

SG01S-A18

UVA-only SiC based UV photodiode $A = 0,060 \text{ mm}^2$



General Features



Properties of the SG01S-A18 UV photodiode

- UVA-only sensitivity, PTB tested high chip stability
- Active Area $A = 0,060 \text{ mm}^2$
- TO18 hermetically sealed housing
- 10 mW/cm^2 radiation at 335nm results a current of approx. 360nA

About the material Silicon Carbide (SiC)

SiC provides the unique property of 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. Some SiC detectors (our HT-series) 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 broad band devices or with optical filters providing UV-A, UV-B, or UV-C-only sensitivity, or erythral action curve compliance.

Specifications

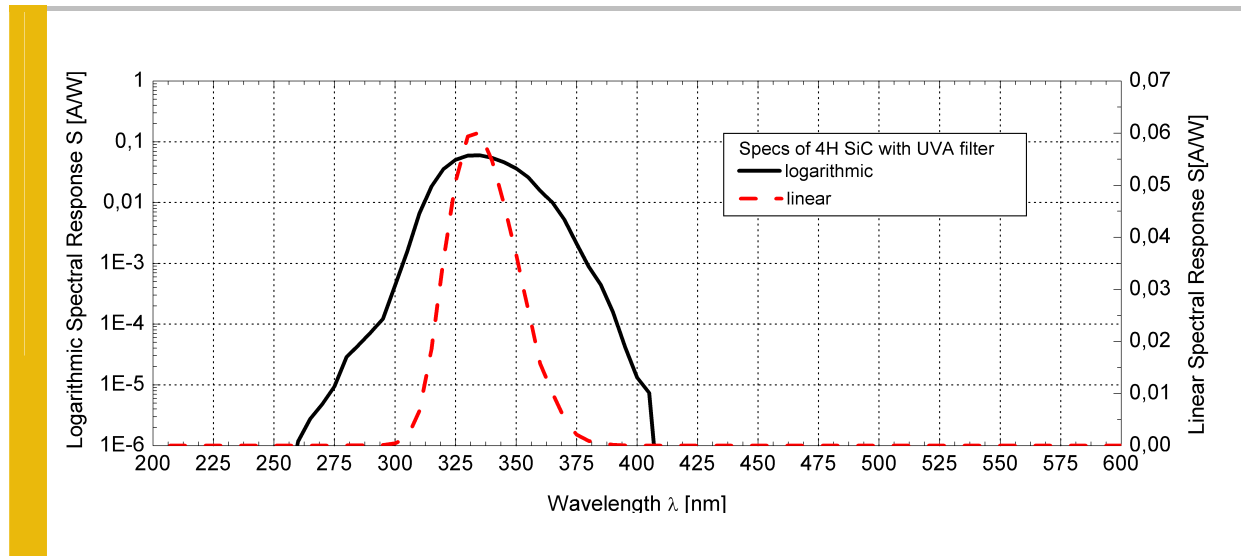
Parameter	Symbol	Value	Unit
Maximum Ratings			
Operating Temperature Range	T_{opt}	-55 ... +120	°C
Storage Temperature Range	T_{stor}	-55 ... +120	°C
Soldering Temperature (3s)	T_{sold}	260	°C
Reverse voltage	V_{Rmax}	20	V
General Characteristics (T=25°C)			
Active Area	A	0,060	mm^2
Dark current (1V reverse bias)	I_{d}	0,2	fA
Capacitance	C	15	pF
Short circuit (10 mW/cm^2 at peak)	I_0	360	nA
Temperature coefficient	T_c	$<-0,1$	%/K
Spectral Characteristics (T=25°C)			
Max. spectral sensitivity	S_{max}	0,060	AW^{-1}
Wavelength of max. spectral sens.	λ_{max}	335	nm
Sensitivity range ($S=0,1 \cdot S_{\text{max}}$)	-	310 ... 370	nm
Visible blindness ($S_{\text{max}} / S_{>400\text{nm}}$)	VB	$>10^{10}$	-

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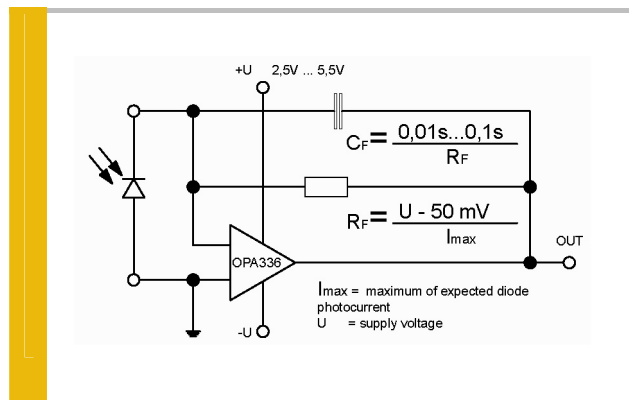
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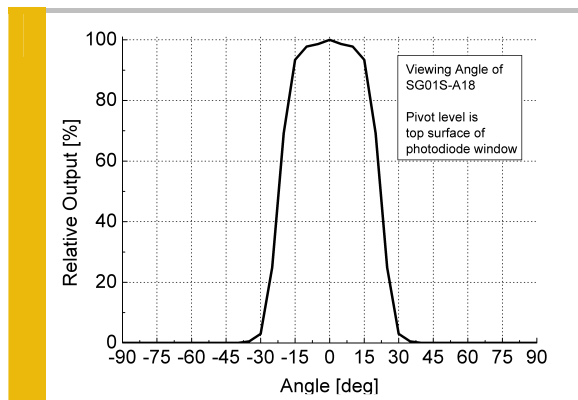
Spectral Response



Circuit



Viewing Angle



Drawing

