

General Features



Properties of the SG01S-C18 UV photodiode

- UVC-only sensitivity according to DVGW W294
- Active Area $A = 0,054\text{ mm}^2$
- TO18 hermetically sealed housing
- 10mW/cm^2 radiation at 254nm results a current of approx. 350nA

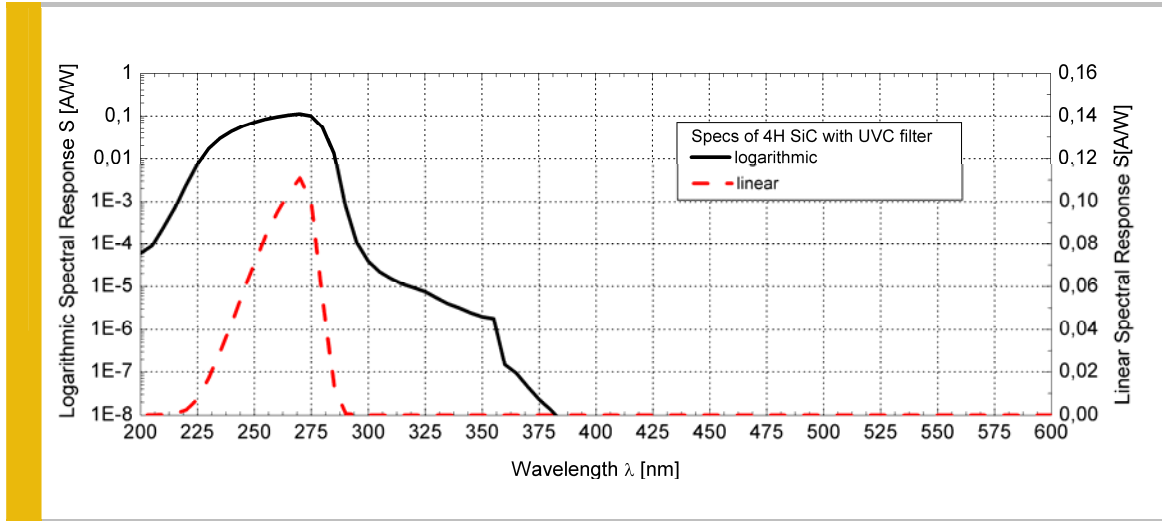
About the material Silicon Carbide (SiC)

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/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 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.

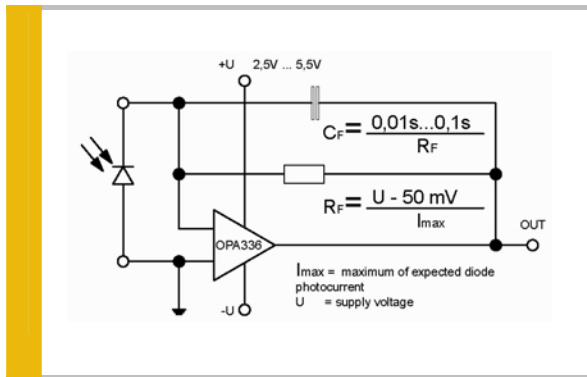
Specifications

Parameter	Symbol	Value	Unit
Maximum Ratings			
Operating Temperature Range	T_{opt}	-25 ... +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 (10mW/cm^2 at 254nm)	I_{o}	350	nA
Temperature coefficient	Tc	$<-0,1$	$\%/K$
Spectral Characteristics ($T=25^\circ\text{C}$)			
Max. spectral sensitivity	S_{max}	0,110	AW^{-1}
Wavelength of max. spectral sens.	λ_{max}	270	nm
Sensitivity range ($S=0,1*S_{\text{max}}$)	-	230 ... 285	nm
Visible blindness ($S_{\text{max}} / S_{>400\text{nm}}$)	VB	10^5	-

