

General Features



Properties of the SG01D-18 UV photodiode

- Broadband UVA+UVB+UVC, PTB tested high chip stability
- Active Area $A = 0,50 \text{ mm}^2$
- TO18 hermetically sealed metal housing
- $10\mu\text{W}/\text{cm}^2$ peak radiation results a current of approx. 6,5 nA

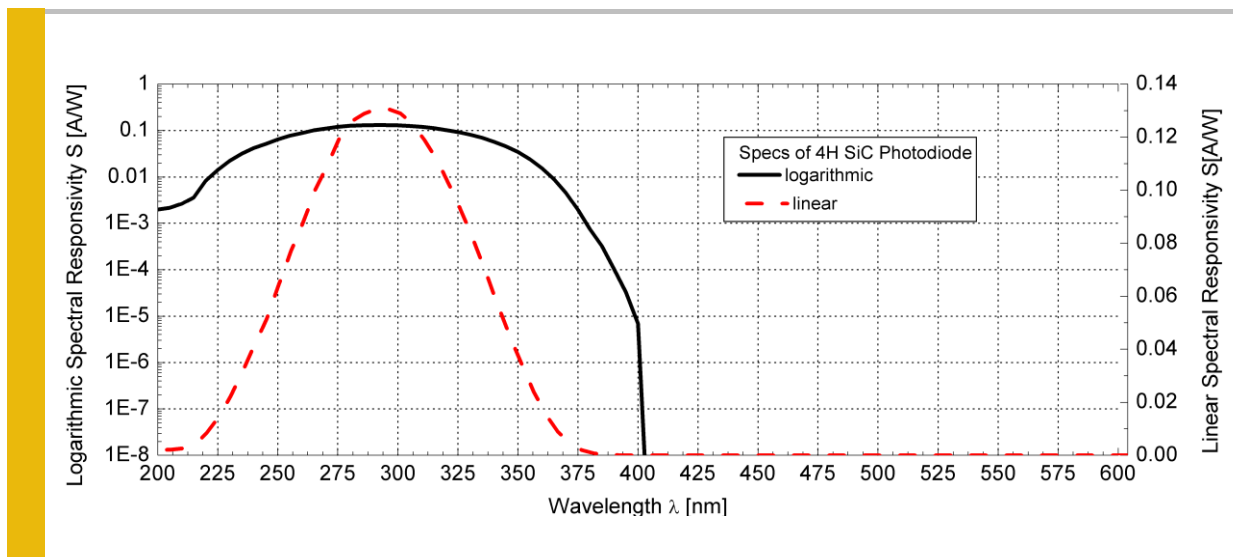
About the material Silicon Carbide (SiC)

SiC provides the unique property of extreme radiation hardness, near-perfect visible blindness, low dark current, high speed and low noise. These features make SiC the best available material for visible blind semiconductor UV detectors. The SiC detectors can be permanently operated at up to 170°C . The temperature coefficient of signal (responsivity) is also low, $<-0,1\%/K$. Because of the low noise (dark current, in the fA range), very low UV radiation intensities can be measured reliably. Please note that this device needs an appropriate amplifier (see circuit on following page). SiC photodiodes are available as unfiltered broadband devices or with optical filters providing UV-A, UV-B, or UV-C-only sensitivity, or erythemal action curve compliance.

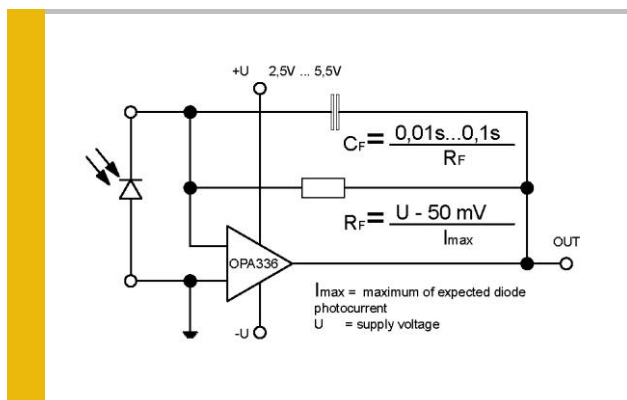
Specifications

Parameter	Symbol	Value	Unit
Maximum Ratings			
Operating Temperature Range	T_{opt}	-55 ... +170	$^\circ\text{C}$
Storage Temperature Range	T_{stor}	-55 ... +170	$^\circ\text{C}$
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	0,50	mm^2
Dark current (1V reverse bias)	I_{d}	1,7	fA
Capacitance	C	125	pF
Short circuit ($10\mu\text{W}/\text{cm}^2$ at peak)	I_0	6,5	nA
Temperature coefficient	Tc	$<-0,1$	%/K
Spectral Characteristics ($T=25^\circ\text{C}$)			
Max. spectral responsivity	S_{max}	0,130	AW^{-1}
Wavelength of max. spectral resp.	λ_{max}	300	nm
Responsivity range ($S=0,1 \cdot S_{\text{max}}$)	-	220 ... 360	nm
Visible blindness ($S_{\text{max}} / S_{>405\text{nm}}$)	VB	$>10^{10}$	-

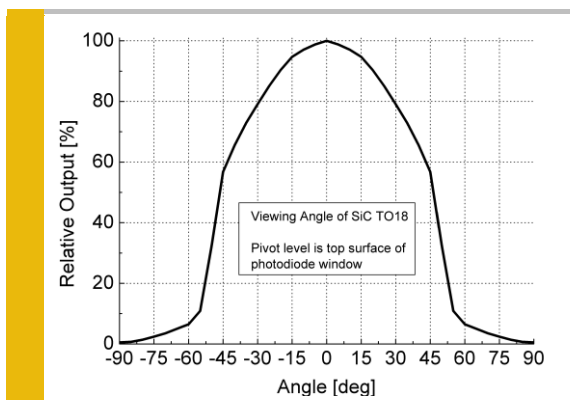
Spectral Response



Circuit



Viewing Angle



Drawing

