Detectors

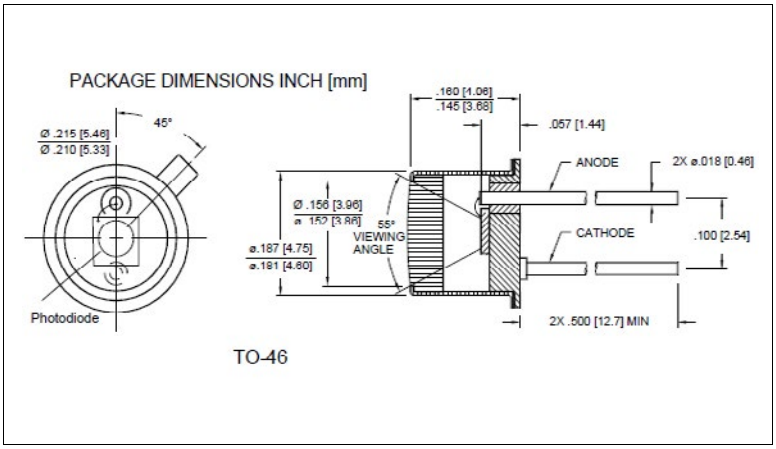
LUNA OPTOELECTRONICS

LASER COMPONENTS

GaN UV Photodiode

SD012-UVB-011

Precision – Control – Results



DESCRIPTION

The **SD012-UVB-011** is a GaN **UVB** photodiode with a 0.076 mm^2 active area. Unlike most UV detectors it cuts off unwanted visible light from its detection spectrum (**220-320nm**), thereby eliminating the need for optical filter. Photodiode is assembled packaged in a hermetic TO-46 package

FEATURES

- Schottky-Type Photodiode
- Photovoltaic Mode Operation
- Low Noise
- High Speed
- Visible Blindness

RELIABILITY

This Luna high-reliability device is in principle able to meet military test requirements (Mil-STD-750, Mil-STD-883) after proper screening and group test.
Contact Luna for recommendations on specific test conditions and procedures.

APPLICATIONS

- UVB Detection and Monitoring
- Medical
- Military

ABSOLUTE MAXIMUM RATINGS

SYMBOL	MIN		MAX	UNITS	T_a = 23°C UNLESS NOTED OTHERWISE
Storage Temperature	-40	to	+85	°C	-
Operating Temperature	-30	to	+85	°C	-
Soldering Temperature	-	-	+260	°C	-
Forward Current	-	-	1.0	mA	-
Reverse Voltage	-	-	5.0	V	-

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GaN UV Photodiode

SD012-UVB-011

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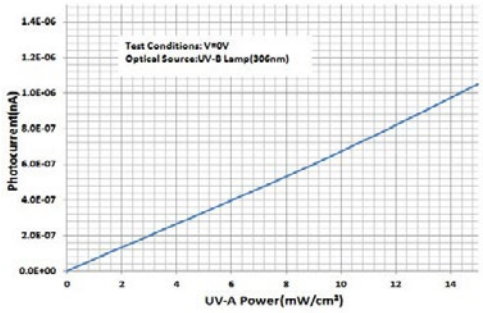
OPTO-ELECTRICAL PARAMETERS

T_a = 23°C UNLESS NOTED OTHERWISE

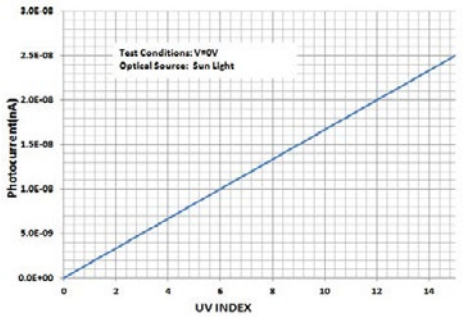
PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Dark Current	V_R = 0.1V	-	0.1	100	pA
Shunt Resistance	V_R = 10 mV	TBD	-	-	MΩ
Short Circuit Current	UVI=1.0	-	20	-	nA
Spectral Application Range	Spot Scan	220	-	370	Nm
Responsivity Peak	λ= 300 nm V, V_R = 0.V	-	0.1	-	A/W
Capacitance	V_{bias} = 0V; f = 1 MHz	-	10	-	pF
Noise Equivalent Power	λ= 300 nm	-	1.6	-	10^{-17} W/Hz$^{0.5}$

TYPICAL PERFORMANCE

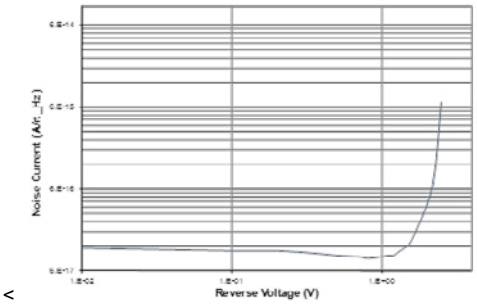
UV-A PHOTOCURRENT



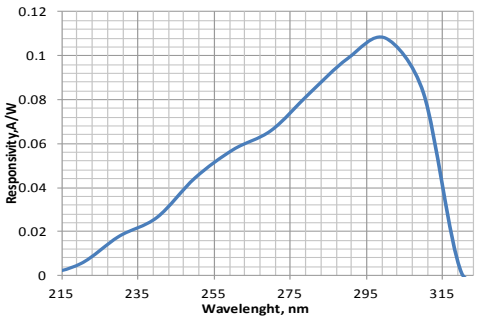
UV-I PHOTOCURRENT



NOISE VS. BIAS



SPECTRAL RESPONSE



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