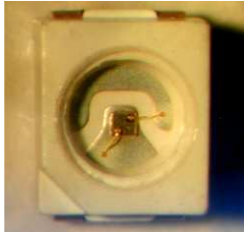


**AG32S-SMD****UVB sensitive AlGaN based UV photodiode A = 0,076 mm<sup>2</sup>****General Features****Properties of the AG32S-SMD UV photodiode**

- UVB sensitive photodiode
- Active Area A = 0,076 mm<sup>2</sup>
- 3528 SMD housing with Si window
- 10mW/cm<sup>2</sup> peak radiation results a current of approx. 700 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**

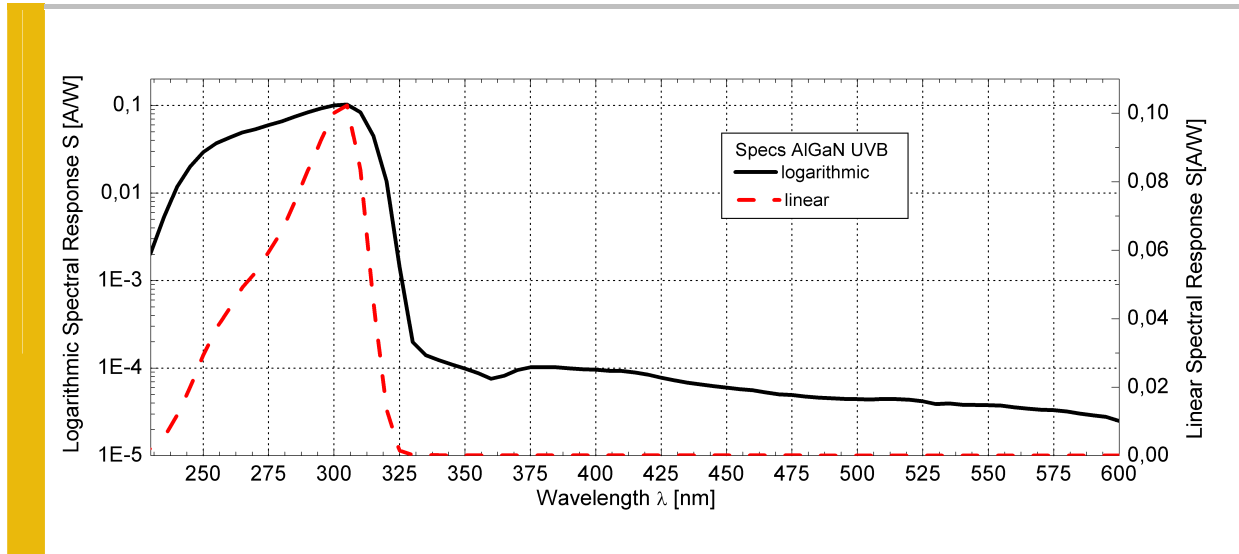
| Parameter  | Symbol          | Value           | Unit             |
|--|-----------------|-----------------|------------------|
| <b>Maximum Ratings</b>   |                 |                 |                  |
| Operating Temperature Range                                    | $T_{opt}$       | -25 ... +70     | °C               |
| Storage Temperature Range                                      | $T_{stor}$      | 0 ... +100      | °C               |
| Soldering Temperature (3s)                                     | $T_{sold}$      | 260             | °C               |
| Reverse voltage  | $V_{Rmax}$      | 5               | V                |
| <b>General Characteristics (T=25°C)</b>                        |                 |                 |                  |
| Active Area  | A               | 0,076           | mm <sup>2</sup>  |
| Dark current (1V reverse bias)                                 | $I_d$           | 100             | fA               |
| Capacitance  | C               | 24              | pF               |
| Short circuit (10mW/cm <sup>2</sup> at peak)                   | $I_0$           | 700             | nA               |
| Temperature coefficient  | Tc              | <-0,3           | %/K              |
| <b>Spectral Characteristics (T=25°C)</b>                       |                 |                 |                  |
| Max. spectral sensitivity                                      | $S_{max}$       | 0,130           | AW <sup>-1</sup> |
| Wavelength of max. spectral sens.                              | $\lambda_{max}$ | 310             | nm               |
| Sensitivity range (S=0,1*S <sub>max</sub> )                    | -               | 240 ... 320     | nm               |
| Visible blindness (S <sub>max</sub> / S <sub>&gt;400nm</sub> ) | VB              | 10 <sup>3</sup> | -                |

