

# AG28S

## UVC sensitive AlGaN based UV photodiode $A = 0,076 \text{ mm}^2$



### General Features



#### Properties of the AG28S UV photodiode

- UVC sensitive photodiode
- Active Area  $A = 0,076 \text{ mm}^2$
- TO18 metal housing
- $10\text{mW/cm}^2$  peak radiation results a current of approx. 240 nA

#### About the material (Aluminium)Gallium Nitride (Al)GaN

(Al)GaN is a new semiconductor material for visible blind UV photodiodes. By modification of the Al – to - Ga stoichiometry it is possible to produce photodiodes with different spectral behaviour. This allows to offer Photodiodes sensible for broad band UV (UVA+UVB+UVC), for UVB-only and for UVC only without using a filter.

### Specifications

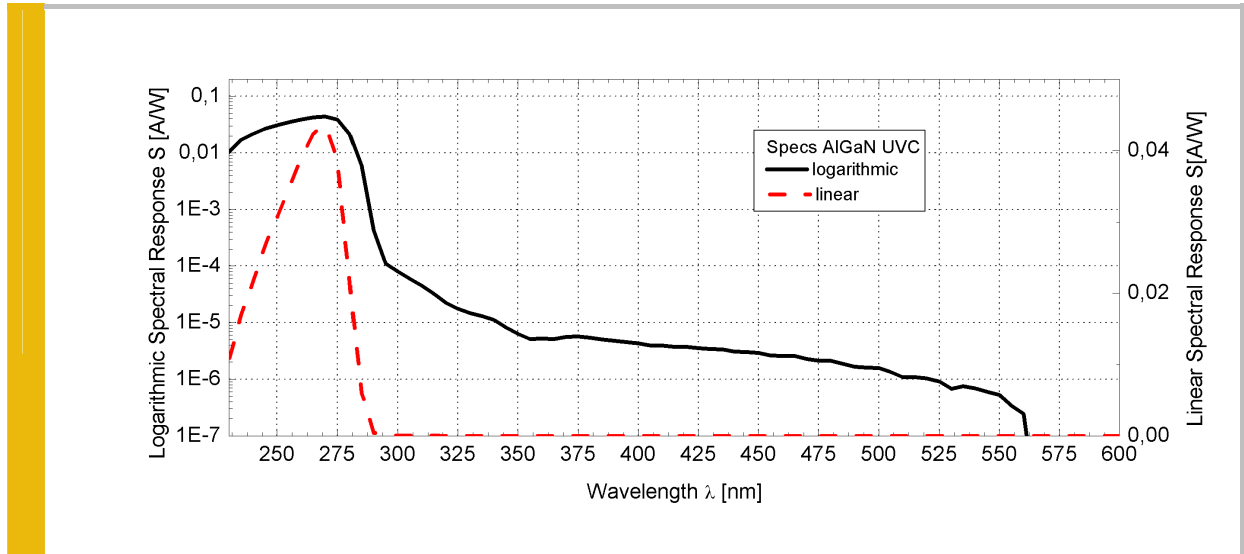
Parameter	Symbol	Value	Unit
<b>Maximum Ratings</b>			
Operating Temperature Range	$T_{\text{opt}}$	-25 ... +70	°C
Storage Temperature Range	$T_{\text{stor}}$	0 ... +100	°C
Soldering Temperature (3s)	$T_{\text{sold}}$	260	°C
Reverse voltage	$V_{\text{Rmax}}$	5	V
<b>General Characteristics (T=25°C)</b>			
Active Area	$A$	0,076	$\text{mm}^2$
Dark current (1V reverse bias)	$I_{\text{d}}$	100	fA
Capacitance	$C$	24	pF
Short circuit ( $10\text{mW/cm}^2$ at peak)	$I_{\text{o}}$	240	nA
Temperature coefficient	$Tc$	<-0,3	%/K
<b>Spectral Characteristics (T=25°C)</b>			
Max. spectral sensitivity	$S_{\text{max}}$	0,045	$\text{AW}^{-1}$
Wavelength of max. spectral sens.	$\lambda_{\text{max}}$	270	nm
Sensitivity range ( $S=0,1 \cdot S_{\text{max}}$ )	-	220 ... 290	nm
Visible blindness ( $S_{\text{max}} / S_{>400\text{nm}}$ )	$VB$	$10^3$	-

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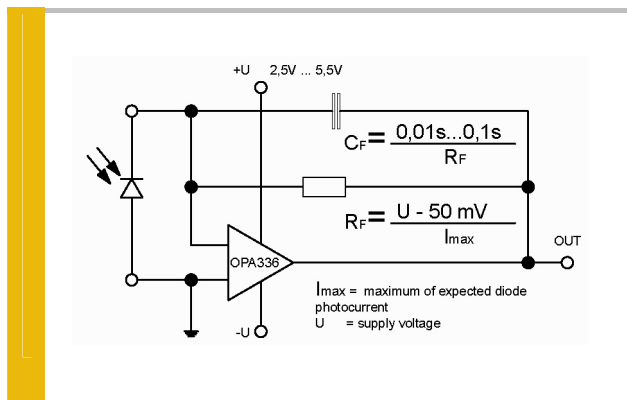
UVC sensitive AlGaN based UV photodiode  $A = 0,076 \text{ mm}^2$



