



solutions for a brighter world

OS100 Data Sheet
GaN Ultraviolet Sensor
Issue 2 - June 2006



Features

- Sensitive to UV-A, UV-B, and UV-C radiation
- Blind to visible light
- High speed, low noise
- Optimal Price/Performance
- Tight output voltage tolerances available
- Small SMD and TO18, TO46 metal can package options

Applications

- U.V. index meters / U.V. meters
- Weather stations
- U.V. sterilization systems
- U.V. watch
- Fire/Spark detection systems



General Packaging and Device Active Area:

Parameter	Symbol	Typical Value/ Feature	Unit
Active Area	A	0.07	mm ²
Package	/	Plastic	/
Window	/	UV Transmission Cover	/

Absolute Maximum Ratings:

Parameter	Symbol	Value	Unit
Reverse Voltage	VRmax.	1	V
Operating Temperature	Topr.	-20 to +80	°C
Storage Temperature	Tstg	-20 to +85	°C

Electrical and Optical Characteristics (At temp. = 25°C)

Parameter	Symbol	Typ.Value	Unit
Range of spectral sensitivity	-	250-370	nm
Peak sensitivity wavelength	$\lambda_{max.}$	350 ± 5	nm
Max. spectral sensitivity	Smax.	80 ± 30%	mA / W
Visible blindness	Smax./S400nm	100	/
Shunt resistance (dark)	Rs	1 ± 30%	MΩ
Dark current at 10mV reverse bias	Id	1 ± 30%	μA
Open circuit voltage (35 μW/cm ² , λ=350nm)	Vo	80 ± 30%	mV
Short circuit current (35μW/cm ² , λ=350nm)	Io	250 ± 30%	nA
Breakdown voltage (dark)	VBR	> 1	V

Fig. 1: Responsivity of the UV Sensor

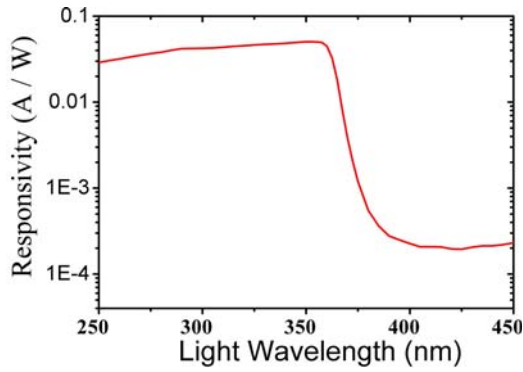


Fig. 2: *I-V* characteristics of the UV Sensor

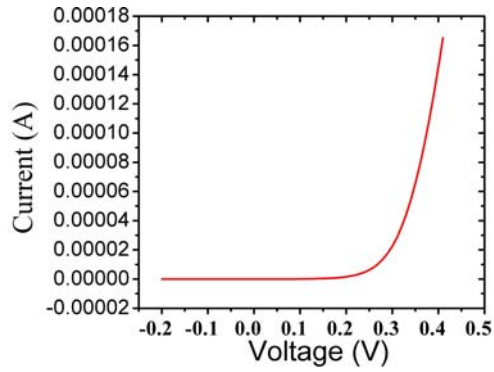


Fig. 3: SMD Package Outline (Unit: mm)

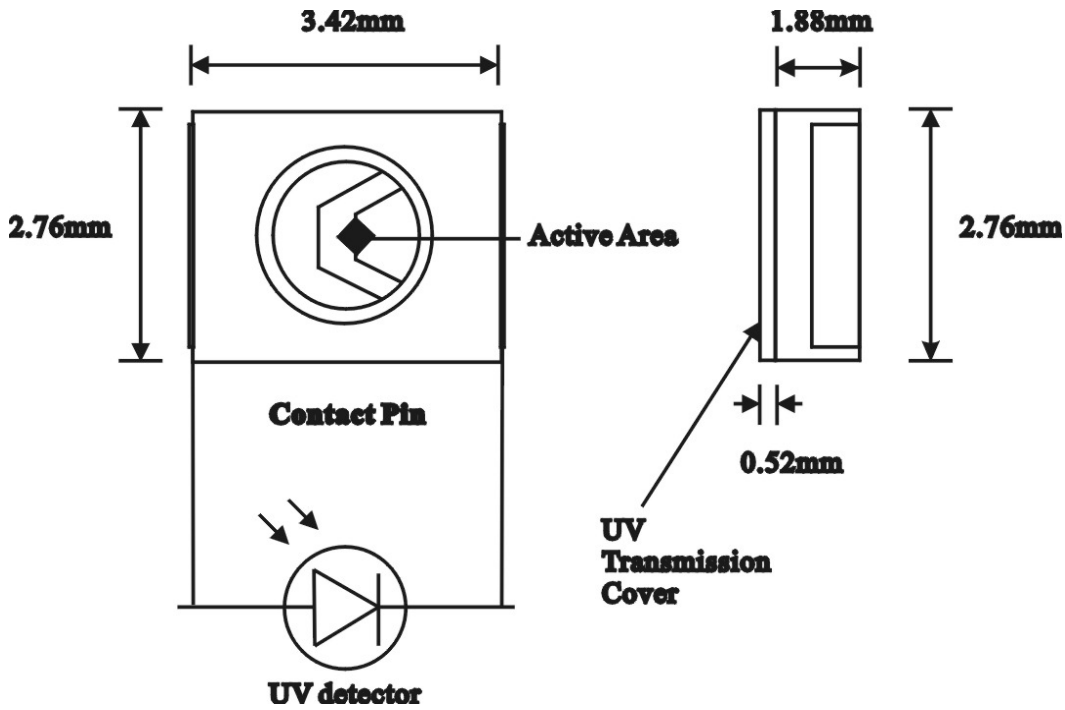
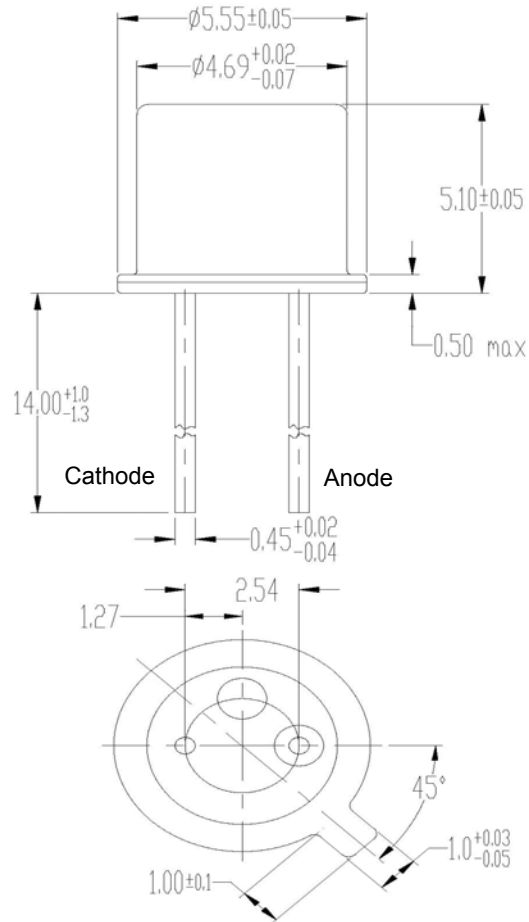


Fig. 4: TO18 Package Outline Drawing (Unit: mm)



Ordering information

SMD loose / bulk form :	part number	OS100
SMD tape and reel form 2K per 7" reel :	part number	OS100TR
TO18 metal can:	part number	OS100MC

Fig. 5: Recommended Amplifier Circuit