# AG32S-SMD

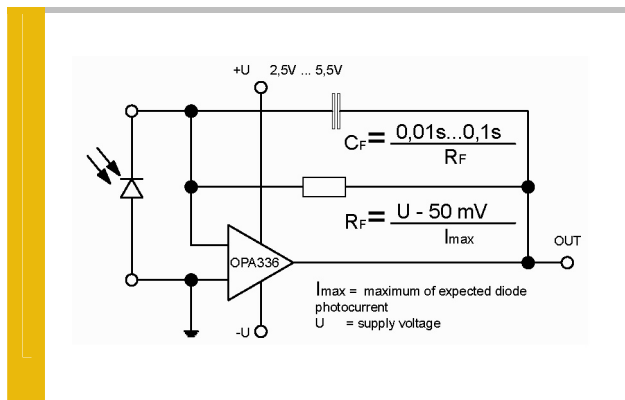
UVB sensitive AlGaN based UV photodiode  $A = 0,076 \text{ mm}^2$



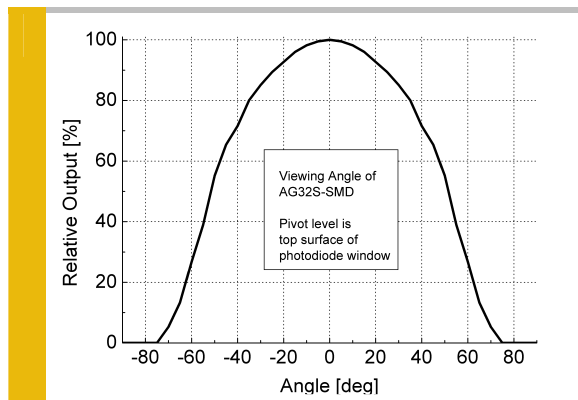
## Spectral Response



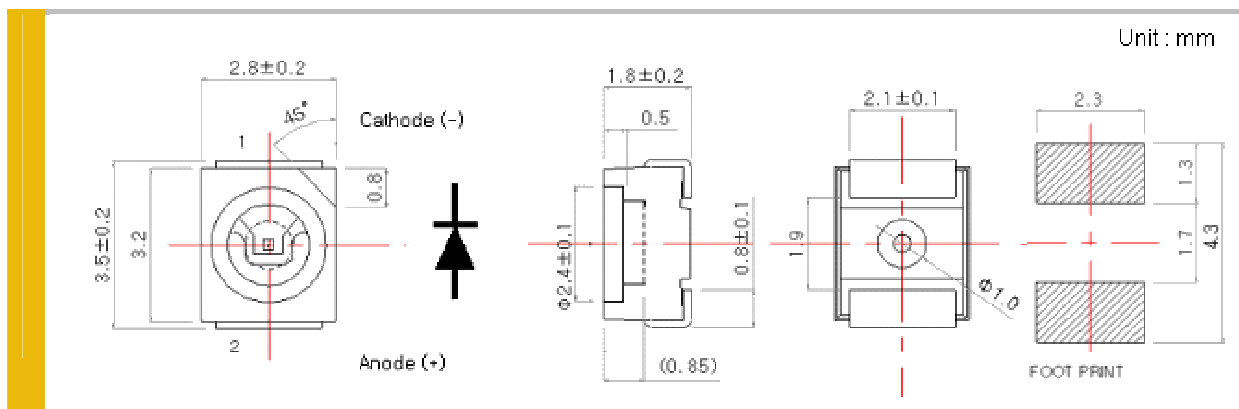
## Circuit



## Viewing Angle



## Drawing



## Application Note for Photodiodes



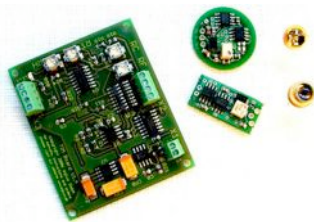
### Application Note

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)