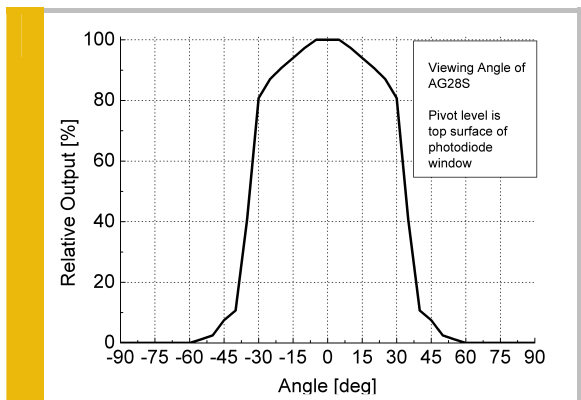
## Spectral Response



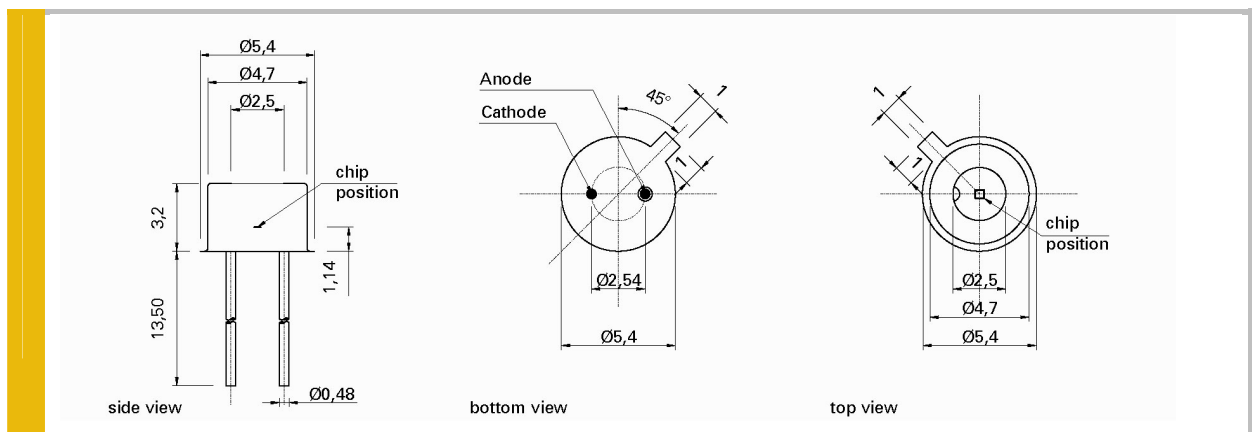
## Circuit



## Viewing Angle



## Drawing



# Application Note for Photodiodes



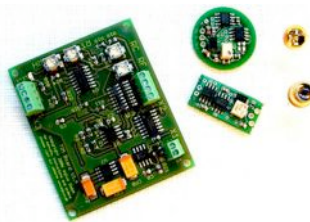
## Application Note

For correct reading of the photodiode the current (and NOT the voltage) must be analyzed. This requires a short circuiting of the photodiode. Usual approaches are using a **Picoamperemeter** such as Keithley 617 or a **transimpedance amplifier** circuit as shown on page 2 of this datasheet. Please contact us in case of questions.

The below listed modules help you to get the best measurement information from your photodiode.

### Internal & external Photodiode Amplifiers

(EUR 99,- to EUR 149,-)



- stable and reliable photodiode amplification
- TOCON-Series = photodiodes with integrated amplifier
- BOARD-Series = external photodiode amplifiers
- further information: [www.sglux.com/tocon](http://www.sglux.com/tocon) or [www.sglux.com/boards](http://www.sglux.com/boards)

### UV probes with built in amplifier

(EUR 195,- to EUR 329,-)



- different housings e.g. with cosine response, water pressure proof or Sapphire windows
- different electronic outputs available (voltage, current, USB)
- further information: [www.sglux.com/probes](http://www.sglux.com/probes)

### UV Intensity / Dose Monitor / Controller "SENSOR MONITOR"

(EUR 390,- to EUR 785,-)



- two channel photodiode or sensor input
- three user programmable relay outputs
- programmable display, USB/TTY/RS232 data transmission
- further information: [www.sglux.com/monitor](http://www.sglux.com/monitor)

### UV Radiation Controller "RADIKON"

(EUR 290,-)



- Industrial DIN rail radiation controller module
- works with mV and nA....mA sensor output signals
- further information: [www.sglux.com/radikon](http://www.sglux.com/radikon)