Robust stainless steel M12x1 thread body, length 32 mm
- Integrated sensor connector (Binder 4-Pin plug) with 2m connector cable
- Easy to mount and to connect



### Miniature PTFE housing with M12x1 thread for the TOCON series

- Optional feature for all TOCON detectors without concentrator lens
- Teflon (PTFE) M12x1 thread body, length 31 mm
- Wide field of view, dirt-repellant, water proof at wet side (IP 68)
- Integrated sensor connector (Binder 4-Pin plug) with 2m connector cable
- Easy to mount and connect, cleanable

*The PTFE housing reduces the signal output by approx. 95%. Please consider this while selecting the TOCON's sensitivity range.*



### Plastic probes

- Optional feature for all TOCON detectors
- UV probes in small plastic housings with a TOCON inside
- Customized housings available
- Easy to mount and to connect
- Integrated sensor connector (Binder 4-Pin plug)
- Cable available



### Water pressure proof TOCON housing

- Optional feature for all TOCON detectors without concentrator lens
- G1/4" thread, 10 bar water pressure proof
- Customized housings available
- Easy to mount and to connect
- Integrated sensor connector (Binder 4-Pin plug)
- Cable available

# TOCON\_A6

UVA-only SiC based UV photodetector with integrated amplifier

## GENERAL FEATURES



### Properties of the TOCON\_A6

- UVA-only SiC based UV photodetector in TO5 housing with diffuser
- 0 ... 5 V voltage output
- peak wavelength at 331 nm
- max. radiation (saturation limit) at peak is 1.8 mW/cm<sup>2</sup>, minimum radiation (resolution limit) is 180 nW/cm<sup>2</sup>
- Applications: UVA irradiation measurement

### What is a TOCON?

A TOCON is a 5 Volt powered UV photodetector with integrated amplifier converting UV radiation into a 0 ... 5V voltage output. The V<sub>out</sub> pin of the TOCON can be directly connected to a controller, a voltmeter or any other data analyzing device with voltage input. Highly modern electronic components and a hermetically sealed metal housing with UV glass window eliminates noise caused by parasitic resistance paths inside the package or EMI. A TOCON is a perfect solution for each industrial UV sensing application starting from flame detection at pW/cm<sup>2</sup> level up to UV curing lamp control at W/cm<sup>2</sup> level. This thirteen orders of magnitude range is covered by ten different TOCONs that differ by their sensitivity. The TOCONs are produced as UV broadband sensors or with filters for selective measurement.

### Silicon Carbide (SiC) detector chip inside

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## NOMENCLATURE

TOCON_	ABC, A, B, C, blue or GaP	1 ... 10
	<b>Spectral response</b>	<b>Irradiance limits (V<sub>supply</sub>=5V, λ = λ<sub>peak</sub>)</b>
	<b>ABC = broadband</b> λ <sub>max</sub> = 290 nm λ <sub>S10%</sub> = 227 nm ... 360 nm	<b>1</b> = 1,8 pW/cm <sup>2</sup> ... 18 nW/cm <sup>2</sup>
	<b>A = UVA</b> λ <sub>max</sub> = 331 nm λ <sub>S10%</sub> = 309 nm ... 367 nm	<b>2</b> = 18 pW/cm <sup>2</sup> ... 180 nW/cm <sup>2</sup>
	<b>B = UVB</b> λ <sub>max</sub> = 280 nm λ <sub>S10%</sub> = 243 nm ... 303 nm	<b>3</b> = 180 pW/cm <sup>2</sup> ... 1,8 μW/cm <sup>2</sup>
	<b>C = UVC</b> λ <sub>max</sub> = 275 nm λ <sub>S10%</sub> = 225 nm ... 287 nm	<b>4</b> = 1,8 nW/cm <sup>2</sup> ... 18 μW/cm <sup>2</sup>
	<b>Blue</b> λ <sub>max</sub> = 445 nm λ <sub>S10%</sub> = 390 nm ... 515 nm	<b>5</b> = 18 nW/cm <sup>2</sup> ... 180 μW/cm <sup>2</sup>
	<b>Gap</b> λ <sub>max</sub> = 445 nm λ <sub>S10%</sub> = 190 nm ... 570 nm	<b>6</b> = 180 nW/cm <sup>2</sup> ... 1,8 mW/cm <sup>2</sup>
	<b>E = UV-Index</b> spectral response according to CIE087	<b>7</b> = 1,8 μW/cm <sup>2</sup> ... 18 mW/cm <sup>2</sup>
		<b>8</b> = 18 μW/cm <sup>2</sup> ... 180 mW/cm <sup>2</sup>
		<b>9</b> = 180 μW/cm <sup>2</sup> ... 1,8 W/cm <sup>2</sup>
		<b>10</b> = 1,8 mW/cm <sup>2</sup> ... 18 W/cm <sup>2</sup>
		<b>2</b> = 0 UVI ... 30 UVI

# TOCON\_A6

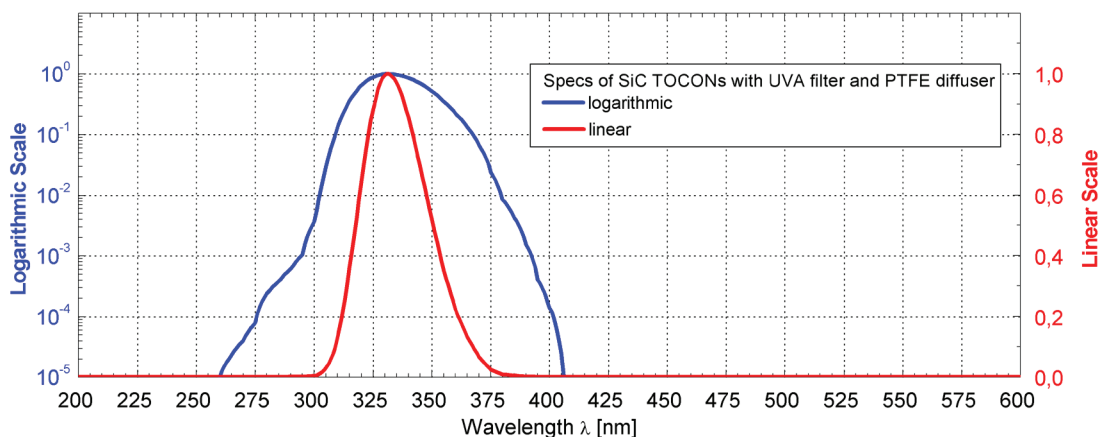
UVA-only SiC based UV photodetector with integrated amplifier



## SPECIFICATIONS

Parameter	Symbol	Value	Unit
<b>Spectral Characteristics</b>			
Typical Responsivity at Peak Wavelength	$S_{max}$	2.8	mV/ $\mu$ W/cm <sup>2</sup>
Wavelength of max. Spectral Responsivity	$\lambda_{max}$	331	nm
Responsivity Range ( $S=0.1*S_{max}$ )	–	309 ... 367	nm
Visible Blindness ( $S_{max}/S_{>405nm}$ )	VB	$> 10^{10}$	–
<b>General Characteristics (T=25°C, V<sub>supply</sub> =+5 V)</b>			
Supply Voltage	V <sub>Supply</sub>	2.5 ... 5	V
Saturation Voltage	V <sub>Sat</sub>	V <sub>Supply</sub> - 5%	V
Dark Offset Voltage	V <sub>Offset</sub>	50	$\mu$ V
Temperature Coefficient at Peak	T <sub>c</sub>	< -0.3	%/K
Current Consumption	I	150	$\mu$ A
Bandwidth (-3 dB)	B	15	Hz
Risetime (10-90%)	t <sub>rise</sub>	0,069	s
<i>(other risetimes on request)</i>			
<b>Maximum Ratings</b>			
Operating Temperature	T <sub>opt</sub>	-25 ... +85	°C
Storage Temperature	T <sub>stor</sub>	-40 ... +100	°C
Soldering Temperature (3s)	T <sub>sold</sub>	300	°C

