



Features

- Broadband UVA-UVB-UVC selective photodiode
- Optimally suited for UV consumer-applications
- Intrinsicly unensitive in the visible due to the wide-bandgap semiconductor material GaN
- TO-18 metal package with 0,076 mm² active chip area
- High speed and low noise

Eigenschaften

- Breitbandige UVA-UVB-UVC selektive Photodiode
- Optimale Eignung für kostengünstige UV-Messung
- Inhärent unempfindlich gegen sichtbares Licht durch GaN-Halbleiter mit hoher Bandlücke
- TO-18 Metallgehäuse mit 0,076mm² aktiver Chipfläche
- Schnelle Photodiode mit niedrigem Rauschen

Ultraviolet selective GaN based UV sensor



AG38S-TO

Maximum Ratings

Parameter	Symbol	Value	Unit
Operating temperature range	T_{opt}	-25 ... +80	°C
Reverse voltage	V_{Rmax}	5	V

General Characteristics

($T_a = 25\text{ °C}$)

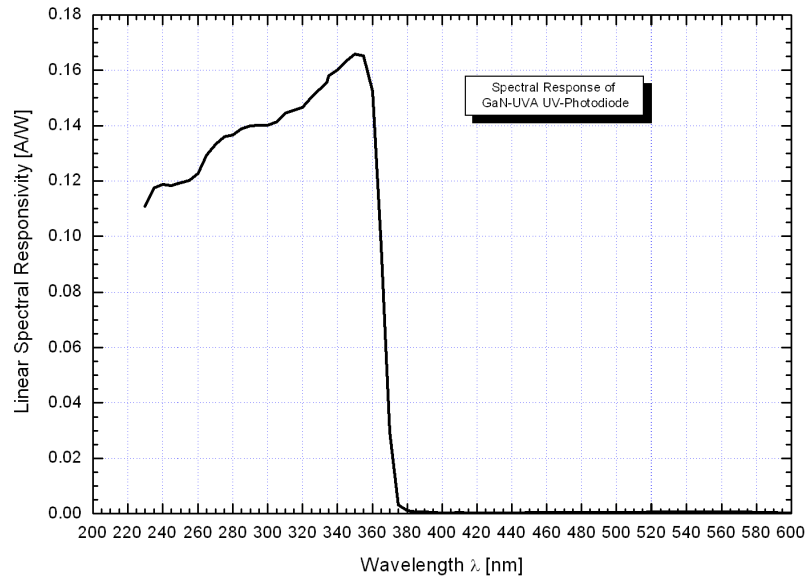
Parameter	Symbol	Value	Unit
Active area	A	0.076	mm ²
Dark current at 0.1 V reverse bias	I_d	100	fA
Capacitance	C	24	pF
Short circuit current at bright sun	I_0	ca. 200	nA

Spectral Characteristics

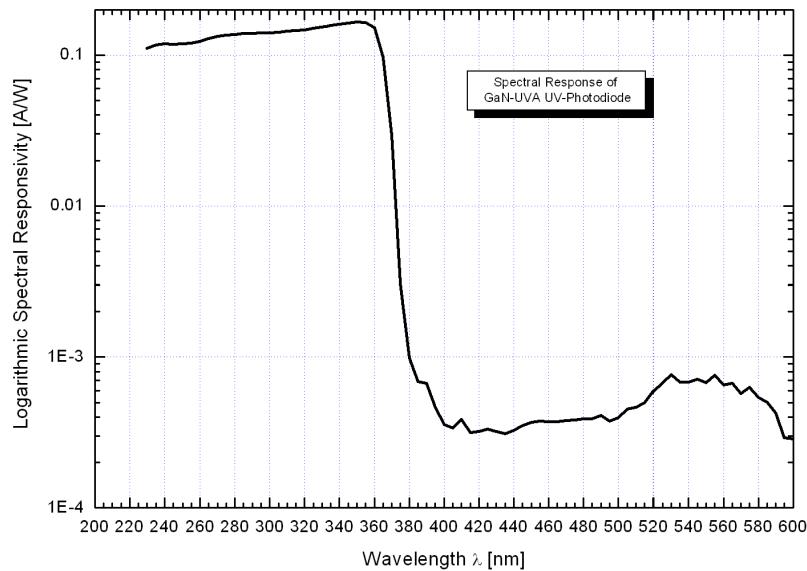
($T_a = 25\text{ °C}$)

Parameter	Symbol	Value	Unit
Max. spectral sensitivity	S_{max}	0.14	A W ⁻¹
Wavelength of max. spectral sensitivity	λ_{Smax}	350	nm
Range of spectral sensitivity ($S=0.1 \cdot S_{max}$)	-	220 - 370	nm

