



UV-TIAMO-C7

- SiC UV Photodiode
- Integrated Transimpedance Amplifier
- Sensitivity Range: 225-287 nm
- Max. Irradiance: 18 mW/cm²
- TO-5 Can, with Diffusor



Description

UV-TIAMO devices are 5 Volt powered UV photodetectors with integrated amplifier converting UV radiation into a 0 ... 5V voltage output. The Vout pin 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. UV-TIAMO series is a perfect solution for each industrial UV sensing application starting from flame detection at pW/cm² level up to UV curing lamp control at W/cm² level. This thirteen orders of magnitude range is covered by ten different UV-TIAMO devices that differ by their sensitivity.

UV-TIAMO-C7 is specified with irradiance limits of **1.8 μW/cm² - 18 mW/cm²** and a responsivity range of **225 – 257 nm**

The UV-TIAMO series are produced as UV broadband sensors or with filters for selective measurement.

UV-TIAMO-C Series

Part Number	Responsivity	Irradiance Limits [5V, λ _{peak}]
UV-TIAMO-C1	λ _{max} = 275 nm, λ _{S10%} = 225 – 287 nm	1.8 pW/cm ² - 18 nW/cm ²
UV-TIAMO-C2		18 pW/cm ² - 180 nW/cm ²
UV-TIAMO-C3		180 pW/cm ² - 1.8 μW/cm ²
UV-TIAMO-C4		1.8 nW/cm ² - 18 μW/cm ²
UV-TIAMO-C5		18 nW/cm ² - 180 μW/cm ²
UV-TIAMO-C6		180 nW/cm ² - 1.8 mW/cm ²
UV-TIAMO-C7		1.8 μW/cm² - 18 mW/cm²
UV-TIAMO-C8		18 μW/cm ² - 180 mW/cm ²
UV-TIAMO-C9		180 μW/cm ² - 1.8 W/cm ²
UV-TIAMO-C10		1.8 mW/cm ² - 18 W/cm ²



Maximum Ratings

Parameter	Symbol	Values		Unit
		Min.	Max.	
Operating Temperature	T_{CASE}	- 25	+ 85	°C
Storage Temperature	T_{STG}	- 40	+ 100	°C
Lead Solder Temperature *	T_{SLD}		+ 300	°C

* must be completed within 5 seconds

General Characteristics ($T_{CASE}=25^{\circ}C$, $V_{SUPPLY}=+5V$)

Parameter	Symbol	Min.	Values	Max.	Unit
			Typ.		
Supply Voltage	V_{SUPPLY}	2.5		5.0	V
Saturation Voltage	V_{SAT}		$V_{SUPPLY} -5\%$		V
Dark Offset Voltage	V_{OFFSET}		50		μV
Temperature Coefficient	T_C			-0.3	%/K
Current Consumption	I		150		μA
Bandwidth (-3 dB)	Θ		15		Hz
Rise Time (63%)	t_r		69		ms

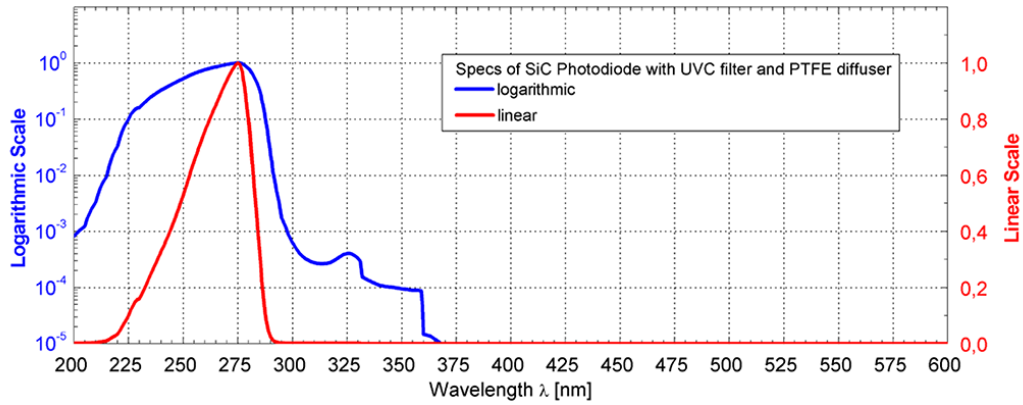
Spectral Characteristics ($T_{CASE}=25^{\circ}C$, $V_{SUPPLY}=+5V$)

