

# Ultraviolet selective GaN based UV sensor GUVA-S20ED (AG38As-SMD-s)



## **Features**

- UVA selective photodiode
- Optimally suited for low-cost UV consumer applications
- Intrinsicy insensitive in the visible due to the wide-bandgap semiconductor material GaN
- Small SMD package (1608)
- 0,076 mm<sup>2</sup> active chip area
- High speed and low noise

## **Eigenschaften**

- UVA selektive Photodiode
- Optimale Eignung für kostengünstige UVA-Messung
- Inhärent unempfindlich gegen sichtbares Licht durch GaN-Halbleiter mit hoher Bandlücke
- Kleines SMD Gehäuse (1608)
- 0,076 mm<sup>2</sup> aktive Chipfläche
- Schnelle Photodiode mit niedrigem Rauschen

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### Maximum Ratings

Parameter	Symbol	Value	Unit
Operating temperature range	$T_{opt}$	-40 ... +90	°C
Reverse voltage	$V_{Rmax}$	5	V

### General Characteristics

( $T_a = 25\text{ °C}$ )

Parameter	Symbol	Value	Unit
Active area	A	0,076	mm <sup>2</sup>
max. Dark current at 1 V reverse bias	$I_d$	1	nA
Capacitance	C	45	pF
Short circuit current at bright sun	$I_0$	ca. 200	nA

### Spectral Characteristics

( $T_a = 25\text{ °C}$ )

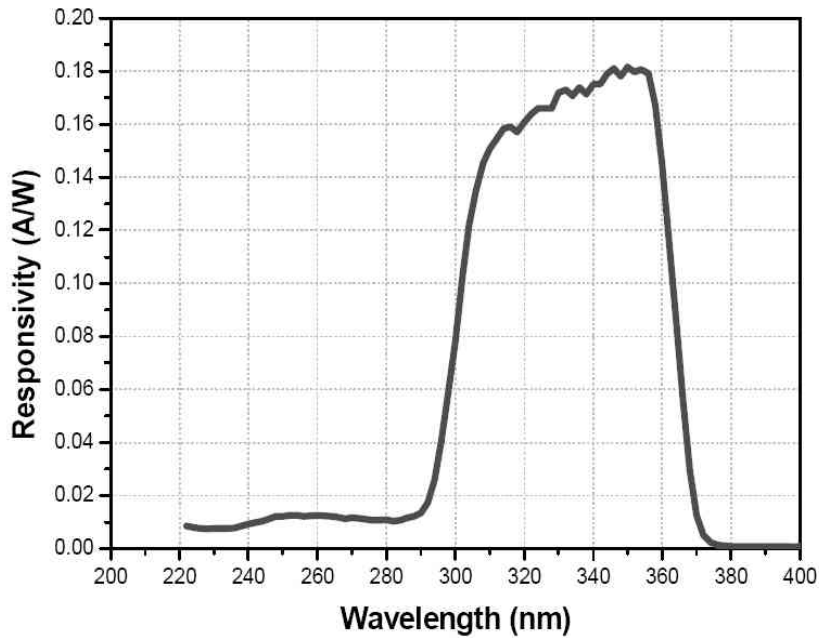
Parameter	Symbol	Value	Unit
Responsivity	$S_{max}$	0,1	A W <sup>-1</sup>
Wavelength of max. spectral sensitivity	$\lambda_{Smax}$	350	nm
Range of spectral sensitivity (S=0.1*S <sub>max</sub> )	-	290-375	nm

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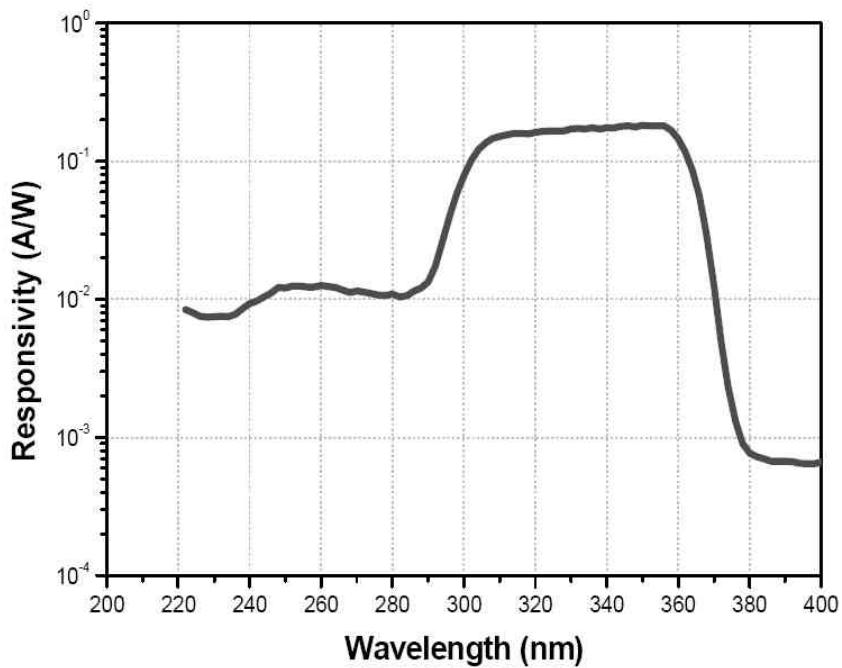
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### Linear Spectral Response



### Logarithmic Spectral Response



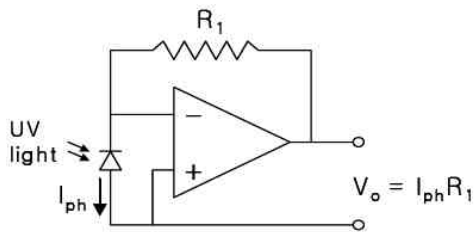
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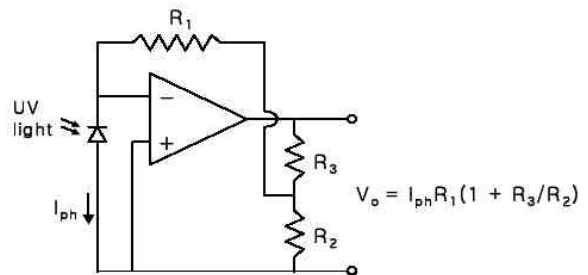


### Application Examples

1. Basic Feedback Ammeter



2. Feedback Ammeter with Selective Voltage Gain



### Pin Layout