Linear Spectral Response



Logarithmic Spectral Response

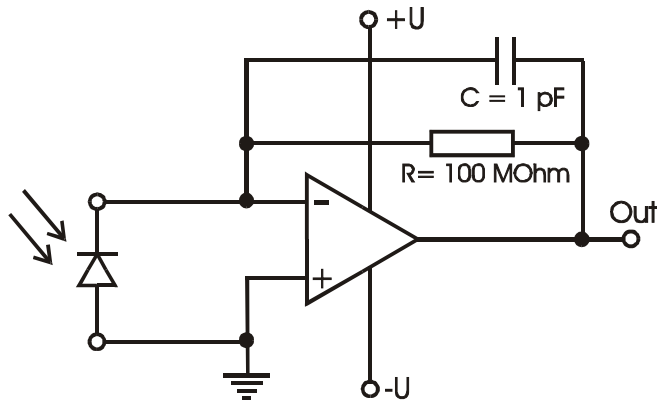


Ultraviolet selective GaN based UV sensor

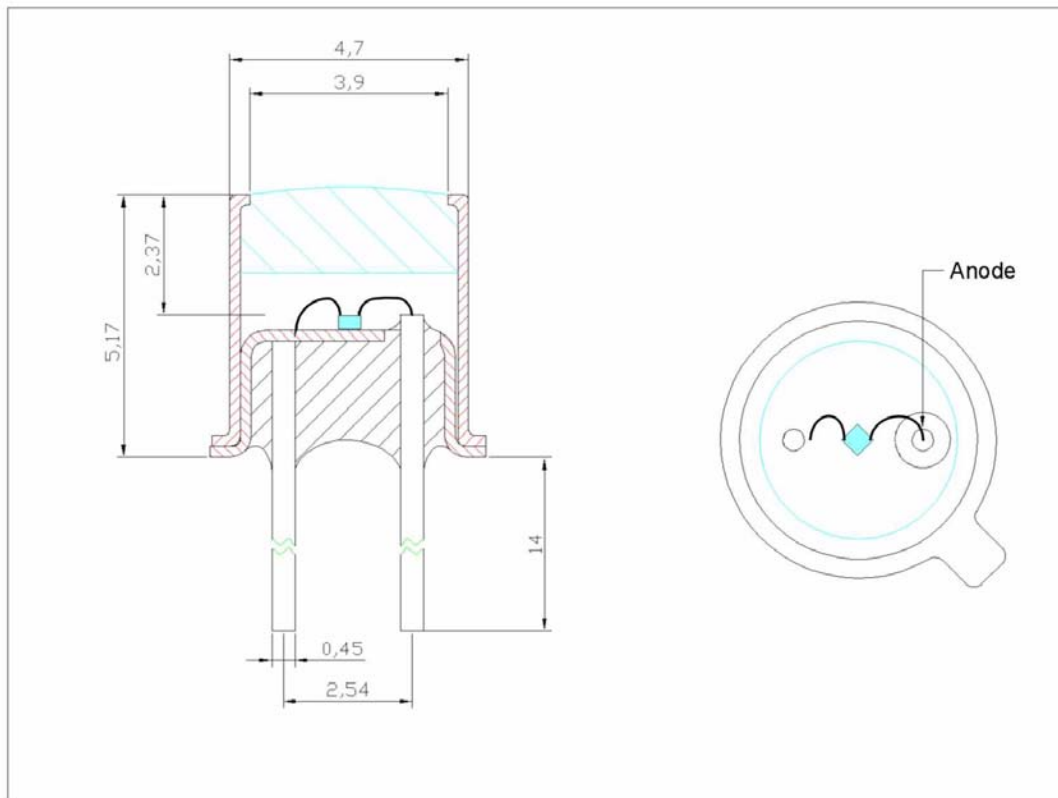


AG38S-TO

Application Example



Pin Layout



Ultraviolet selective GaN based UV sensor

GUVA-S20ED (AG38As-SMD-s)



Features

- UVA selective photodiode
- Optimally suited for low-cost UV consumer applications
- Intrinsicy unresponsive in the visible due to the wide-bandgap semiconductor material GaN
- Small SMD package (1608)
- 0,076 mm² 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 mm² aktive Chipfläche
- Schnelle Photodiode mit niedrigem Rauschen

Ultraviolet selective GaN based UV sensor

GUVA-S20ED (AG38As-SMD-s)



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 ²
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

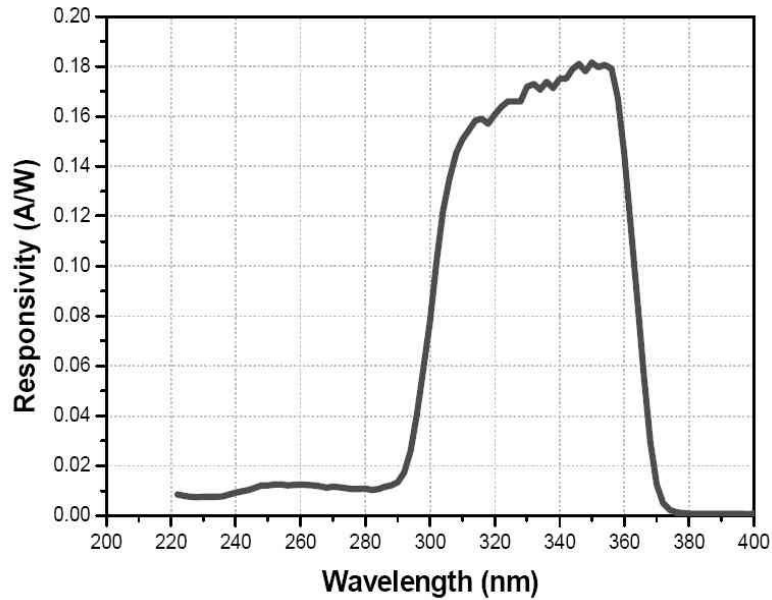
($T_a = 25\text{ °C}$)

Parameter	Symbol	Value	Unit
Responsivity	S_{max}	0,1	A W ⁻¹
Wavelength of max. spectral sensitivity	λ_{Smax}	350	nm
Range of spectral sensitivity ($S=0.1 \cdot S_{max}$)	-	290-375	nm

