

SG01S-B18

UVB-only SiC based UV photodiode $A = 0,054\text{mm}^2$



General Features



Properties of the SG01S-B18 UV photodiode

- UVB-only sensitivity
- Active Area $A = 0.054 \text{ mm}^2$, TO18 hermetically sealed housing
- $10\text{mW}/\text{cm}^2$ radiation at peak results a current of approx 660nA
- 1 UVI (UV-Index) results a current of approx 165pA

About the material Silicon Carbide (SiC)

The material SiC provides unique properties looking at visible blindness, speed and noise. A high long term radiation hardness for radiation intensities up to $1000 \text{ W}/\text{m}^2$ is given. These features make SiC the best currently available material for visible blind semiconductor UV detectors. Some SiC detectors (our HT-series) can be permanently operated at $T=170^\circ\text{C}$ where the temperature coefficient is only $<0.1\%/K$. Because of the low dark current in the fA range also very low radiation intensities can be reliably measured. Please note that this needs suited amplifier circuit (please refer to page 2 of this datasheet). SiC photodiodes are available as non-filtered broad band devices or with filters e.g. providing an UVA-, UVB-, or UVC-only sensitivity or an erythema-curve compliance.

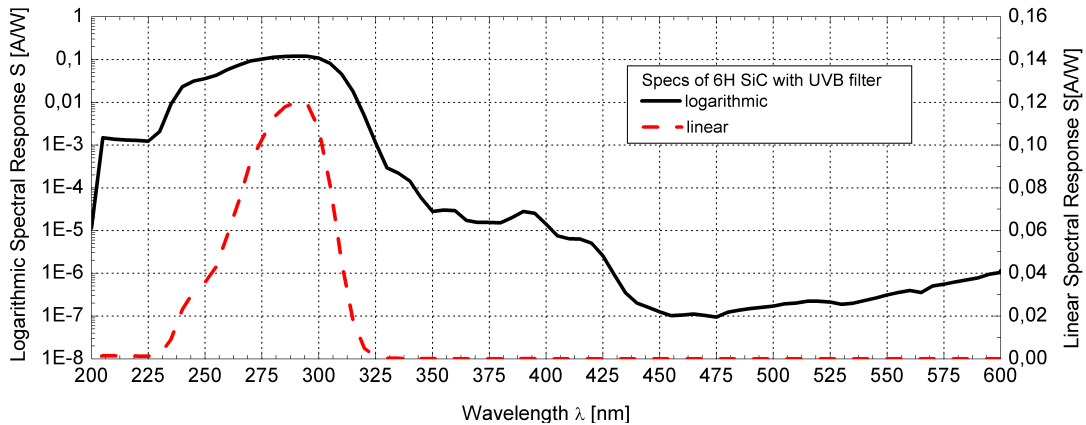
Specifications

Parameter	Symbol	Value	Unit
Maximum Ratings			
Operating Temperature Range	T_{opt}	-25 ... +70	$^\circ\text{C}$
Storage Temperature Range	T_{stor}	0 ... +100	$^\circ\text{C}$
Soldering Temperature (3s)	T_{sold}	260	$^\circ\text{C}$
Reverse voltage	V_{Rmax}	20	V
General Characteristics ($T=25^\circ\text{C}$)			
Active Area	A	0.054	mm^2
Dark current (1V reverse bias)	I_d	1	fA
Capacitance	C	21	pF
Short circuit ($10\text{mW}/\text{cm}^2$ at 254nm)	I_0	350	nA
Temperature coefficient	T_c	<-0.1	$\%/K$
Spectral Characteristics ($T=25^\circ\text{C}$)			
Max. spectral sensitivity	S_{max}	0.120	AW^{-1}
Wavelength of max. spectral sens.	λ_{max}	290	nm
Sensitivity range ($S=0.1 \cdot S_{\text{max}}$)	-	230 ... 320	nm
Visible blindness ($S_{\text{max}} / S_{>400\text{nm}}$)	VB	10^5	-

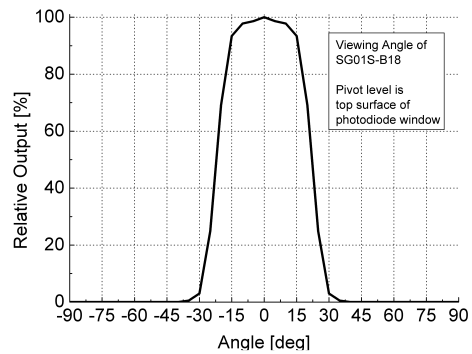
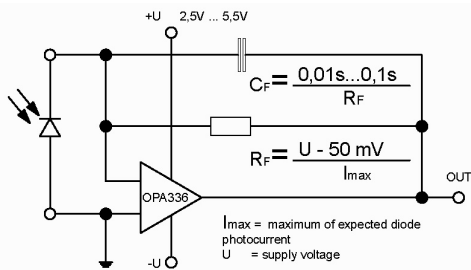
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Spectral Response



Viewing Angle



Drawing