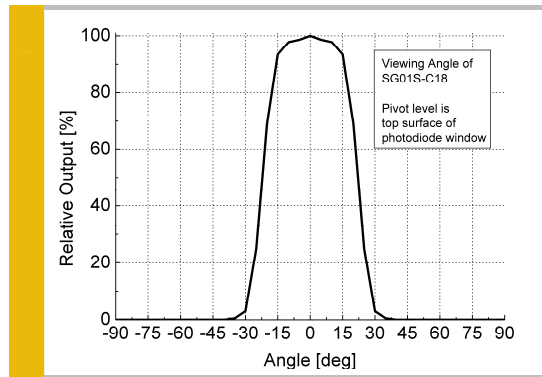
Spectral Response



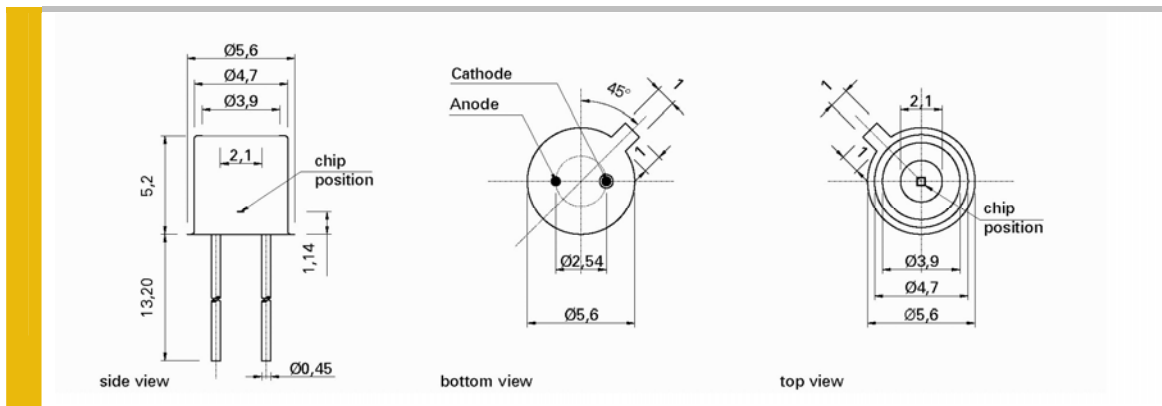
Circuit



Viewing Angle



Drawing



General Features



Properties of the SG01S-C5 UV photodiode

- UVC-only sensitivity according to DVGW W294
- Active Area $A = 0,054\text{ mm}^2$
- TO5 hermetically sealed housing
- 10mW/cm^2 radiation at 254nm results a current of approx. 350nA

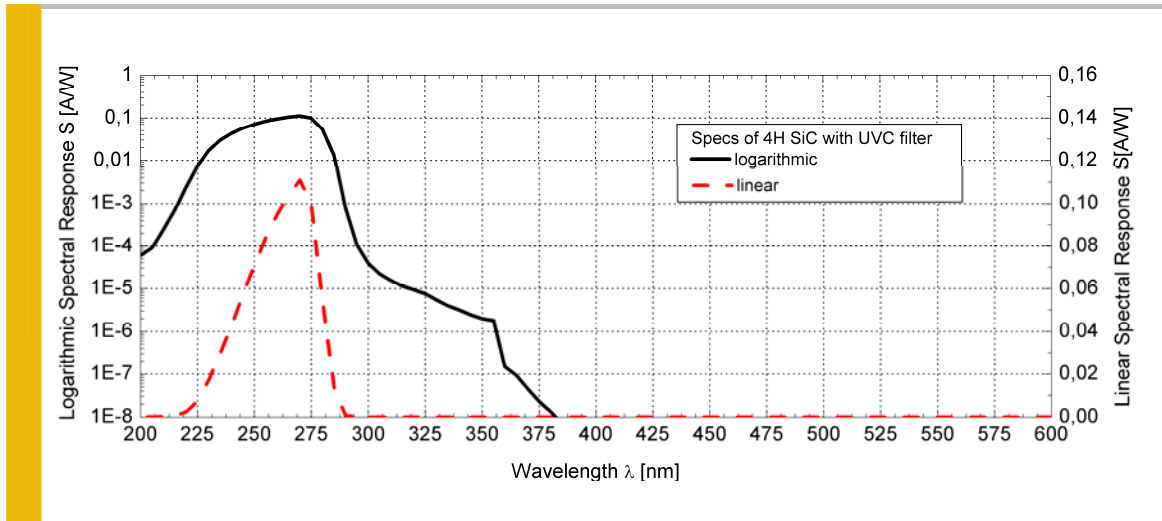
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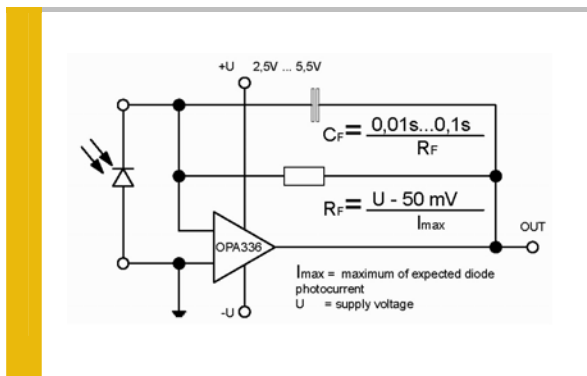
Specifications