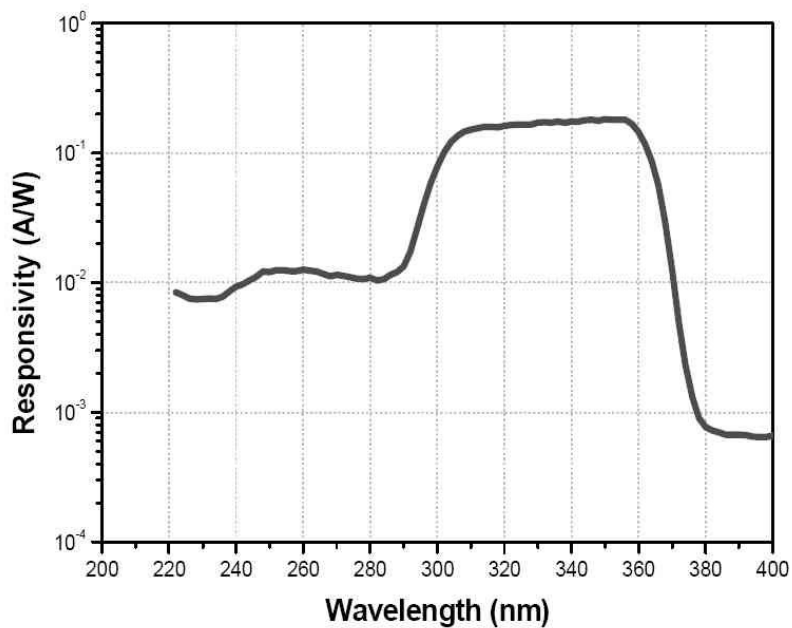
Ultraviolet selective GaN based UV sensor GUAVA-S20ED (AG38As-SMD-s)



Linear Spectral Response



Logarithmic Spectral Response

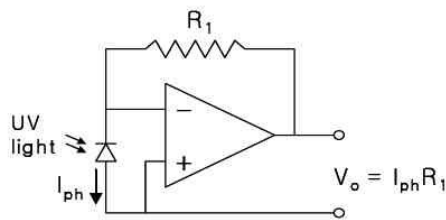


Ultraviolet selective GaN based UV sensor GUAVA-S20ED (AG38As-SMD-s)

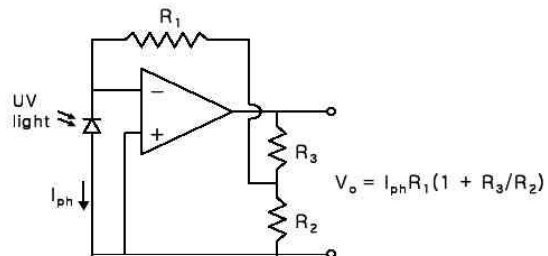


Application Examples

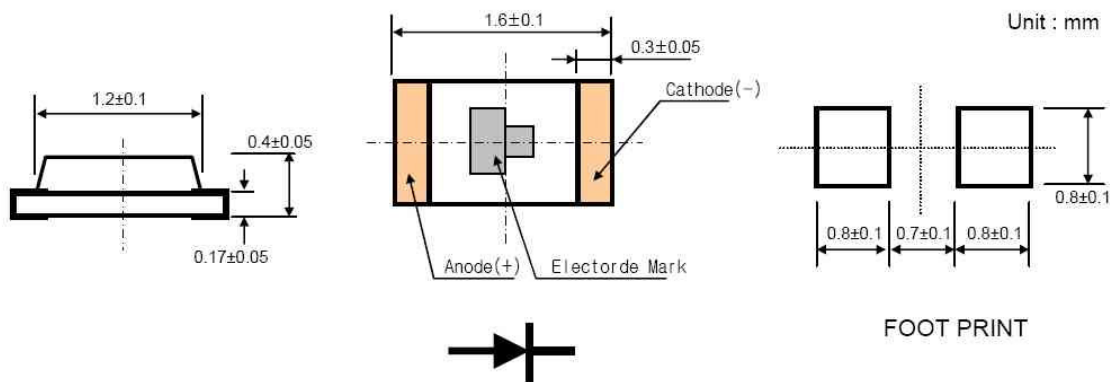
1. Basic Feedback Ammeter



2. Feedback Ammeter with Selective Voltage Gain

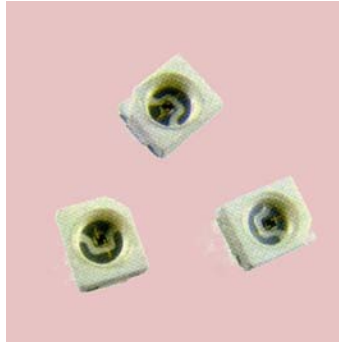


Pin Layout



Ultraviolet selective GaN based UV sensor

AG38S-SMD



Features

- Broadband UVA-UVB-UVC selective photodiode
- Optimally suited for low-cost UV consumer applications
- Intrinsicy insensitive in the visible due to the wide-bandgap semiconductor material GaN
- SMD package with quartz window
- 0,076 mm² active chip area
- High speed and low noise

Eigenschaften

- Breitbandige UVA-UVB-UVC selektive Photodiode
- Optimale Eignung für kostengünstige UVA-Messung
- Inhärent unempfindlich gegen sichtbares Licht durch GaN-Halbleiter mit hoher Bandlücke
- SMD Gehäuse mit Quarzfenster
- 0,076 mm² aktive Chipfläche
- Schnelle Photodiode mit niedrigem Rauschen