## NORMALIZED SPECTRAL RESPONSIVITY

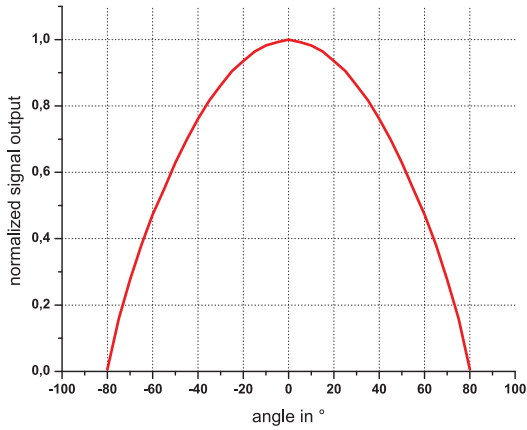


# TOCON\_A6

UVA-only SiC based UV photodetector with integrated amplifier



## FIELD OF VIEW

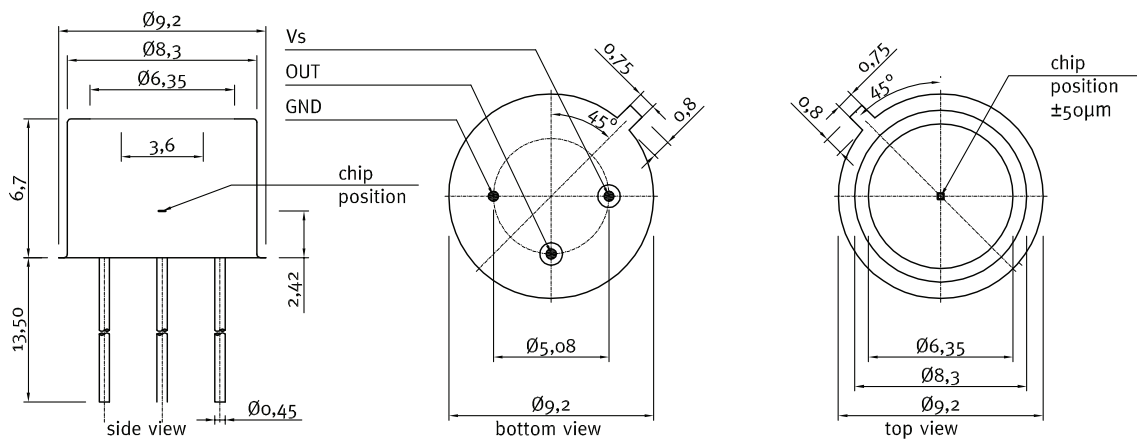


### Measurement Setup:

- lamp aperture diameter: 10 mm
- distance lamp aperture to second aperture: 17 mm
- second aperture diameter: 10 mm
- distance second aperture to detector: 93 mm

pivot level = top surface of the detector window

## DRAWING



# TOCON\_A6

UVA-only SiC based UV photodetector with integrated amplifier

## APPLICATION NOTE FOR TOCONs

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- Integrated sensor connector (Binder 4-Pin plug) with 2m connector cable
- Easy to mount and to connect



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### Plastic probes

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- UV probes in small plastic housings with a TOCON inside
- Customized housings available
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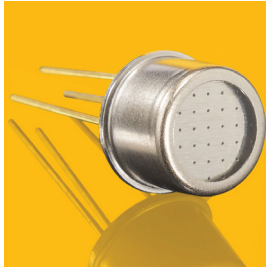
### Water pressure proof TOCON housing

- Optional feature for all TOCON detectors without concentrator lens
- G1/4" thread, 10 bar water pressure proof
- Customized housings available
- Easy to mount and to connect
- Integrated sensor connector (Binder 5-Pin plug)
- Cable available

# TOCON\_A7

UVA-only SiC based UV photodetector with integrated amplifier

## GENERAL FEATURES



### Properties of the TOCON\_A7

- UVA-only SiC based UV photodetector in TO5 housing with diffuser
- 0 ... 5 V voltage output
- peak wavelength at 331 nm
- max. radiation (saturation limit) at peak is 18 mW/cm<sup>2</sup>, minimum radiation (resolution limit) is 1.8 μW/cm<sup>2</sup>
- Applications: UVA irradiation measurement

### What is a TOCON?

A TOCON is a 5 Volt powered UV photodetector with integrated amplifier converting UV radiation into a 0 ... 5V voltage output. The V<sub>out</sub> pin of the TOCON can be directly connected to a controller, a voltmeter or any other data analyzing device with voltage input. Highly modern electronic components and a hermetically sealed metal housing with UV glass window eliminates noise caused by parasitic resistance paths inside the package or EMI. A TOCON is a perfect solution for each industrial UV sensing application starting from flame detection at pW/cm<sup>2</sup> level up to UV curing lamp control at W/cm<sup>2</sup> level. This thirteen orders of magnitude range is covered by ten different TOCONs that differ by their sensitivity. The TOCONs are produced as UV broadband sensors or with filters for selective measurement.

### Silicon Carbide (SiC) detector chip inside

Sophisticated electronics make a TOCON a reliable component in harsh environments as well as for extremely low or extremely high UV radiation. But what makes the TOCON a quasi eternally living sensor is the sglux in-house produced SiC detector chip featured by a PTB-reported extreme radiation hardness.

## NOMENCLATURE

TOCON_	ABC, A, B, C, blue or GaP	1 ... 10
	<b>Spectral response</b>	<b>Irradiance limits (V<sub>supply</sub>=5V, λ = λ<sub>peak</sub>)</b>
	<b>ABC = broadband</b> λ <sub>max</sub> = 290 nm λ <sub>S10%</sub> = 227 nm ... 360 nm	<b>1</b> = 1,8 pW/cm <sup>2</sup> ... 18 nW/cm <sup>2</sup>
	<b>A = UVA</b> λ <sub>max</sub> = 331 nm λ <sub>S10%</sub> = 309 nm ... 367 nm	<b>2</b> = 18 pW/cm <sup>2</sup> ... 180 nW/cm <sup>2</sup>
	<b>B = UVB</b> λ <sub>max</sub> = 280 nm λ <sub>S10%</sub> = 243 nm ... 303 nm	<b>3</b> = 180 pW/cm <sup>2</sup> ... 1,8 μW/cm <sup>2</sup>
	<b>C = UVC</b> λ <sub>max</sub> = 275 nm λ <sub>S10%</sub> = 225 nm ... 287 nm	<b>4</b> = 1,8 nW/cm <sup>2</sup> ... 18 μW/cm <sup>2</sup>
	<b>Blue</b> λ <sub>max</sub> = 445 nm λ <sub>S10%</sub> = 390 nm ... 515 nm	<b>5</b> = 18 nW/cm <sup>2</sup> ... 180 μW/cm <sup>2</sup>
	<b>Gap</b> λ <sub>max</sub> = 445 nm λ <sub>S10%</sub> = 190 nm ... 570 nm	<b>6</b> = 180 nW/cm <sup>2</sup> ... 1,8 mW/cm <sup>2</sup>
	<b>E = UV-Index</b> spectral response according to CIE087	<b>7</b> = 1,8 μW/cm <sup>2</sup> ... 18 mW/cm <sup>2</sup>
		<b>8</b> = 18 μW/cm <sup>2</sup> ... 180 mW/cm <sup>2</sup>
		<b>9</b> = 180 μW/cm <sup>2</sup> ... 1,8 W/cm <sup>2</sup>
		<b>10</b> = 1,8 mW/cm <sup>2</sup> ... 18 W/cm <sup>2</sup>
		<b>2</b> = 0 UVI ... 30 UVI