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 (10mW/cm^2 at 254nm)	I_{o}	350	nA
Temperature coefficient	Tc	$<-0,1$	$\%/K$
Spectral Characteristics ($T=25^\circ\text{C}$)			
Max. spectral sensitivity	S_{max}	0,110	AW^{-1}
Wavelength of max. spectral sens.	λ_{max}	270	nm
Sensitivity range ($S=0,1*S_{\text{max}}$)	-	230 ... 285	nm
Visible blindness ($S_{\text{max}} / S_{>400\text{nm}}$)	VB	10^5	-

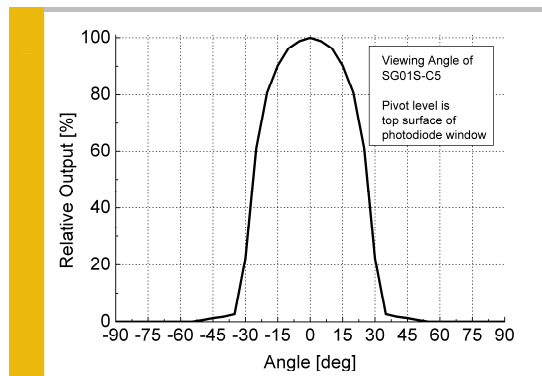
Spectral Response



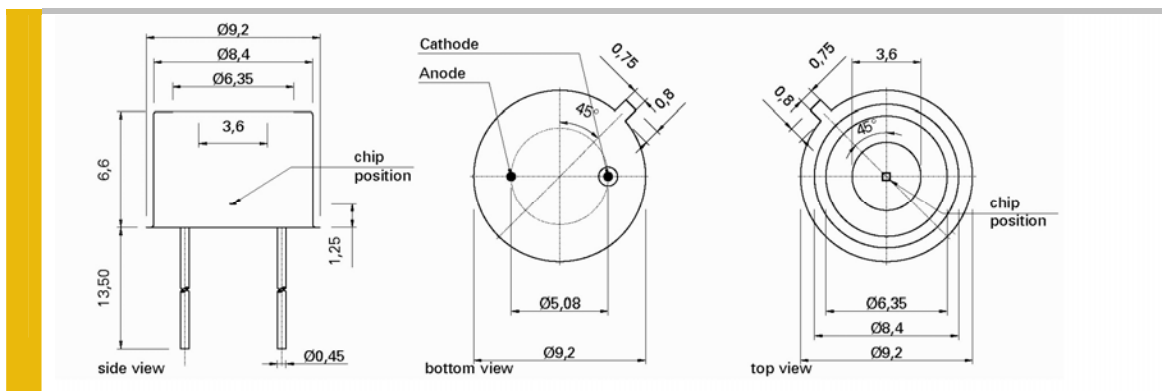
Circuit



Viewing Angle



Drawing



General Features



Properties of the SG01S-B18 UV photodiode

- UVB-only sensitivity
- Active Area $A = 0,054\text{ mm}^2$
- TO18 hermetically sealed housing
- 10mW/cm^2 radiation at peak results a current of approx. 350nA