Ultraviolet selective GaN based UV sensor

AG38S-SMD



Maximum Ratings

Parameter	Symbol	Value	Unit
Operating temperature range	T_{opt}	-25 ... +80	°C
Reverse voltage	V_{Rmax}	5	V

General Characteristics

($T_a = 25\text{ °C}$)

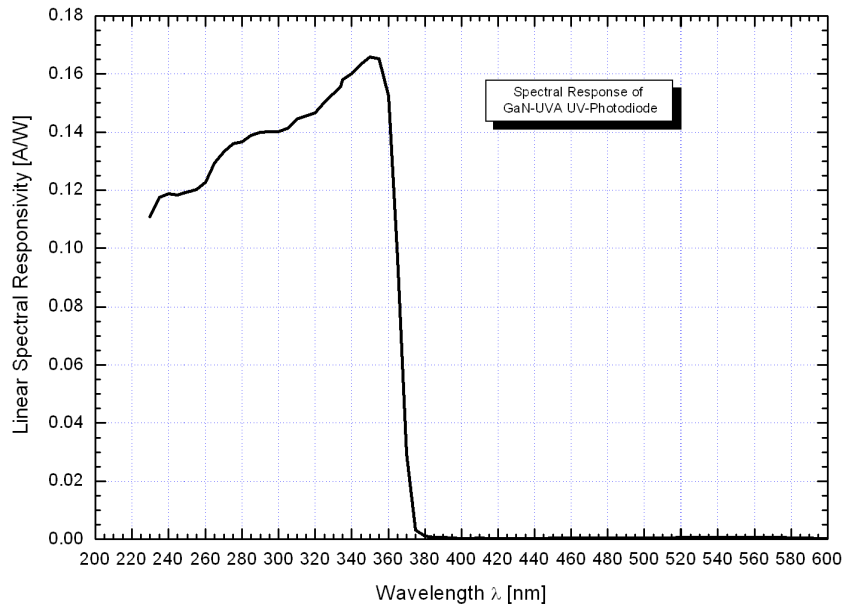
Parameter	Symbol	Value	Unit
Active area	A	0.076	mm ²
Dark current at 0.1 V reverse bias	I_d	100	fA
Capacitance	C	24	pF
Short circuit current at bright sun	I_0	ca. 200	nA

Spectral Characteristics

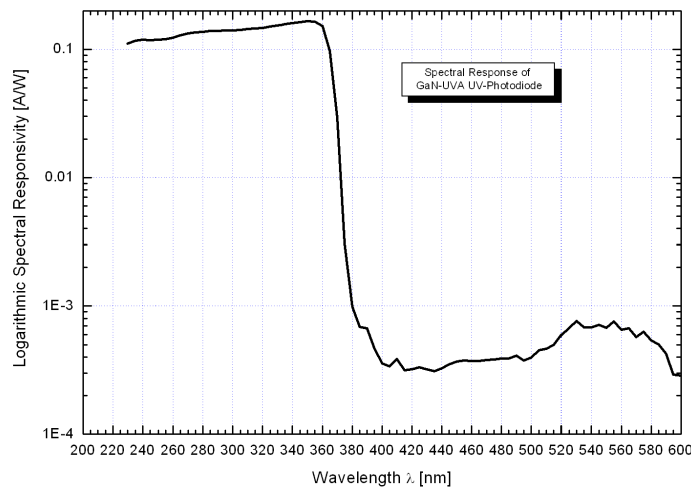
($T_a = 25\text{ °C}$)

Parameter	Symbol	Value	Unit
Max. spectral sensitivity	S_{max}	0.14	A W ⁻¹
Wavelength of max. spectral sensitivity	λ_{Smax}	350	nm
Range of spectral sensitivity ($S=0.1*S_{max}$)	-	220 - 370	nm