# TOCON\_A7

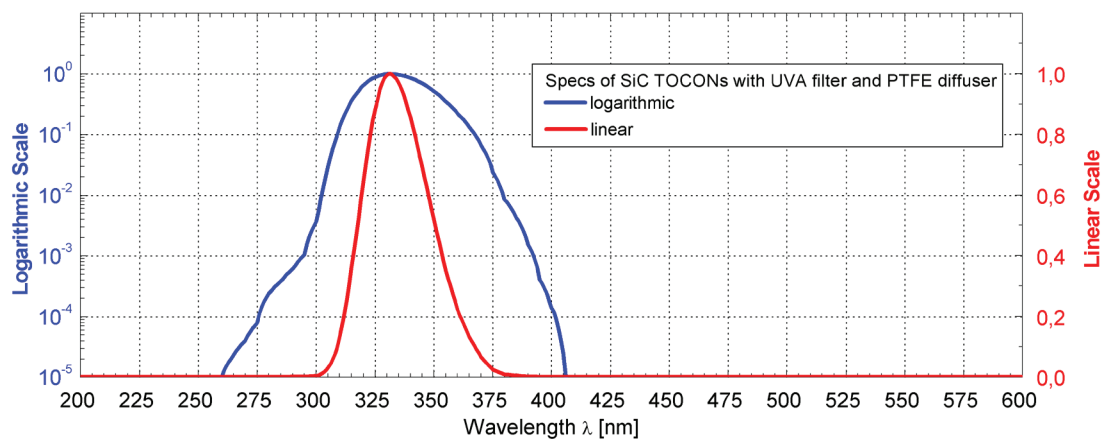
UVA-only SiC based UV photodetector with integrated amplifier



## SPECIFICATIONS

Parameter	Symbol	Value	Unit
<b>Spectral Characteristics</b>			
Typical Responsivity at Peak Wavelength	$S_{max}$	280	mV/mW/cm <sup>2</sup>
Wavelength of max. Spectral Responsivity	$\lambda_{max}$	331	nm
Responsivity Range ( $S=0.1*S_{max}$ )	–	309 ... 367	nm
Visible Blindness ( $S_{max}/S_{>405nm}$ )	VB	$> 10^{10}$	–
<b>General Characteristics (T=25°C, V<sub>supply</sub> =+5 V)</b>			
Supply Voltage	V <sub>Supply</sub>	2.5 ... 5	V
Saturation Voltage	V <sub>Sat</sub>	V <sub>Supply</sub> - 5%	V
Dark Offset Voltage	V <sub>Offset</sub>	50	µV
Temperature Coefficient at Peak	T <sub>c</sub>	< -0.3	%/K
Current Consumption	I	150	µA
Bandwidth (-3 dB)	B	15	Hz
Risetime (10-90%)	t <sub>rise</sub>	0.069	s
<i>(other risetimes on request)</i>			
<b>Maximum Ratings</b>			
Operating Temperature	T <sub>opt</sub>	-25 ... +85	°C
Storage Temperature	T <sub>stor</sub>	-40 ... +100	°C
Soldering Temperature (3s)	T <sub>sold</sub>	300	°C

## NORMALIZED SPECTRAL RESPONSIVITY



BOSTON ELECTRONICS | [www.boselec.com](http://www.boselec.com) | [boselec@boselec.com](mailto:boselec@boselec.com) | 617-566-3821

Rev. 3.1 Due to our strive for continuous improvement, specifications are subject to change within our PCN policy according to JESD46C.

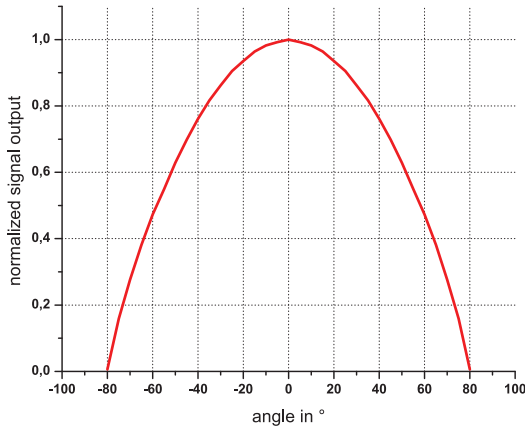


# TOCON\_A7

UVA-only SiC based UV photodetector with integrated amplifier



## FIELD OF VIEW

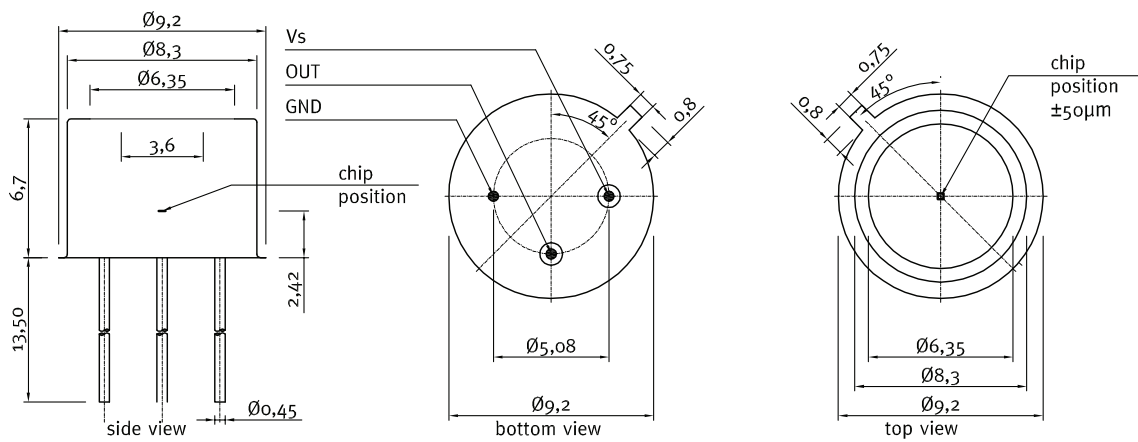


### Measurement Setup:

- lamp aperture diameter: 10 mm
- distance lamp aperture to second aperture: 17 mm
- second aperture diameter: 10 mm
- distance second aperture to detector: 93 mm

pivot level = top surface of the detector window

## DRAWING





# TOCON\_A7

UVA-only SiC based UV photodetector with integrated amplifier

## APPLICATION NOTE FOR TOCONs

The TOCONs need a supply voltage of  $V_{\text{supply}} = 2.5 \dots 5V_{\text{DC}}$  and can be directly connected to a controller or voltmeter. Please note that the theoretic maximum signal output is always a little less (approx. 5%) than the supply voltage. To learn more about perfect use of the TOCONs please refer to the TOCON FAQ list published at [www.sglux.com](http://www.sglux.com).