Parameter	Symbol	Min.	Values	Max.	Unit
			Typ.		
Broadband Sensitivity	S	0.0018		18	mW/cm ²
Sensitivity at Peak	S_{max}		280		mV/mW/cm ²
Wavelength of max. Spectral Sensitivity	λ_{max}		275		nm
Sensitivity Range ($S=0.1 \cdot S_{max}$)		225		287	nm
Visible Blindness ($S_{max}/S_{>405nm}$)	VB	10^{10}			

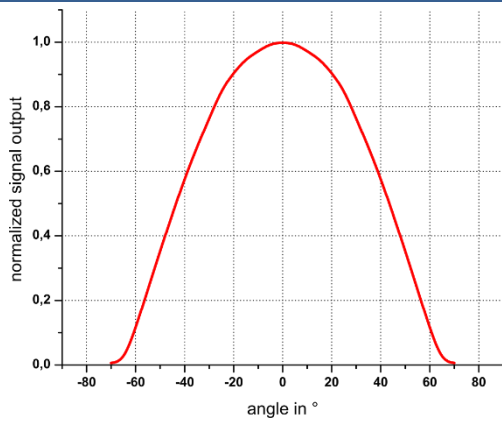


Performance Characteristics

Spectral Response

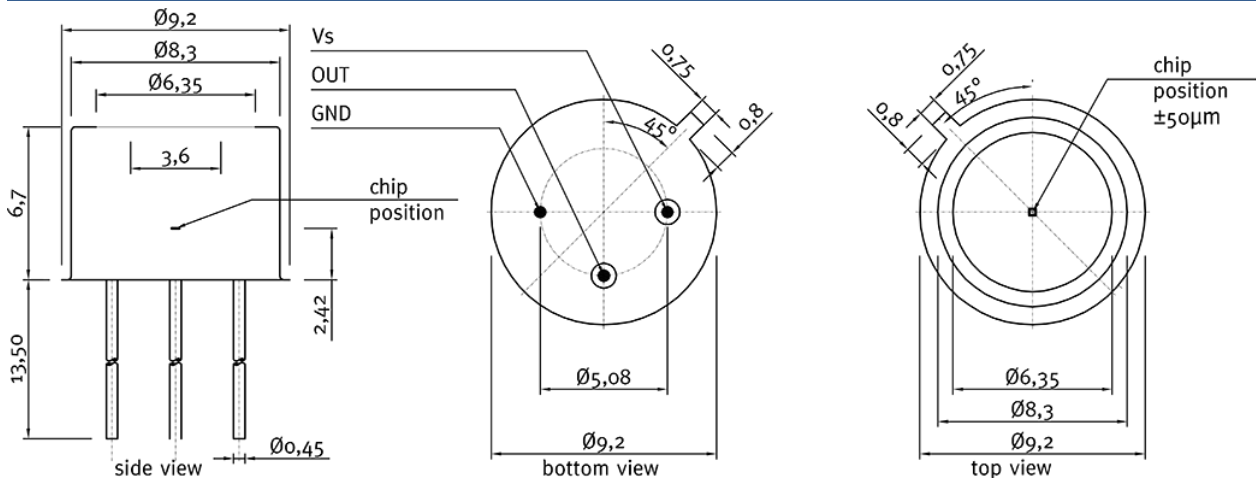


Field of View



Outline Dimensions

TO-5 with diffusor



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The above specifications are for reference purpose only and subjected to change without prior notice