Linear Spectral Response



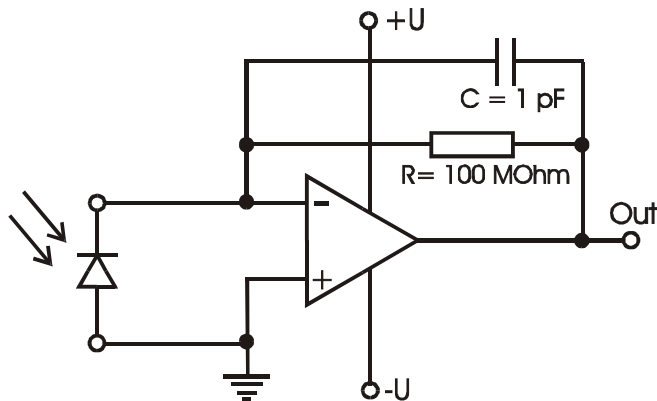
Logarithmic Spectral Response



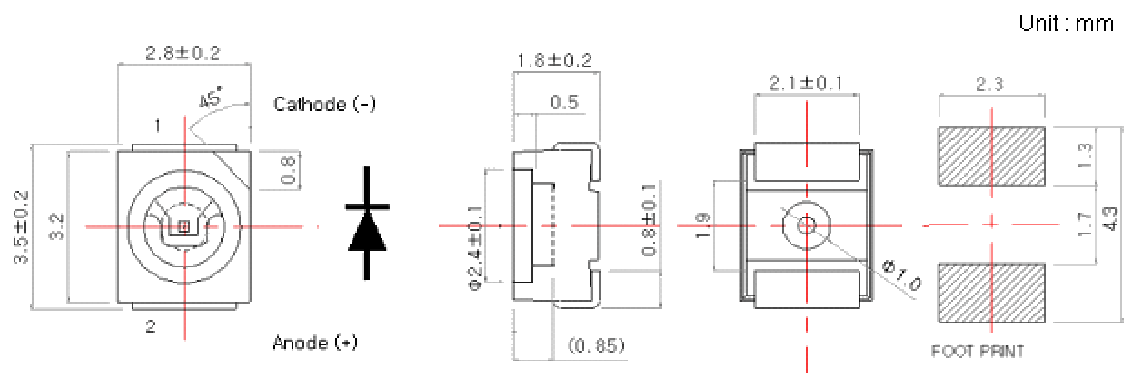
Ultraviolet selective GaN based UV sensor AG38S-SMD



Application Example



Pin Layout



Ultraviolet selective AlGaN based UV sensor



AG32S



Features

- UVB & UVC selective photodiode
- Optimally suited for sun-UV dosimetry
- Intrinsicly unresponsive in the UVA and in the visible due to the wide-bandgap semiconductor material AlGaN
- TO-18 metal package with 0,076 mm² active chip area
- High speed and low noise

Eigenschaften

- UVB & UVC selektive Photodiode
- Optimale Eignung für Messung der Sonnen-UV-Strahlung
- Inhärent unempfindlich gegen UVA und sichtbares Licht durch AlGaN-Halbleiter mit hoher Bandlücke
- TO-18 Metallgehäuse mit 0,076 mm² aktiver Chipfläche
- Schnelle Photodiode mit niedrigem Rauschen

Ultraviolet selective AlGaIn based UV sensor



AG32S

Maximum Ratings

Parameter	Symbol	Value	Unit
Operating temperature range	T_{opt}	-25 ... +80	°C
Reverse voltage	V_{Rmax}	5	V

General Characteristics

($T_a = 25\text{ °C}$)

Parameter	Symbol	Value	Unit
Active area	A	0.076	mm ²
Dark current at 0.1 V reverse bias	I_d	100	fA
Capacitance	C	24	pF
Short circuit current at bright sun	I_0	ca. 6	nA

Spectral Characteristics

($T_a = 25\text{ °C}$)

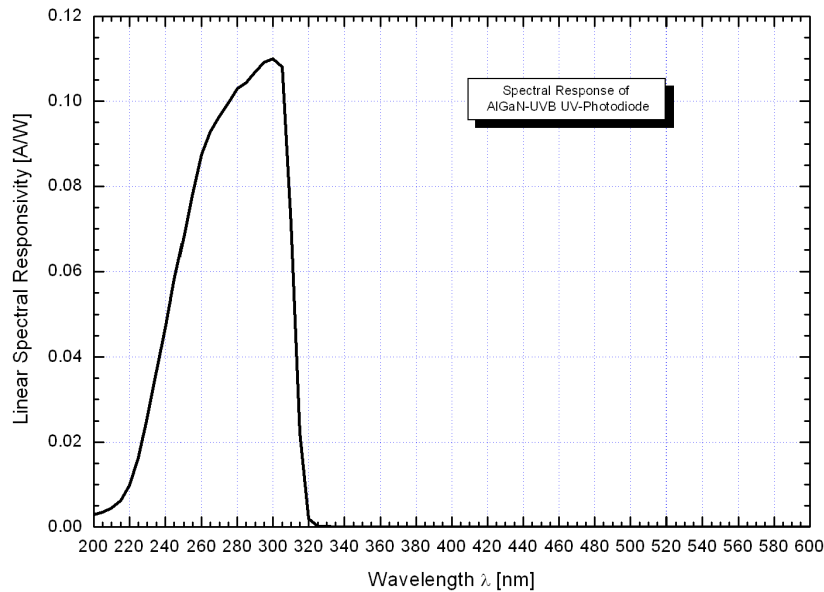
Parameter	Symbol	Value	Unit
Max. spectral sensitivity	S_{max}	0.1	A W ⁻¹
Wavelength of max. spectral sensitivity	λ_{Smax}	300	nm
Range of spectral sensitivity ($S=0.1 \cdot S_{max}$)	-	225 - 317	nm