**CAUTION!** Wrong wiring leads to destruction of the device.

For easy setup of the device please ask for a TOCON starter kit.



### Miniature steel housing with M12x1 thread for the TOCON series

- Optional feature for all TOCON detectors
- Robust stainless steel M12x1 thread body, length 32 mm
- Integrated sensor connector (Binder 4-Pin plug) with 2m connector cable
- Easy to mount and to connect



### Miniature PTFE housing with M12x1 thread for the TOCON series

- Optional feature for all TOCON detectors without concentrator lens
- Teflon (PTFE) M12x1 thread body, length 31 mm
- Wide field of view, dirt-repellant, water proof at wet side (IP 68)
- Integrated sensor connector (Binder 4-Pin plug) with 2m connector cable
- Easy to mount and connect, cleanable

*The PTFE housing reduces the signal output by approx. 95%. Please consider this while selecting the TOCON's sensitivity range.*



### Plastic probes

- Optional feature for all TOCON detectors
- UV probes in small plastic housings with a TOCON inside
- Customized housings available
- Easy to mount and to connect
- Integrated sensor connector (Binder 4-Pin plug)
- Cable available



### Water pressure proof TOCON housing

- Optional feature for all TOCON detectors without concentrator lens
- G1/4" thread, 10 bar water pressure proof
- Customized housings available
- Easy to mount and to connect
- Integrated sensor connector (Binder 5-Pin plug)
- Cable available

# TOCON\_A8

UVA-only SiC based UV photodetector with integrated amplifier

## GENERAL FEATURES



### Properties of the TOCON\_A8

- UVA-only SiC based UV photodetector in TO5 housing with diffusor
- 0 ... 5 V voltage output
- peak wavelength at 331 nm
- max. radiation (saturation limit) at peak is 180 mW/cm<sup>2</sup>, minimum radiation (resolution limit) is 18 μW/cm<sup>2</sup>
- Applications: measurement of high UV irradiation, curing lamp control

### What is a TOCON?

A TOCON is a 5 Volt powered UV photodetector with integrated amplifier converting UV radiation into a 0 ... 5V voltage output. The V<sub>out</sub> pin of the TOCON can be directly connected to a controller, a voltmeter or any other data analyzing device with voltage input. Highly modern electronic components and a hermetically sealed metal housing with UV glass window eliminates noise caused by parasitic resistance paths inside the package or EMI. A TOCON is a perfect solution for each industrial UV sensing application starting from flame detection at pW/cm<sup>2</sup> level up to UV curing lamp control at W/cm<sup>2</sup> level. This thirteen orders of magnitude range is covered by ten different TOCONs that differ by their sensitivity. The TOCONs are produced as UV broadband sensors or with filters for selective measurement.

### Silicon Carbide (SiC) detector chip inside

Sophisticated electronics make a TOCON a reliable component in harsh environments as well as for extremely low or extremely high UV radiation. But what makes the TOCON a quasi eternally living sensor is the sglux in-house produced SiC detector chip featured by a PTB-reported extreme radiation hardness.

## NOMENCLATURE

TOCON_	ABC, A, B, C, blue or GaP	1 ... 10
	<b>Spectral response</b>	<b>Irradiance limits (V<sub>supply</sub>=5V, λ = λ<sub>peak</sub>)</b>
	<b>ABC = broadband</b> λ <sub>max</sub> = 290 nm λ <sub>S10%</sub> = 227 nm ... 360 nm	<b>1</b> = 1,8 pW/cm <sup>2</sup> ... 18 nW/cm <sup>2</sup>
	<b>A = UVA</b> λ <sub>max</sub> = 331 nm λ <sub>S10%</sub> = 309 nm ... 367 nm	<b>2</b> = 18 pW/cm <sup>2</sup> ... 180 nW/cm <sup>2</sup>
	<b>B = UVB</b> λ <sub>max</sub> = 280 nm λ <sub>S10%</sub> = 243 nm ... 303 nm	<b>3</b> = 180 pW/cm <sup>2</sup> ... 1,8 μW/cm <sup>2</sup>
	<b>C = UVC</b> λ <sub>max</sub> = 275 nm λ <sub>S10%</sub> = 225 nm ... 287 nm	<b>4</b> = 1,8 nW/cm <sup>2</sup> ... 18 μW/cm <sup>2</sup>
	<b>Blue</b> λ <sub>max</sub> = 445 nm λ <sub>S10%</sub> = 390 nm ... 515 nm	<b>5</b> = 18 nW/cm <sup>2</sup> ... 180 μW/cm <sup>2</sup>
	<b>Gap</b> λ <sub>max</sub> = 445 nm λ <sub>S10%</sub> = 190 nm ... 570 nm	<b>6</b> = 180 nW/cm <sup>2</sup> ... 1,8 mW/cm <sup>2</sup>
	<b>E = UV-Index</b> spectral response according to CIE087	<b>7</b> = 1,8 μW/cm <sup>2</sup> ... 18 mW/cm <sup>2</sup>
		<b>8</b> = 18 μW/cm <sup>2</sup> ... 180 mW/cm <sup>2</sup>
		<b>9</b> = 180 μW/cm <sup>2</sup> ... 1,8 W/cm <sup>2</sup>
		<b>10</b> = 1,8 mW/cm <sup>2</sup> ... 18 W/cm <sup>2</sup>
		<b>2</b> = 0 UVI ... 30 UVI

# TOCON\_A8

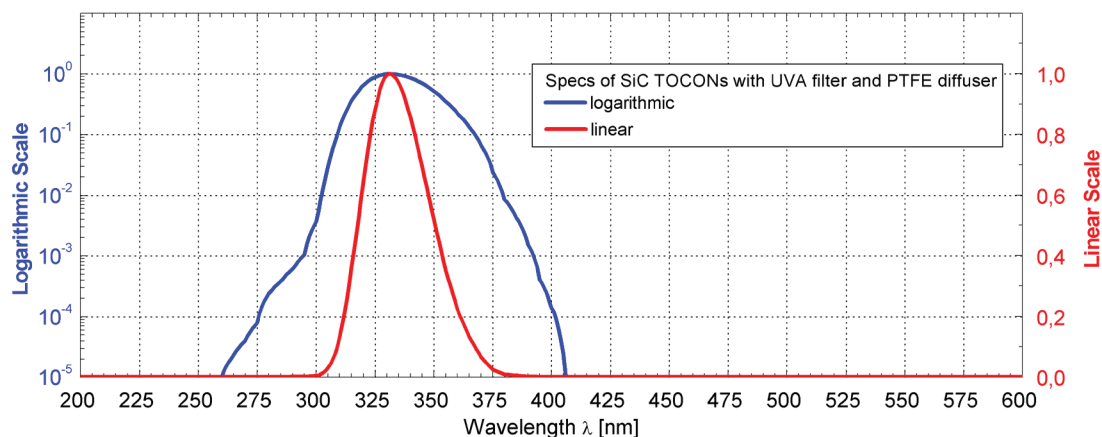
UVA-only SiC based UV photodetector with integrated amplifier



