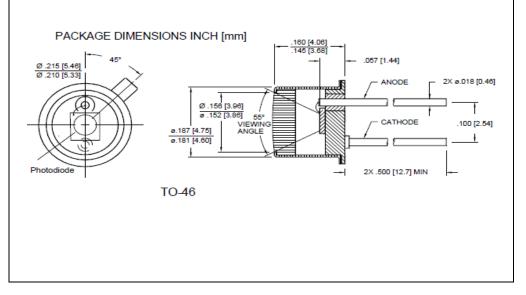


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# GaN Photodiode SD012-UVC-011

## **Precision – Control – Results**





## DESCRIPTION

The **SD012-UVC-011** is an AlGaN **UVC** photodiode with a 0.076 mm<sup>2</sup> active area, hermetically assembled in TO-46 package. Unlike most UV detectors it cuts off unwanted visible light from its detection spectrum (**210-280nm**), thereby eliminating the need for optical filter.

#### RELIABILITY

This API high-reliability detector is in principle able to meet military test requirements (Mil-STD-750, Mil-STD-883) after proper screening and group test.

Contact API for recommendations on specific test conditions and procedures.

### **FEATURES**

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

### **APPLICATIONS**

- UVC Detection and Monitoring
- Medical
- Military

### ABSOLUTE MAXIMUM RATINGS

PARAMETER	MIN	MAX	UNITS				
Storage Temperature	-30	+85	°C				
Operating Temperature	-40	+125	°C				
Soldering Temperature*	-	+240	°C				
Forward Current	-	1.0	mA				
Reverse Voltage	-	5.0	V				

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.

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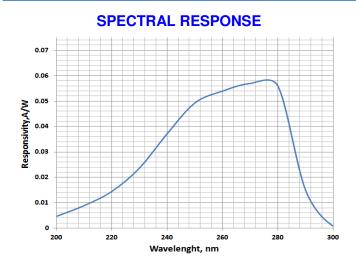
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GaN Photodiode SD012-UVC-011

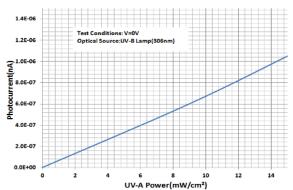
## **Precision – Control – Results**

OPTO-ELECTRICAL PAR		$T_a = 23^{\circ}C$ unless noted otherwise			
PARAMETER	TEST CONDITIONS	MIN	ТҮР	MAX	UNITS
Dark Current	V <sub>R</sub> = 0.1V	-	0.1	100	рА
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	210	-	280	nm
Responsivity Peak	$\lambda$ = 275 nm V, V <sub>R</sub> = 0 V	-	0.06	-	A/W
Capacitance	$V_{bias} = 0V; f = 1 MHz$	-	10	-	pF
Noise Equivalent Power	λ= 350 nm	-	1.6	-	10 <sup>-17</sup> W/Hz <sup>0.5</sup>

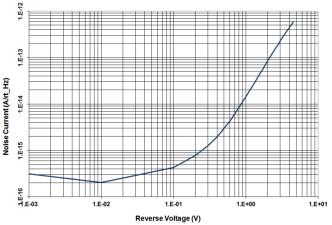
# **TYPICAL PERFORMANCE**



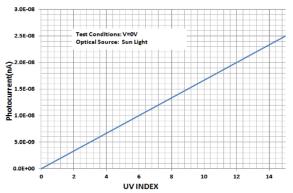
#### **UV-A PHOTOCURRENT**



# NOISE vs. BIAS



#### **UV-I PHOTOCURRENT**



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