Ultraviolet selective AlGaN based UV sensor

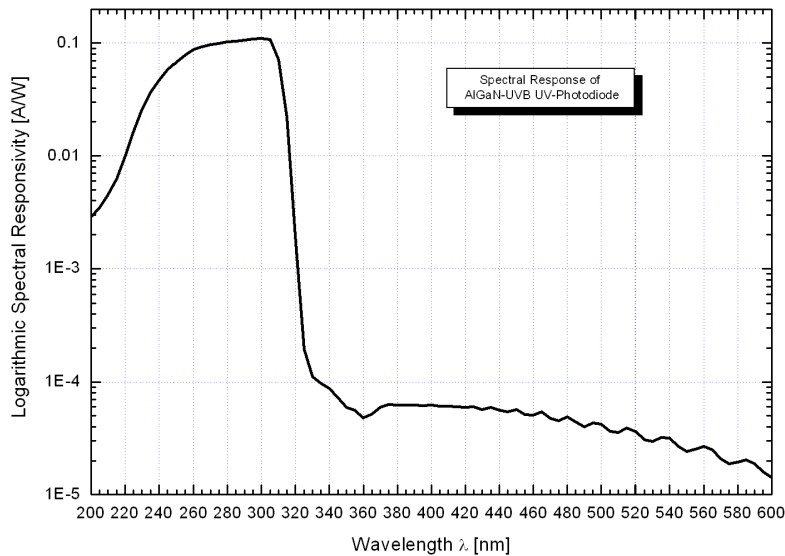


AG32S

Linear Spectral Response



Logarithmic Spectral Response

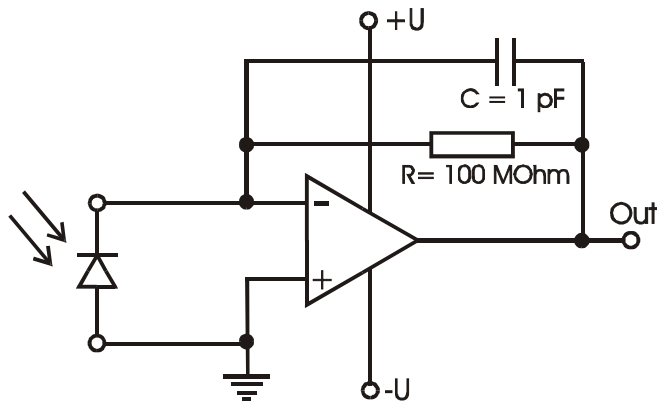


Ultraviolet selective AlGaIn based UV sensor

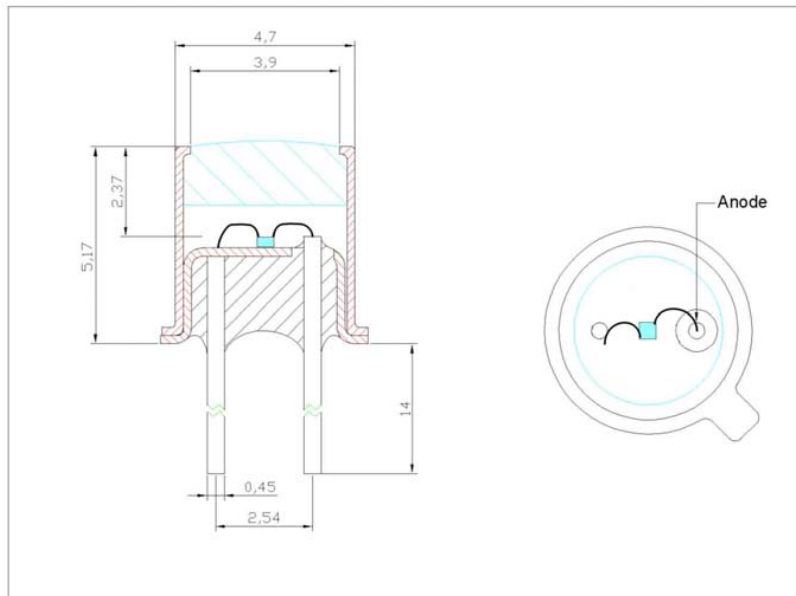


AG32S

Application Example



Pin Layout



Ultraviolet selective AlGaIn based UV sensor



AG28S



Features

- UVC selective photodiode
- Optimally suited for detection and control of UVC radiation
- Intrinsicy insensitive in the UVA, UVB and in the visible due to the wide-bandgap semiconductor material AlGaIn
- TO-18 metal package with 0,076 mm² active chip area
- High speed and low noise
- Spectral response in accordance with DVGW W 294

Eigenschaften

- UVC selektive Photodiode
- Optimale Eignung für die Messung von UVC-Strahlung
- Inhärent unempfindlich gegen UVA, UVB und sichtbares Licht durch AlGaIn-Halbleiter mit hoher Bandlücke
- TO-18 Metallgehäuse mit 0,076 mm² aktiver Chipfläche
- Schnelle Photodiode mit niedrigem Rauschen
- Spektrale Empfindlichkeit in Übereinstimmung mit DVGW W 294

Ultraviolet selective AlGaIn based UV sensor



AG28S

Maximum Ratings

Parameter	Symbol	Value	Unit
Operating temperature range	T_{opt}	-25 ... +80	°C
Reverse voltage	V_{Rmax}	5	V

General Characteristics

($T_a = 25\text{ °C}$)

Parameter	Symbol	Value	Unit
Active area	A	0.076	mm ²
Dark current at 0.1 V reverse bias	I_d	100	fA
Capacitance	C	24	pF
Short circuit current for 10 mW/cm ² @ 254 nm	I_0	ca. 300	nA

Spectral Characteristics

($T_a = 25\text{ °C}$)