## SPECIFICATIONS

Parameter	Symbol	Value	Unit
<b>Spectral Characteristics</b>			
Typical Responsivity at Peak Wavelength	$S_{max}$	28	mV/mW/cm <sup>2</sup>
Wavelength of max. Spectral Responsivity	$\lambda_{max}$	331	nm
Responsivity Range ( $S=0,1*S_{max}$ )	–	309 ... 367	nm
Visible Blindness ( $S_{max}/S_{>405nm}$ )	VB	$> 10^{10}$	–
<b>General Characteristics (T=25°C, V<sub>supply</sub> =+5 V)</b>			
Supply Voltage	V <sub>Supply</sub>	2,5 ... 5	V
Saturation Voltage	V <sub>Sat</sub>	V <sub>Supply</sub> - 5%	V
Dark Offset Voltage	V <sub>Offset</sub>	50	μV
Temperature Coefficient at Peak	T <sub>c</sub>	< -0,3	%/K
Current Consumption	I	150	μA
Bandwidth (-3 dB)	B	15	Hz
Risetime (10-90%)	t <sub>rise</sub>	0,069	s
<i>(other risetimes on request)</i>			
<b>Maximum Ratings</b>			
Operating Temperature	T <sub>opt</sub>	-25 ... +85	°C
Storage Temperature	T <sub>stor</sub>	-40 ... +100	°C
Soldering Temperature (3s)	T <sub>sold</sub>	300	°C

## NORMALIZED SPECTRAL RESPONSIVITY

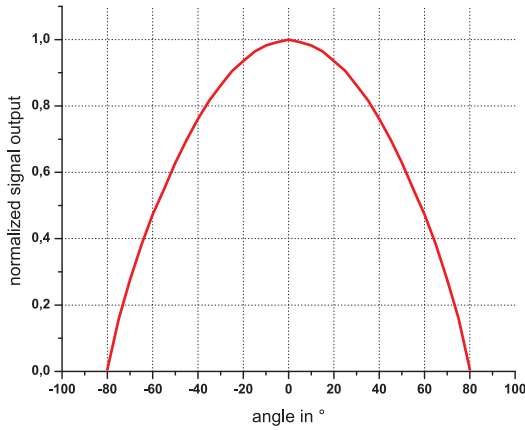


# TOCON\_A8

UVA-only SiC based UV photodetector with integrated amplifier



## FIELD OF VIEW

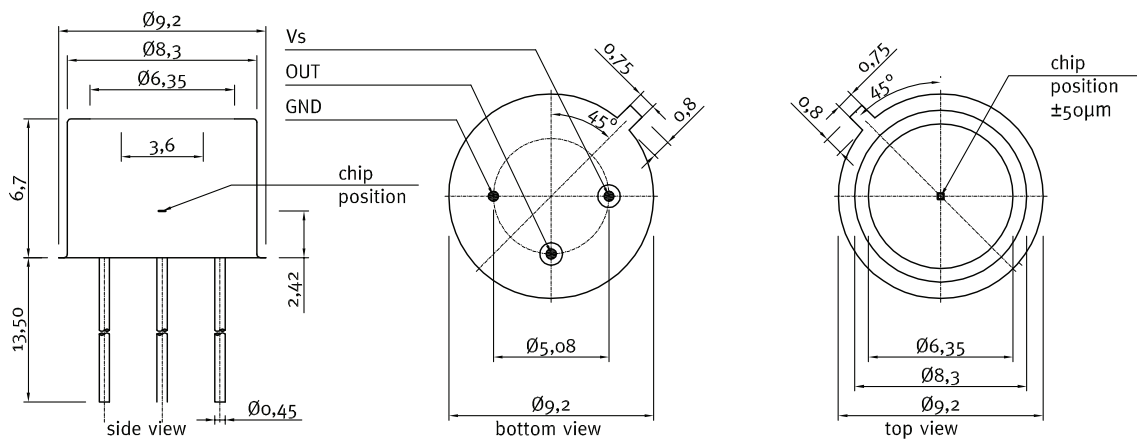


### Measurement Setup:

- lamp aperture diameter: 10 mm
- distance lamp aperture to second aperture: 17 mm
- second aperture diameter: 10 mm
- distance second aperture to detector: 93 mm

pivot level = top surface of the detector window

## DRAWING



# TOCON\_A8

UVA-only SiC based UV photodetector with integrated amplifier



## ▶ APPLICATION NOTE FOR TOCONs

The TOCONs need a supply voltage of  $V_{\text{supply}} = 2,5 \dots 5V_{\text{DC}}$  and can be directly connected to a controller or voltmeter. Please note that the theoretic maximum signal output is always a little less (approx. 5%) than the supply voltage. To learn more about perfect use of the TOCONs please refer to the TOCON FAQ list published at [www.sglux.com](http://www.sglux.com).

**CAUTION!** Wrong wiring leads to destruction of the device.

For easy setup of the device please ask for a TOCON starter kit.



### Miniature steel housing with M12x1 thread for the TOCON series

- Optional feature for all TOCON detectors
- Robust stainless steel M12x1 thread body, length 32 mm
- Integrated sensor connector (Binder 4-Pin plug) with 2m connector cable
- Easy to mount and to connect



### Miniature PTFE housing with M12x1 thread for the TOCON series

- Optional feature for all TOCON detectors without concentrator lens
- Teflon (PTFE) M12x1 thread body, length 31 mm
- Wide field of view, dirt-repellant, water proof at wet side (IP 68)
- Integrated sensor connector (Binder 4-Pin plug) with 2m connector cable
- Easy to mount and connect, cleanable

*The PTFE housing reduces the signal output by approx. 95%. Please consider this while selecting the TOCON's sensitivity range.*



### Plastic probes

- Optional feature for all TOCON detectors
- UV probes in small plastic housings with a TOCON inside
- Customized housings available
- Easy to mount and to connect
- Integrated sensor connector (Binder 4-Pin plug)
- Cable available



### Water pressure proof TOCON housing

- Optional feature for all TOCON detectors without concentrator lens
- G1/4" thread, 10 bar water pressure proof
- Customized housings available
- Easy to mount and to connect
- Integrated sensor connector (Binder 5-Pin plug)
- Cable available

# TOCON\_A9

UVA-only SiC based UV photodetector with integrated amplifier



## GENERAL FEATURES



### Properties of the TOCON\_A9

- UVA-only SiC based UV photodetector in TO5 housing with attenuator
- 0 ... 5 V voltage output
- peak wavelength at 331 nm
- max. radiation (saturation limit) at peak is 1,0 W/cm<sup>2</sup>, minimum radiation (resolution limit) is 100 μW/cm<sup>2</sup>
- Applications: measurement of very high UV irradiation, curing lamp control

### What is a TOCON?

A TOCON is a 5 Volt powered UV photodetector with integrated amplifier converting UV radiation into a 0 ... 5V voltage output. The V<sub>out</sub> pin of the TOCON can be directly connected to a controller, a voltmeter or any other data analyzing device with voltage input. Highly modern electronic components and a hermetically sealed metal housing with UV glass window eliminates noise caused by parasitic resistance paths inside the package or EMI. A TOCON is a perfect solution for each industrial UV sensing application starting from flame detection at pW/cm<sup>2</sup> level up to UV curing lamp control at W/cm<sup>2</sup> level. This thirteen orders of magnitude range is covered by ten different TOCONs that differ by their sensitivity. The TOCONs are produced as UV broadband sensors or with filters for selective measurement.

