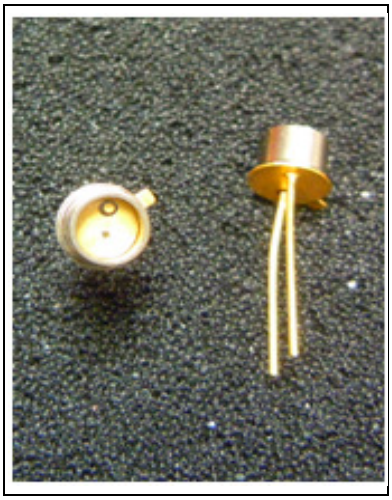
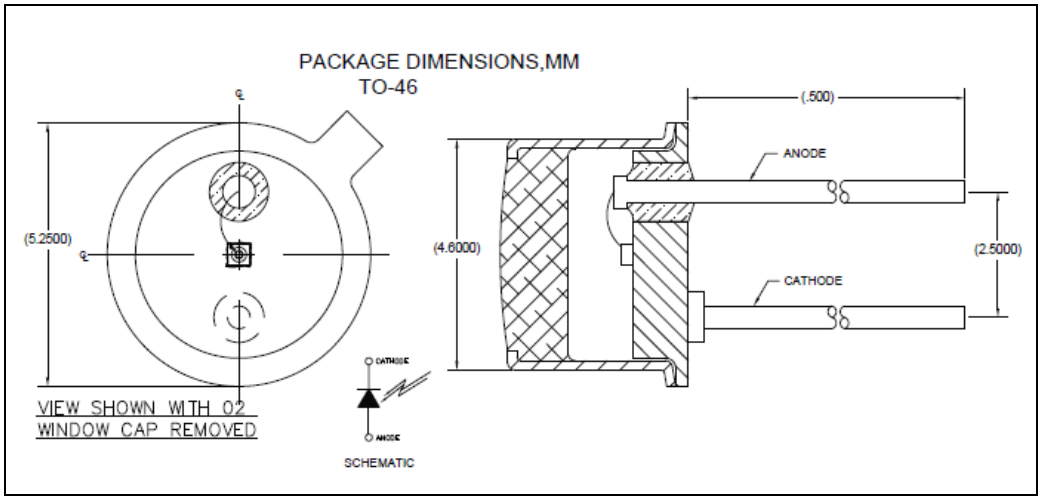
Advanced Photonix, Inc.

InGaAs Photodiode

SD012-121-011

WWW.ADVANCEDPHOTONIX.COM **Precision – Control – Results**





DESCRIPTION

The **SD012-121-011** is a high sensitivity, low capacitance and noise, 0.3mm diameter active area InGaAs photodiode, sensitive to wavelengths in visible extended (450-1700nm) spectral range and used for sensing applications. The photodetector is assembled in a TO-46 package.

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.

MOISTURE SENSITIVITY LEVEL

API silicon light dependent resistors are classified as MSL level 1 per J-STD-020 allowing for unlimited floor time at temperatures less than or equal to 30℃ and humidity less than or equal to 85%.

ABSOLUTE MAXIMUM RATINGS

SYMBOL	MIN	MAX	UNITS
Operating Temperature	0	+85	℃
Storage Temperature	-25	+85	℃
Soldering Temperature *	-	+240	℃
Wavelength Range	450	1700	nm
Reverse Voltage	-	20	V

*) 1/16 inch from case for 3s max.

FEATURES

- Low Noise
- Low Dark Current and Capacitance
- High Sensitivity
- Light Detection (Visible, NIR, SWIR)

APPLICATIONS

- Industrial Sensing
- Security and Defense
- Communication

ESD

This device is Class 1A (HBM).

T_a = 23℃ non condensing

REV 8-27-15

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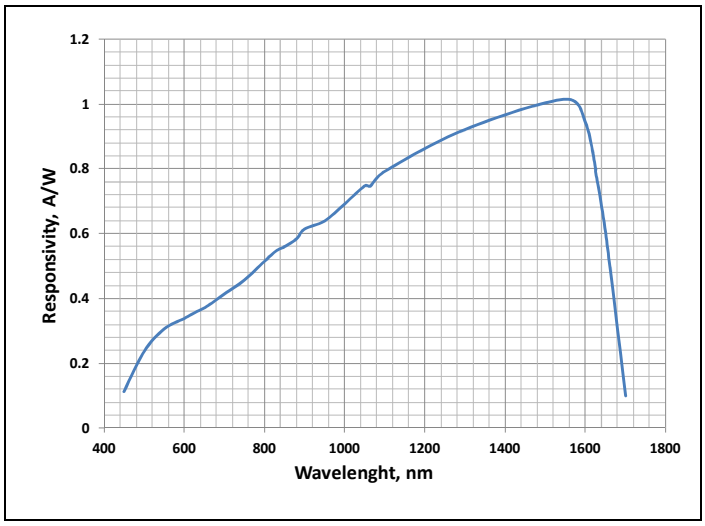
OPTO-ELECTRICAL PARAMETERS

T_a = 23°C unless noted otherwise

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Breakdown Voltage	I_{bias} = 100 µA	10	-	-	V
Responsivity	λ= 600 nm	0.3	0.35	-	A/W
Responsivity	λ= 1200 nm	0.7	0.85	-	A/W
Responsivity	λ= 1550 nm	0.9	1.00	-	A/W
Shunt Resistance	V_{bias} = 10 mV	5	30	-	MΩ
Dark Current	V_{bias} = 1V	-	2	20	nA
Capacitance	V_{bias} = 1V; f = 1 MHz	-	6	20	pF
Rise Time (50Ω load)	V_{bias} = 1V; λ= 826 nm	-	5	-	ns
Noise Equivalent Power	λ= 900 nm	-	1.0	-	10^{-13}W/Hz$^{0.5}$

TYPICAL PERFORMANCE

SPECTRAL RESPONSE



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