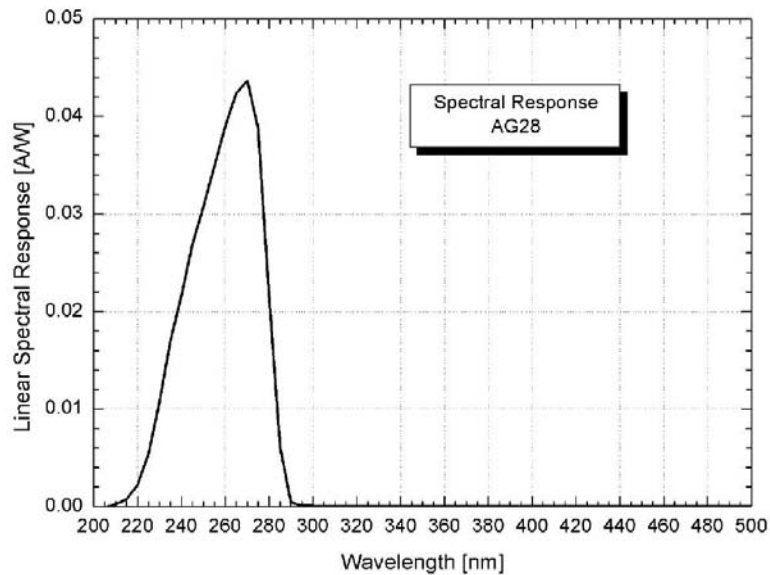
Max. spectral sensitivity	S_{max}	0.045	A W ⁻¹
Wavelength of max. spectral sensitivity	λ_{Smax}	270	nm
Range of spectral sensitivity ($S=0.1 \cdot S_{max}$)	-	225 - 285	nm

Ultraviolet selective AlGaIn based UV sensor

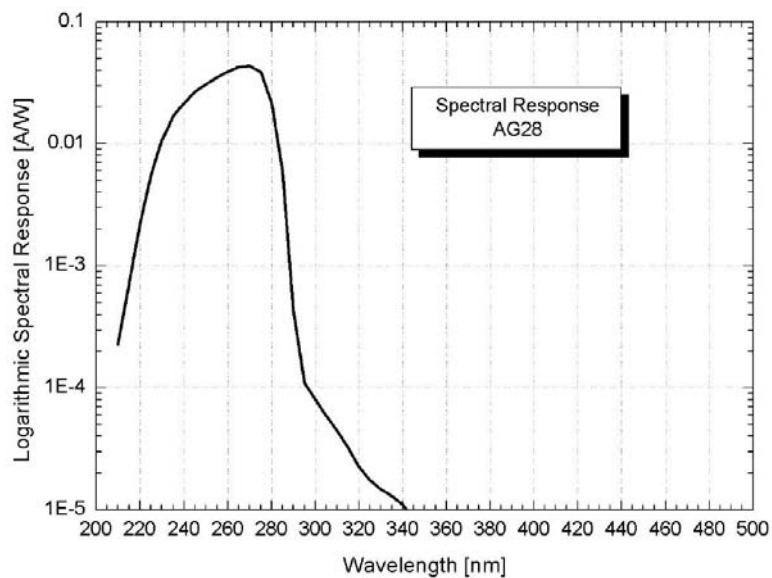


AG28S

Linear Spectral Response



Logarithmic Spectral Response

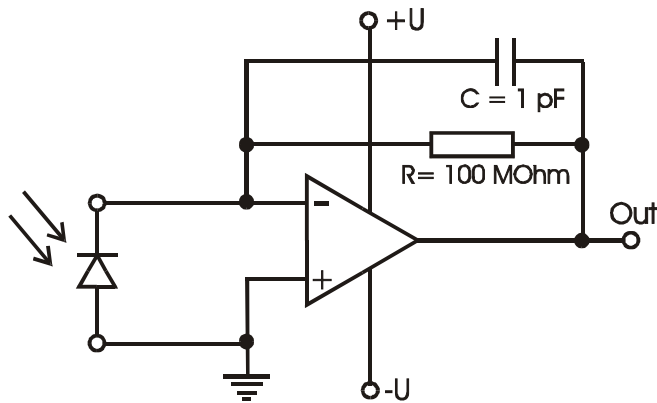


Ultraviolet selective AlGaIn based UV sensor

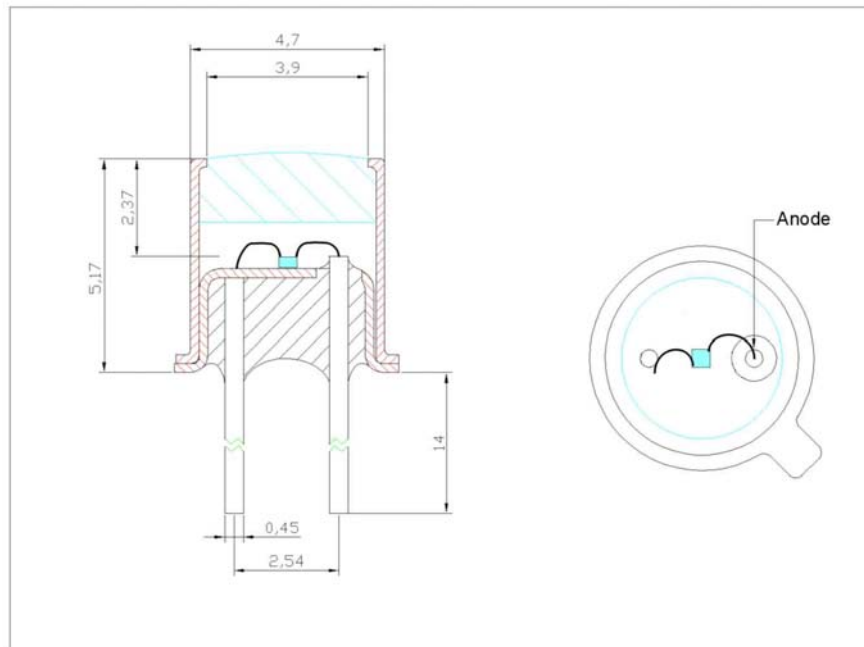


AG28S

Application Example

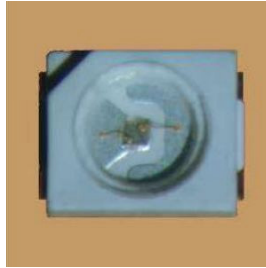


Pin Layout



Ultraviolet selective AlGaN based UV sensor

GUVB-S10GD (AG32S-SMD)