### Silicon Carbide (SiC) detector chip inside

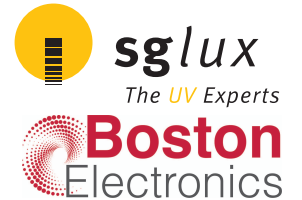
Sophisticated electronics make a TOCON a reliable component in harsh environments as well as for extremely low or extremely high UV radiation. But what makes the TOCON a quasi eternally living sensor is the sglux in-house produced SiC detector chip featured by a PTB-reported extreme radiation hardness.

## NOMENCLATURE

TOCON_	ABC, A, B, C, blue or GaP	1 ... 10
	<b>Spectral response</b>	<b>Irradiance limits (V<sub>supply</sub>=5V, λ = λ<sub>peak</sub>)</b>
	<b>ABC = broadband</b> λ <sub>max</sub> = 290 nm λ <sub>S10%</sub> = 227 nm ... 360 nm	<b>1</b> = 1,8 pW/cm <sup>2</sup> ... 18 nW/cm <sup>2</sup>
	<b>A = UVA</b> λ <sub>max</sub> = 331 nm λ <sub>S10%</sub> = 309 nm ... 367 nm	<b>2</b> = 18 pW/cm <sup>2</sup> ... 180 nW/cm <sup>2</sup>
	<b>B = UVB</b> λ <sub>max</sub> = 280 nm λ <sub>S10%</sub> = 243 nm ... 303 nm	<b>3</b> = 180 pW/cm <sup>2</sup> ... 1,8 μW/cm <sup>2</sup>
	<b>C = UVC</b> λ <sub>max</sub> = 275 nm λ <sub>S10%</sub> = 225 nm ... 287 nm	<b>4</b> = 1,8 nW/cm <sup>2</sup> ... 18 μW/cm <sup>2</sup>
	<b>Blue</b> λ <sub>max</sub> = 445 nm λ <sub>S10%</sub> = 390 nm ... 515 nm	<b>5</b> = 18 nW/cm <sup>2</sup> ... 180 μW/cm <sup>2</sup>
	<b>Gap</b> λ <sub>max</sub> = 445 nm λ <sub>S10%</sub> = 190 nm ... 570 nm	<b>6</b> = 180 nW/cm <sup>2</sup> ... 1,8 mW/cm <sup>2</sup>
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		<b>8</b> = 18 μW/cm <sup>2</sup> ... 180 mW/cm <sup>2</sup>
		<b>9</b> = 180 μW/cm <sup>2</sup> ... 1,8 W/cm <sup>2</sup>
		<b>10</b> = 1,8 mW/cm <sup>2</sup> ... 18 W/cm <sup>2</sup>
		<b>2</b> = 0 UVI ... 30 UVI

# TOCON\_A9

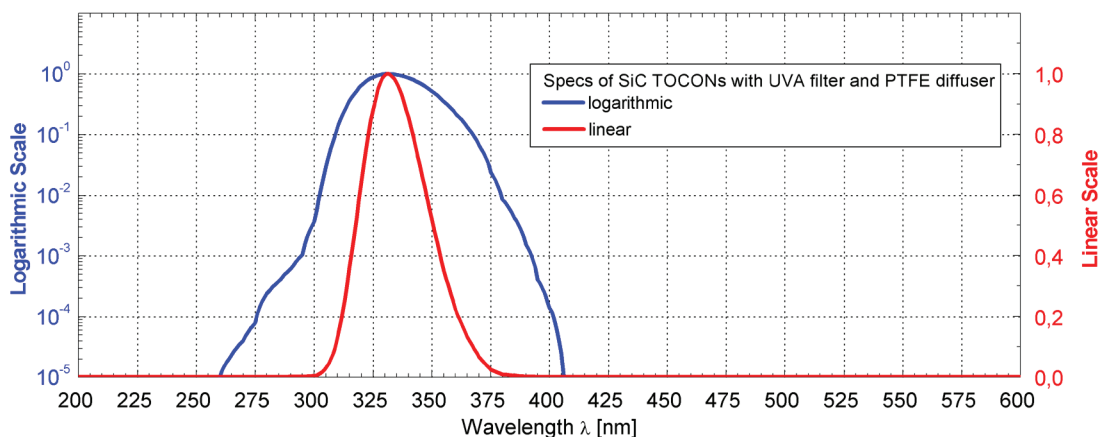
UVA-only SiC based UV photodetector with integrated amplifier



## SPECIFICATIONS

Parameter	Symbol	Value	Unit
<b>Spectral Characteristics</b>			
Typical Responsivity at Peak Wavelength	$S_{max}$	5	mV/mW/cm <sup>2</sup>
Wavelength of max. Spectral Responsivity	$\lambda_{max}$	331	nm
Responsivity Range ( $S=0,1*S_{max}$ )	–	309 ... 367	nm
Visible Blindness ( $S_{max}/S_{>405nm}$ )	VB	$> 10^{10}$	–
<b>General Characteristics (T=25°C, V<sub>supply</sub> =+5 V)</b>			
Supply Voltage	V <sub>Supply</sub>	2,5 ... 5	V
Saturation Voltage	V <sub>Sat</sub>	V <sub>Supply</sub> - 5%	V
Dark Offset Voltage	V <sub>Offset</sub>	50	µV
Temperature Coefficient at Peak	T <sub>c</sub>	< -0,3	%/K
Current Consumption	I	150	µA
Bandwidth (-3 dB)	B	15	Hz
Risetime (10-90%)	t <sub>rise</sub>	0,073	s
<i>(other risetimes on request)</i>			
<b>Maximum Ratings</b>			
Operating Temperature	T <sub>opt</sub>	-25 ... +85	°C
Storage Temperature	T <sub>stor</sub>	-40 ... +100	°C
Soldering Temperature (3s)	T <sub>sold</sub>	300	°C