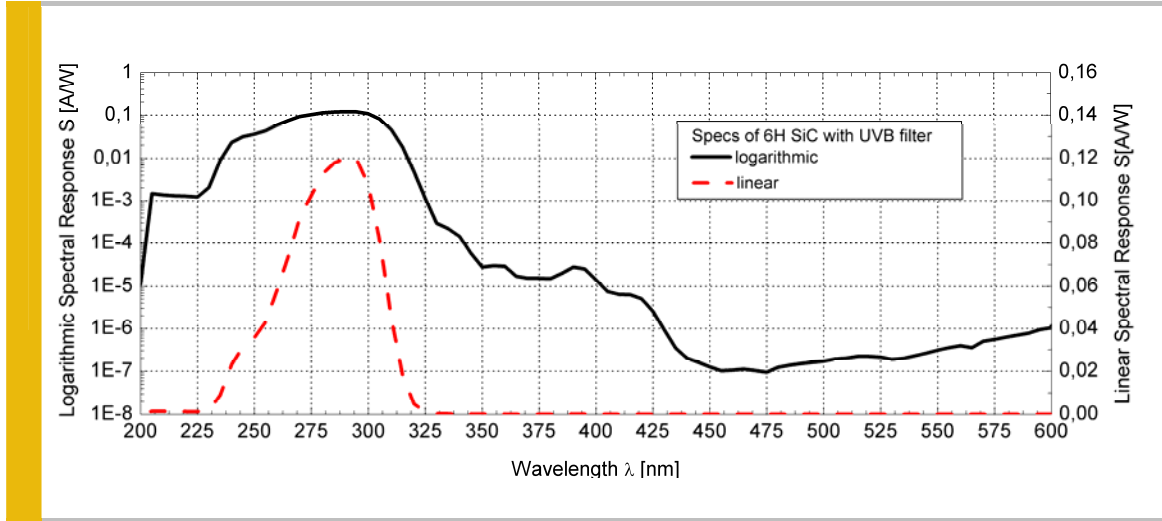
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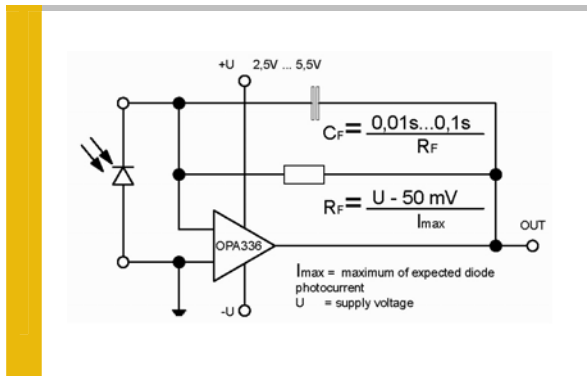
Specifications

Parameter	Symbol	Value	Unit
Maximum Ratings			
Operating Temperature Range	T_{opt}	$-25 \dots +70$	$^\circ\text{C}$
Storage Temperature Range	T_{stor}	$0 \dots +100$	$^\circ\text{C}$
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 (10mW/cm^2 at 254nm)	I_0	350	nA
Temperature coefficient	Tc	$<-0,1$	$\%/K$
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	-