Features

- UVB-UVC selective photodiode
- Optimally suited for low-cost UV consumer applications
- Intrinsicly unresponsive in the visible
- Semiconductor material AlGaN
- SMD package with quartz window
- 0,076 mm² active chip area
- Wide viewing angle (130°)
- High speed and low noise

Eigenschaften

- Breitbandige UVA-UVB-UVC selektive Photodiode
- Optimale Eignung für kostengünstige UVA-Messung
- Inhärent unempfindlich gegen sichtbares Licht
- Halbleitermaterial AlGaN
- SMD Gehäuse mit Quarzfenster
- 0,076 mm² aktive Chipfläche
- weiter Öffnungswinkel (130°)
- Schnelle Photodiode mit niedrigem Rauschen

Ultraviolet selective AlGaIn based UV sensor

GUVB-S10GD (AG32S-SMD)



Maximum Ratings

Parameter	Symbol	Value	Unit
Operating temperature range	T_{opt}	-30 ... +85	°C
Reverse voltage	V_{Rmax}	5	V

General Characteristics

($T_a = 25\text{ °C}$)

Parameter	Symbol	Value	Unit
Active area	A	0,076	mm ²
Dark current at 0.1 V reverse bias	I_d	100	fA
Capacitance	C	24	pF
Short circuit current at bright sun	I_0	ca. 6	nA

Spectral Characteristics

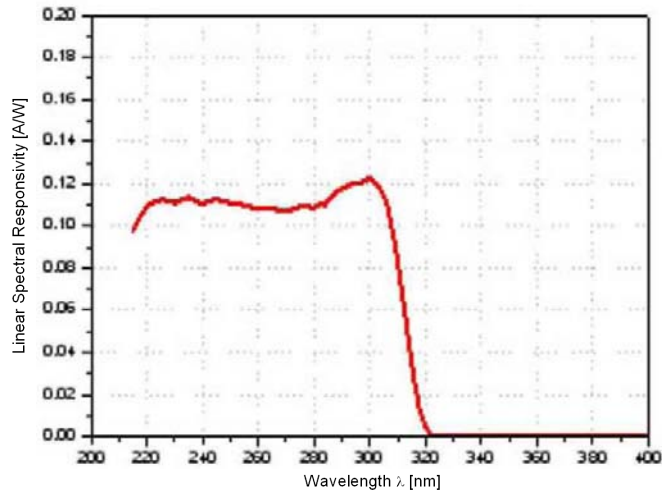
($T_a = 25\text{ °C}$)

Parameter	Symbol	Value	Unit
Max. spectral sensitivity	S_{max}	0,1	A W ⁻¹
Wavelength of max. spectral sensitivity	λ_{Smax}	300	nm
Range of spectral sensitivity ($S=0.1*S_{max}$)	-	225-317	nm

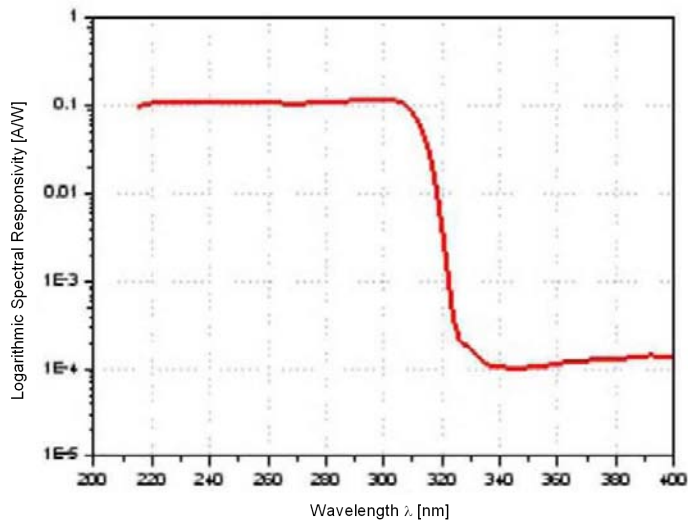
Ultraviolet selective AlGaIn based UV sensor GUVB-S10GD (AG32S-SMD)



Linear Spectral Response



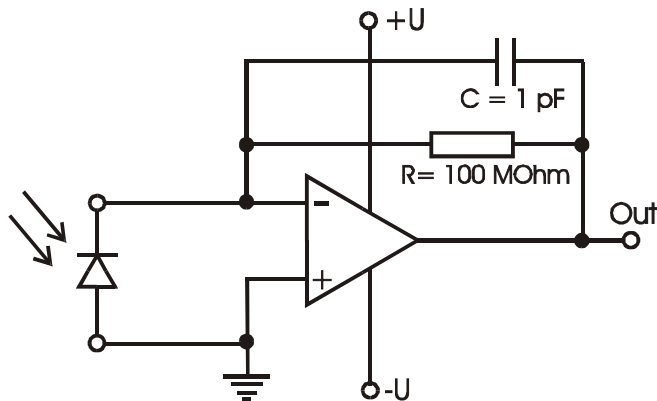
Logarithmic Spectral Response



Ultraviolet selective AlGaIn based UV sensor GUVB-S10GD (AG32S-SMD)



Application Examples



Pin Layout