## NORMALIZED SPECTRAL RESPONSIVITY



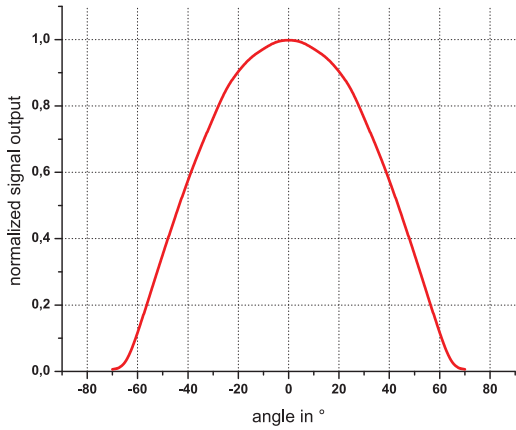


# TOCON\_A9

UVA-only SiC based UV photodetector with integrated amplifier



## FIELD OF VIEW

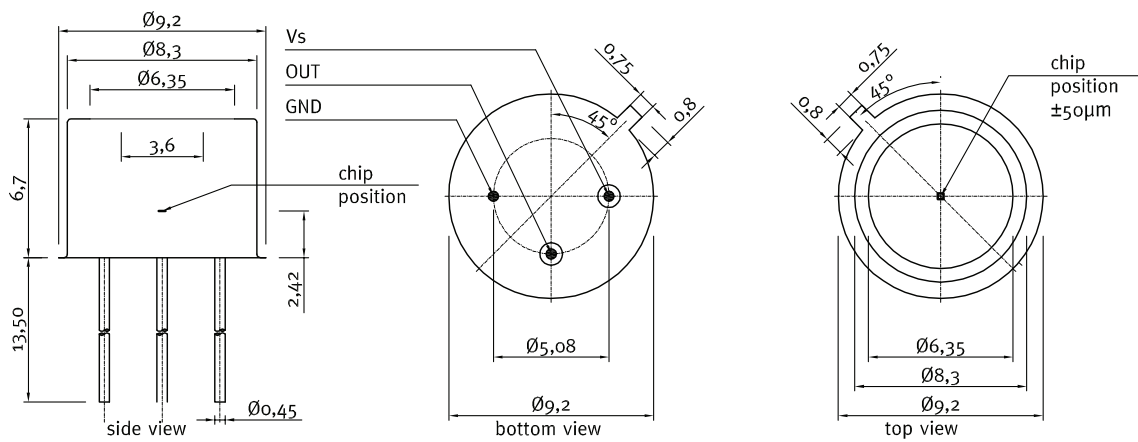


### Measurement Setup:

- lamp aperture diameter: 10 mm
- distance lamp aperture to second aperture: 17 mm
- second aperture diameter: 10 mm
- distance second aperture to detector: 93 mm

pivot level = top surface of the detector window

## DRAWING





# TOCON\_A9

UVA-only SiC based UV photodetector with integrated amplifier

## APPLICATION NOTE FOR TOCONs

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- Integrated sensor connector (Binder 4-Pin plug) with 2m connector cable
- Easy to mount and to connect



### Miniature PTFE housing with M12x1 thread for the TOCON series

- Optional feature for all TOCON detectors without concentrator lens
- Teflon (PTFE) M12x1 thread body, length 31 mm
- Wide field of view, dirt-repellant, water proof at wet side (IP 68)
- Integrated sensor connector (Binder 4-Pin plug) with 2m connector cable
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*The PTFE housing reduces the signal output by approx. 95%. Please consider this while selecting the TOCON's sensitivity range.*



### Plastic probes

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- UV probes in small plastic housings with a TOCON inside
- Customized housings available
- Easy to mount and to connect
- Integrated sensor connector (Binder 4-Pin plug)
- Cable available



### Water pressure proof TOCON housing

- Optional feature for all TOCON detectors without concentrator lens
- G1/4" thread, 10 bar water pressure proof
- Customized housings available
- Easy to mount and to connect
- Integrated sensor connector (Binder 5-Pin plug)
- Cable available

# TOCON\_A10

UVA-only SiC based UV photodetector with integrated amplifier



## GENERAL FEATURES



### Properties of the TOCON\_A10

- UVA-only SiC based UV photodetector in TO5 housing with attenuator
- 0 ... 5 V voltage output
- peak wavelength at 331 nm
- max. radiation (saturation limit) at peak is 18 W/cm<sup>2</sup>, minimum radiation (resolution limit) is 1,8 mW/cm<sup>2</sup>
- Applications: measurement of very high UV irradiation, curing lamp control

### What is a TOCON?

A TOCON is a 5 Volt powered UV photodetector with integrated amplifier converting UV radiation into a 0 ... 5V voltage output. The V<sub>out</sub> pin of the TOCON can be directly connected to a controller, a voltmeter or any other data analyzing device with voltage input. Highly modern electronic components and a hermetically sealed metal housing with UV glass window eliminates noise caused by parasitic resistance paths inside the package or EMI. A TOCON is a perfect solution for each industrial UV sensing application starting from flame detection at pW/cm<sup>2</sup> level up to UV curing lamp control at W/cm<sup>2</sup> level. This thirteen orders of magnitude range is covered by ten different TOCONs that differ by their sensitivity. The TOCONs are produced as UV broadband sensors or with filters for selective measurement.

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Sophisticated electronics make a TOCON a reliable component in harsh environments as well as for extremely low or extremely high UV radiation. But what makes the TOCON a quasi eternally living sensor is the sglux in-house produced SiC detector chip featured by a PTB-reported extreme radiation hardness.

## NOMENCLATURE

TOCON_	ABC, A, B, C, blue or GaP	1 ... 10
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	<b>ABC = broadband</b> λ <sub>max</sub> = 290 nm λ <sub>S10%</sub> = 227 nm ... 360 nm	<b>1</b> = 1,8 pW/cm <sup>2</sup> ... 18 nW/cm <sup>2</sup>
	<b>A = UVA</b> λ <sub>max</sub> = 331 nm λ <sub>S10%</sub> = 309 nm ... 367 nm	<b>2</b> = 18 pW/cm <sup>2</sup> ... 180 nW/cm <sup>2</sup>
	<b>B = UVB</b> λ <sub>max</sub> = 280 nm λ <sub>S10%</sub> = 243 nm ... 303 nm	<b>3</b> = 180 pW/cm <sup>2</sup> ... 1,8 μW/cm <sup>2</sup>
	<b>C = UVC</b> λ <sub>max</sub> = 275 nm λ <sub>S10%</sub> = 225 nm ... 287 nm	<b>4</b> = 1,8 nW/cm <sup>2</sup> ... 18 μW/cm <sup>2</sup>
	<b>Blue</b> λ <sub>max</sub> = 445 nm λ <sub>S10%</sub> = 390 nm ... 515 nm	<b>5</b> = 18 nW/cm <sup>2</sup> ... 180 μW/cm <sup>2</sup>
	<b>Gap</b> λ <sub>max</sub> = 445 nm λ <sub>S10%</sub> = 190 nm ... 570 nm	<b>6</b> = 180 nW/cm <sup>2</sup> ... 1,8 mW/cm <sup>2</sup>
	<b>E = UV-Index</b> spectral response according to CIE087	<b>7</b> = 1,8 μW/cm <sup>2</sup> ... 18 mW/cm <sup>2</sup>
		<b>8</b> = 18 μW/cm <sup>2</sup> ... 180 mW/cm <sup>2</sup>
		<b>9</b> = 180 μW/cm <sup>2</sup> ... 1,8 W/cm <sup>2</sup>
		<b>10</b> = 1,8 mW/cm <sup>2</sup> ... 18 W/cm <sup>2</sup>
		<b>2</b> = 0 UVI ... 30 UVI