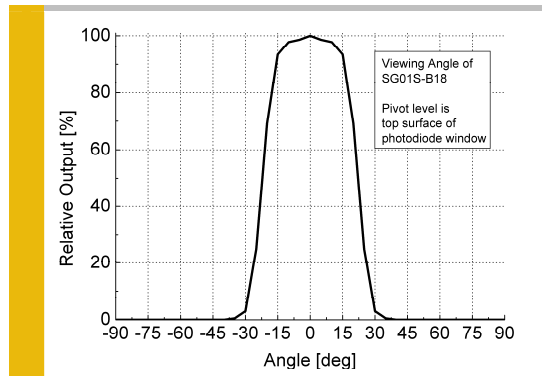
Spectral Response



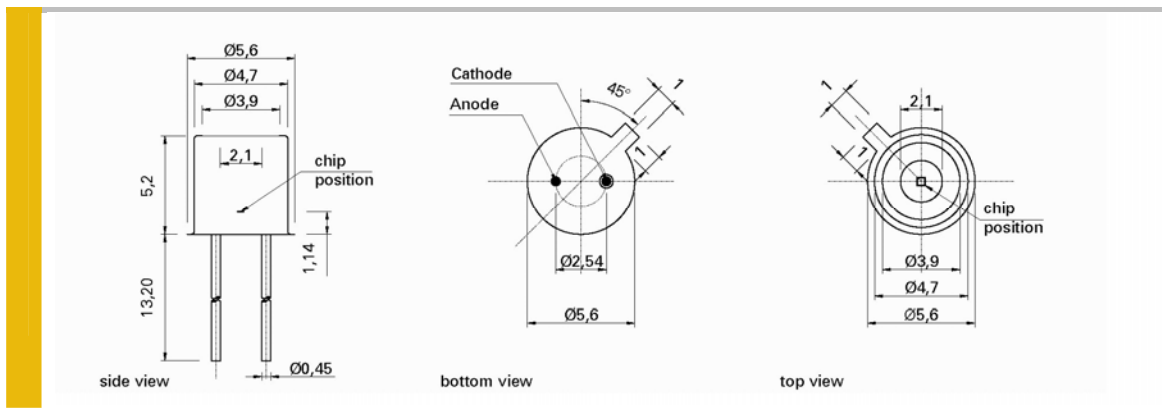
Circuit



Viewing Angle



Drawing

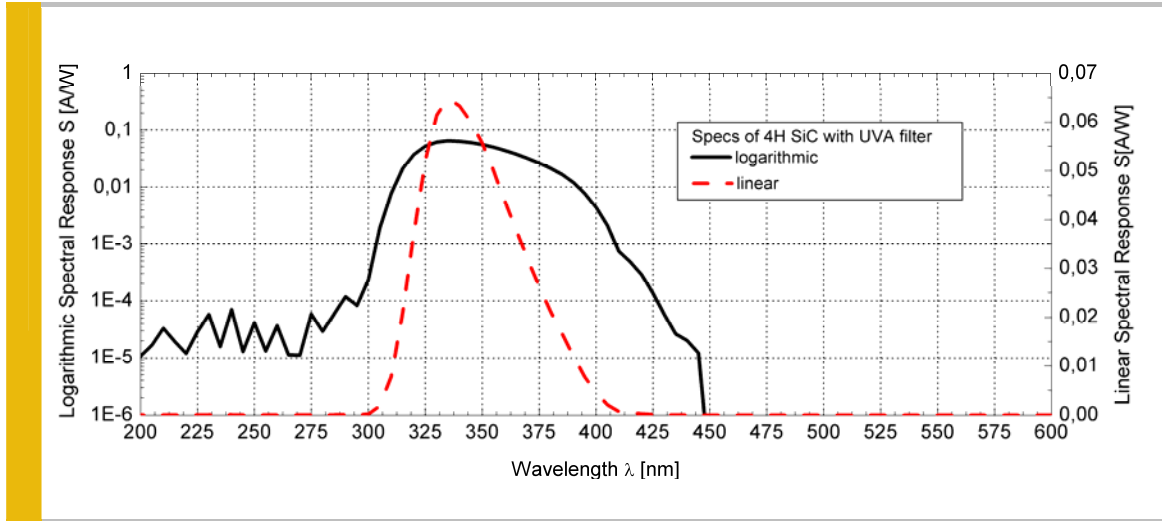


Temperature coefficient	T_c	$<-0,1$	$\%/K$
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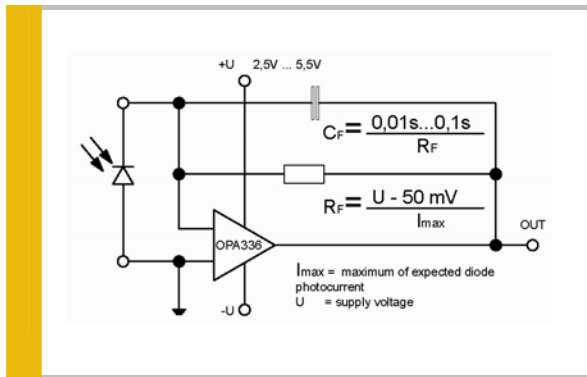
Spectral Characteristics ($T=25^\circ\text{C}$)

Max. spectral sensitivity	S_{\max}	$0,065$	AW^{-1}
Wavelength of max. spectral sens.	λ_{\max}	335	nm
Sensitivity range ($S=0,1*S_{\max}$)	-	$310 \dots 395$	nm
Visible blindness ($S_{\max} / S_{>400nm}$)	VB	10^5	-

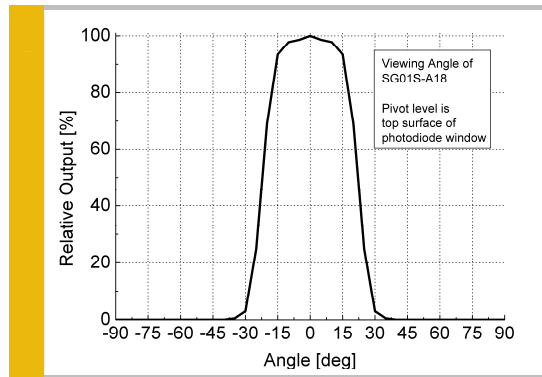
Spectral Response



Circuit



Viewing Angle



Drawing

