

General Features



Properties of the SG01S-HT UV photodiode

- Operating temperatures up to 170°C
- Active Area A = 0,054 mm²
- TO18 hermetically sealed metal housing
- 10mW/cm² peak radiation results a current of approx. 700nA

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 W/m² 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°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 and 3 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

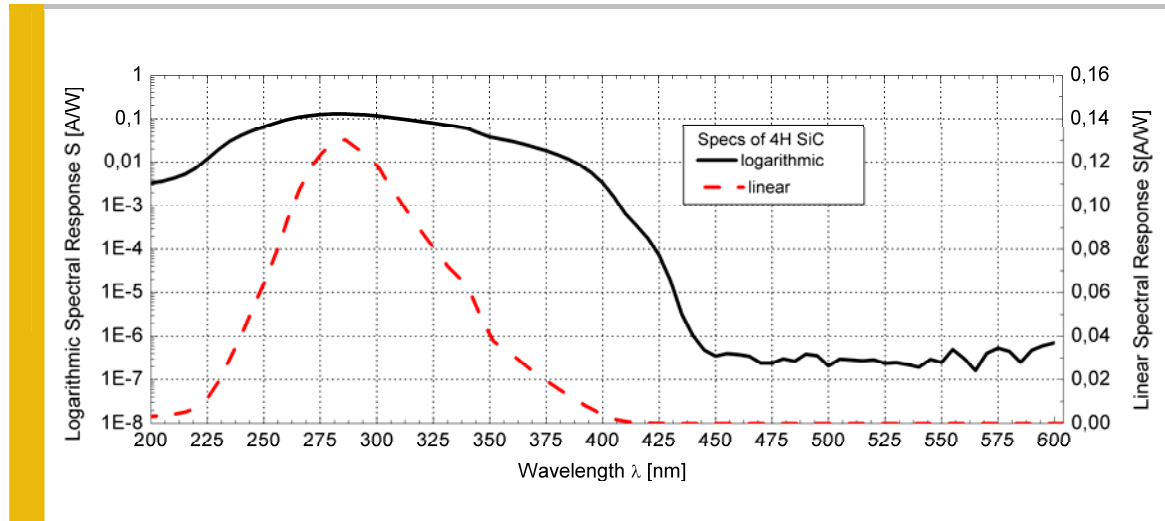
Parameter	Symbol	Value	Unit
Maximum Ratings			
Operating Temperature Range	T_{opt}	-25 ... +170	°C
Storage Temperature Range	T_{stor}	0 ... +170	°C
Soldering Temperature (3s)	T_{sold}	260	°C
Reverse voltage	V_{Rmax}	20	V
General Characteristics (T=25°C)			
Active Area	A	0,054	mm ²
Dark current (1V reverse bias)	I_d	1	fA
Capacitance	C	21	pF
Short circuit (10mW/cm ² at peak)	I_0	700	nA
Temperature coefficient	Tc	<-0,1	%/K
Spectral Characteristics (T=25°C)			
Max. spectral sensitivity	S_{max}	0,130	AW ⁻¹
Wavelength of max. spectral sens.	λ_{max}	285	nm
Sensitivity range (S=0,1*S _{max})	-	210 ... 380	nm
Visible blindness (S _{max} / S _{>400nm})	VB	10 ⁵	-

SG01S-HT

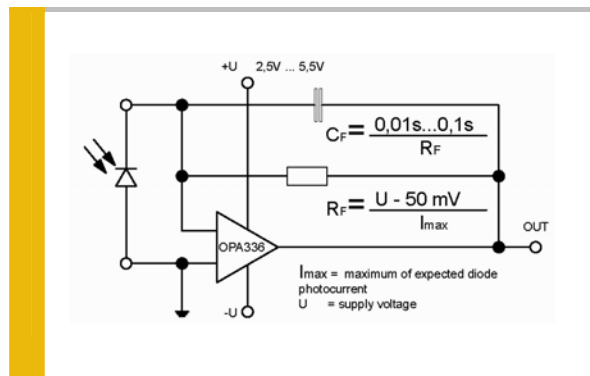
High Temperature SiC based UV photodiode $A = 0,054\text{mm}^2$



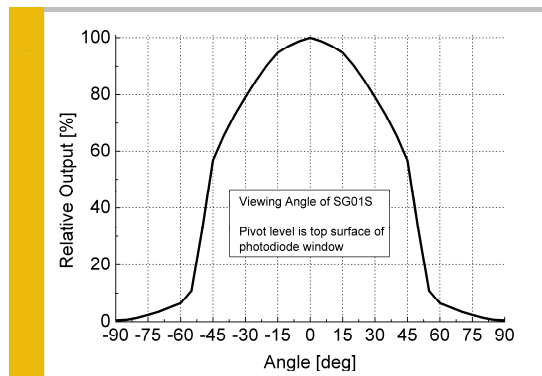
Spectral Response



Circuit



Viewing Angle



Drawing