# TOCON\_A10

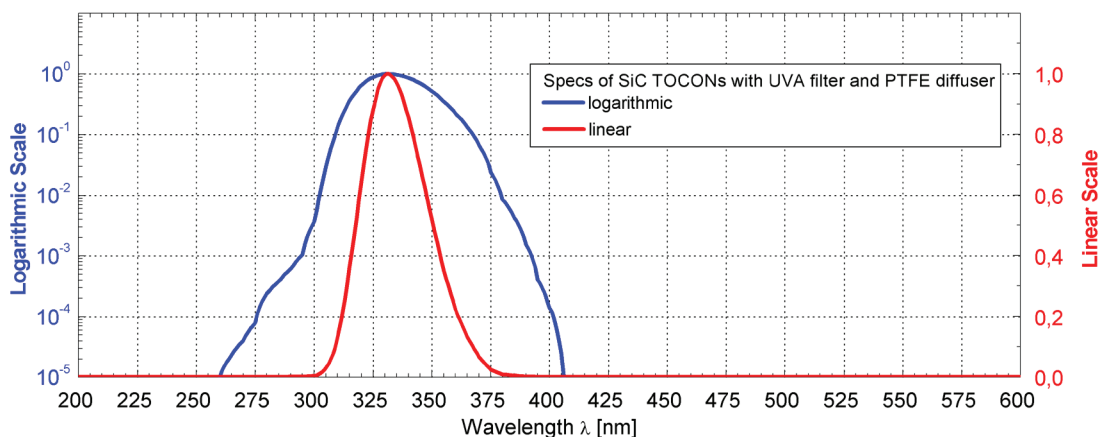
UVA-only SiC based UV photodetector with integrated amplifier



## SPECIFICATIONS

Parameter	Symbol	Value	Unit
<b>Spectral Characteristics</b>			
Typical Responsivity at Peak Wavelength	$S_{max}$	0,28	mV/mW/cm <sup>2</sup>
Wavelength of max. Spectral Responsivity	$\lambda_{max}$	331	nm
Responsivity Range ( $S=0,1*S_{max}$ )	–	309 ... 367	nm
Visible Blindness ( $S_{max}/S_{>405nm}$ )	VB	$> 10^{10}$	–
<b>General Characteristics (T=25°C, V<sub>supply</sub> =+5 V)</b>			
Supply Voltage	V <sub>Supply</sub>	2,5 ... 5	V
Saturation Voltage	V <sub>Sat</sub>	V <sub>Supply</sub> - 5%	V
Dark Offset Voltage	V <sub>Offset</sub>	50	µV
Temperature Coefficient at Peak	T <sub>c</sub>	< -0,3	%/K
Current Consumption	I	150	µA
Bandwidth (-3 dB)	B	15	Hz
Risetime (10-90%)	t <sub>rise</sub>	0,073	s
<i>(other risetimes on request)</i>			
<b>Maximum Ratings</b>			
Operating Temperature	T <sub>opt</sub>	-25 ... +85	°C
Storage Temperature	T <sub>stor</sub>	-40 ... +100	°C
Soldering Temperature (3s)	T <sub>sold</sub>	300	°C

## NORMALIZED SPECTRAL RESPONSIVITY



BOSTON ELECTRONICS | [www.boselec.com](http://www.boselec.com) | [boselec@boselec.com](mailto:boselec@boselec.com) | 617-566-3821

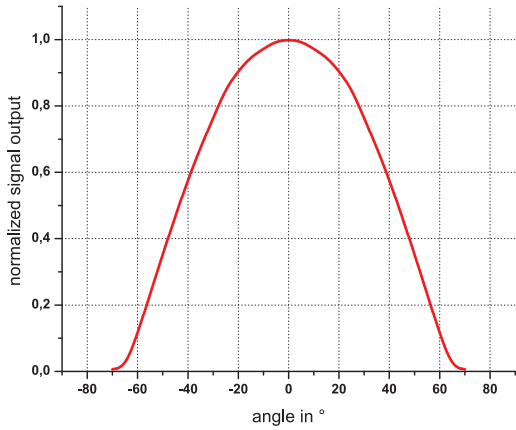
Rev. 3.1 Due to our strive for continuous improvement, specifications are subject to change within our PCN policy according to JESD46C.

# TOCON\_A10

UVA-only SiC based UV photodetector with integrated amplifier



## FIELD OF VIEW

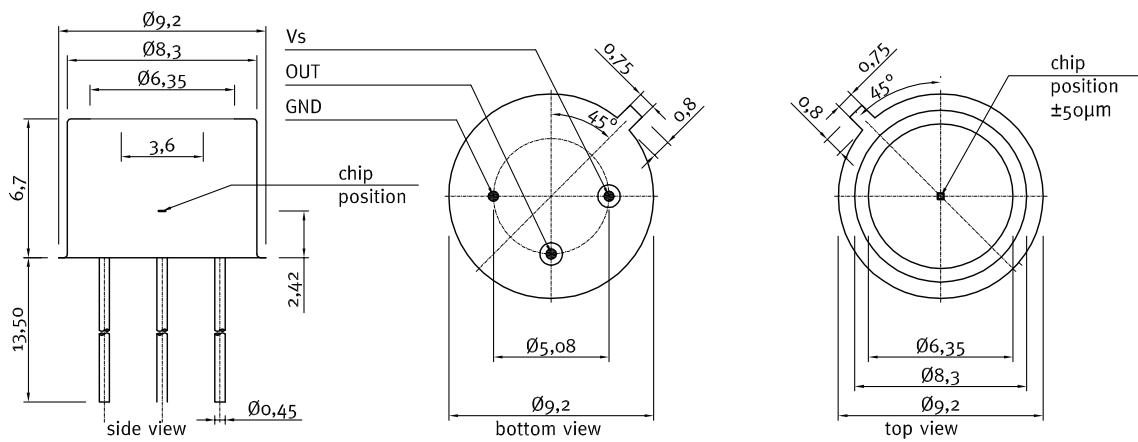


### Measurement Setup:

- lamp aperture diameter: 10 mm
- distance lamp aperture to second aperture: 17 mm
- second aperture diameter: 10 mm
- distance second aperture to detector: 93 mm

pivot level = top surface of the detector window

## DRAWING



# TOCON\_A10

UVA-only SiC based UV photodetector with integrated amplifier



## ▶ APPLICATION NOTE FOR TOCONs

The TOCONs need a supply voltage of  $V_{\text{supply}} = 2,5 \dots 5V_{\text{DC}}$  and can be directly connected to a controller or voltmeter. Please note that the theoretic maximum signal output is always a little less (approx. 5%) than the supply voltage. To learn more about perfect use of the TOCONs please refer to the TOCON FAQ list published at [www.sglux.com](http://www.sglux.com).

**CAUTION!** Wrong wiring leads to destruction of the device.

For easy setup of the device please ask for a TOCON starter kit.



### Miniature steel housing with M12x1 thread for the TOCON series

- Optional feature for all TOCON detectors
- Robust stainless steel M12x1 thread body, length 32 mm
- Integrated sensor connector (Binder 4-Pin plug) with 2m connector cable
- Easy to mount and to connect



### Miniature PTFE housing with M12x1 thread for the TOCON series

- Optional feature for all TOCON detectors without concentrator lens
- Teflon (PTFE) M12x1 thread body, length 31 mm
- Wide field of view, dirt-repellant, water proof at wet side (IP 68)
- Integrated sensor connector (Binder 4-Pin plug) with 2m connector cable
- Easy to mount and connect, cleanable

*The PTFE housing reduces the signal output by approx. 95%. Please consider this while selecting the TOCON's sensitivity range.*



### Plastic probes

- Optional feature for all TOCON detectors
- UV probes in small plastic housings with a TOCON inside
- Customized housings available
- Easy to mount and to connect
- Integrated sensor connector (Binder 4-Pin plug)
- Cable available



### Water pressure proof TOCON housing

- Optional feature for all TOCON detectors without concentrator lens
- G1/4" thread, 10 bar water pressure proof
- Customized housings available
- Easy to mount and to connect
- Integrated sensor connector (Binder 5-Pin plug)
- Cable available