

**DESCRIPTION**

The SD012-UVA-005 is a GaN UV photodiode with a 0.076 mm<sup>2</sup> active area. Unlike most UV detectors it cuts off unwanted visible light from its detection spectrum (220-370nm), thereby eliminating the need for optical filter. Photodiode is assembled packaged in a hermetic TO-46 package

**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.

**FEATURES**

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

**APPLICATIONS**

- UV Detection and Monitoring
- Medical
- Military

**ABSOLUTE MAXIMUM RATINGS**

SYMBOL	MIN		MAX	UNITS	T <sub>a</sub> = 23°C UNLESS NOTED OTHERWISE
Storage Temperature	-40	to	+125	°C	-
Operating Temperature	-30	to	+85	°C	-
Soldering Temperature	-	-	+260	°C	-
Forward Current	-	-	1.0	mA	-
Reverse Voltage	-	-	5.0	V	-

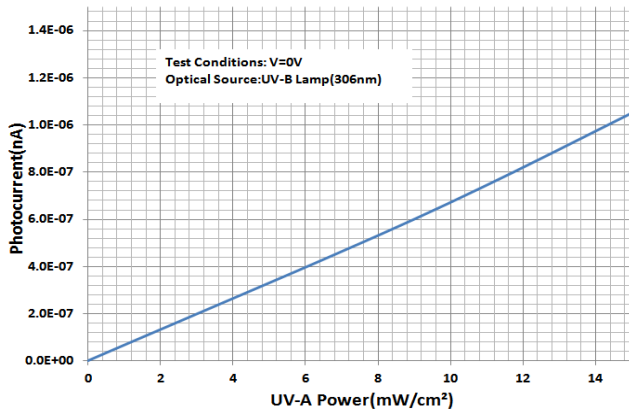
**OPTO-ELECTRICAL PARAMETERS**

T<sub>a</sub> = 23°C UNLESS NOTED OTHERWISE

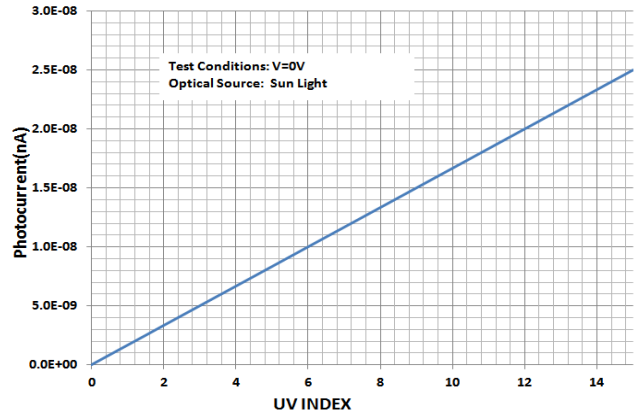
PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Dark Current	V <sub>R</sub> = 0.1V	-	0.1	100	pA
Shunt Resistance	V <sub>R</sub> = 10 mV	1.0	100	-	GΩ
Short Circuit Current	UVI=1.0	-	20	-	nA
Spectral Application Range	Spot Scan	220	-	370	nm
Responsivity Peak	λ= 350 nm V, V <sub>R</sub> = 0 V	-	0.18	-	A/W
Capacitance	V <sub>bias</sub> = 0V; f = 1 MHz	-	10	-	pF
Noise Equivalent Power	λ=350	-	1.6	-	10 <sup>-17</sup> W/Hz <sup>0.5</sup>

**TYPICAL PERFORMANCE**

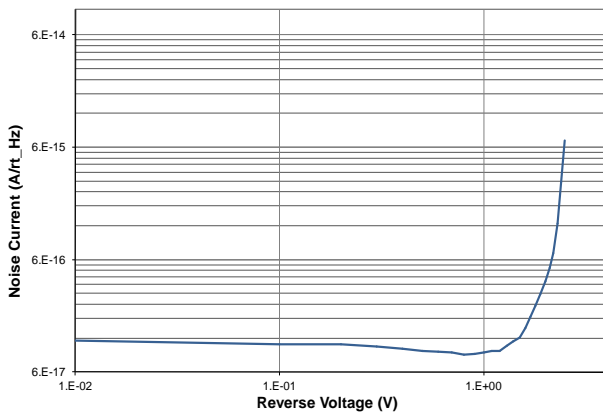
**UV-A PHOTOCURRENT**



**UV-I PHOTOCURRENT**



**NOISE vs. BIAS**



**SPECTRAL RESPONSE**

