

DESCRIPTION

The **SD012-UVA-005** is a GaN **UVA** photodiode with a 0.076 mm^2 active area, SMT packaged. Unlike most UV detectors it cuts off unwanted visible light from its detection spectrum (**220-370nm**), thereby eliminating the need for optical filter.

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

- **UVA** Detection and Monitoring
- Medical
- Military

ABSOLUTE MAXIMUM RATINGS

SYMBOL	MIN	MAX	UNITS		
Reverse Voltage	-	-	5.0	V	$T_a = 23^\circ\text{C}$ UNLESS NOTED OTHERWISE
Operating Temperature	-30	to	+85	$^\circ\text{C}$	-
Storage Temperature	-40	to	+125	$^\circ\text{C}$	-
Soldering Temperature	-	-	+260	$^\circ\text{C}$	-
Forward Current	-	-	1.0	mA	-

Information in this technical datasheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject to change without notice.

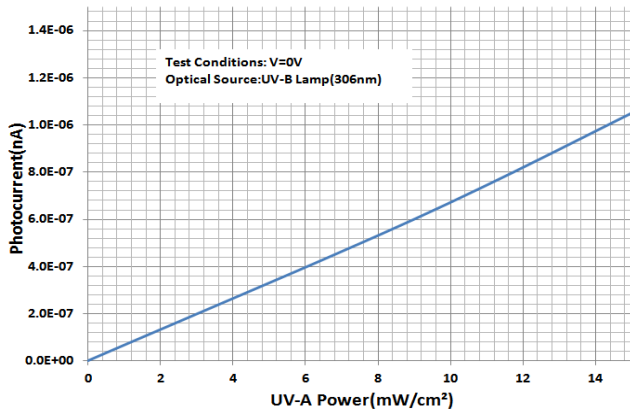
OPTO-ELECTRICAL PARAMETERS

$T_a = 23^\circ\text{C}$ UNLESS NOTED OTHERWISE

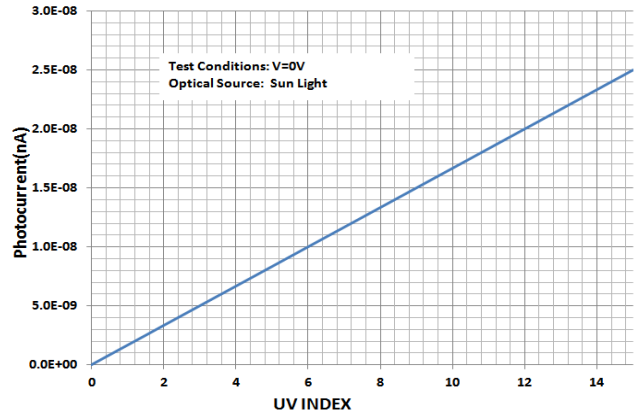
PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Dark Current	$V_R = 0.1\text{V}$	-	0.1	100	pA
Shunt Resistance	$V_R = 10\text{ mV}$	1.0	100	-	$\text{G}\Omega$
Short Circuit Current	UVI=1.0	-	20	-	nA
Spectral Application Range	Spot Scan	220	-	370	nm
Responsivity Peak	$\lambda = 350\text{ nmV}$, $V_R = 0\text{V}$	-	0.18	-	A/W
Capacitance	$V_{\text{bias}} = 0\text{V}$; $f = 1\text{ MHz}$	-	10	-	pF
Noise Equivalent Power	$\lambda = 350\text{ nm}$	-	1.6	-	$10^{-17}\text{W/Hz}^{0.5}$

TYPICAL PERFORMANCE

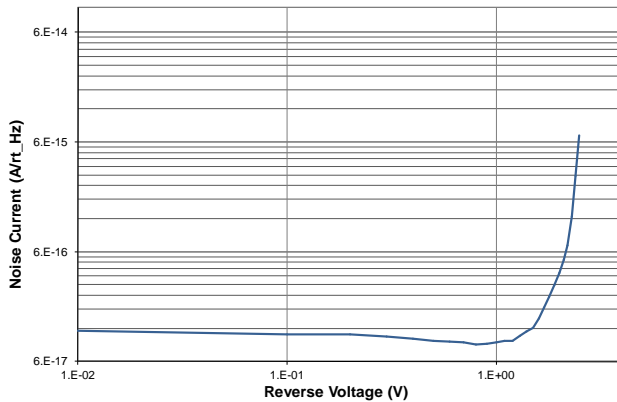
UV-A PHOTOCURRENT



UV-I PHOTOCURRENT



NOISE vs. BIAS



SPECTRAL RESPONSE

