



DESCRIPTION

The SD039-121-011 is a high sensitivity, low capacitance and noise, 1mm diameter active area InGaAs photodiode, sensitive to wavelengths in visible extended (450-1700nm) spectral range and used for imaging and sensing applications. The photodetector is assembled in a TO-46 package.

FEATURES

- Low Noise
- Low Dark Current and Capacitance
- High Sensitivity
- Detection in LWIR

RELIABILITY

This 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

- Industrial Sensing
- Security and Defense
- Communication
- Medical

ABSOLUTE MAXIMUM RATINGS

SYMBOL	MIN		MAX	UNITS	
Operating Temperature	0	to	+85	°C	T _a = 23°C non condensing
Storage Temperature	-25	to	+85	°C	
Soldering Temperature			+260	°C	> 2mm from case for < 5 sec
Wavelength Range	450	to	1700	nm	
Reverse Voltage			20	V	

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 = 500 nm	-	-	-	A/W
Shunt Resistance	V _{bias} = 10 mV	TBD	-	-	MΩ
Dark Current	V _{bias} = 5V	-	-	100	nA
Capacitance	V _{bias} = 0V; f = 1 MHz	-	180	-	pF
Rise Time (50Ω load)	V _{bias} = 24V; λ = 826 nm	-	TBD	-	ns
Noise Equivalent Power	λ = 900 nm	-	10	-	10 ⁻¹⁴ W/Hz ^{0.5}
Temperature Coefficient of Shunt Resistance			TBD		

TYPICAL PERFORMANCE

SPECTRAL RESPONSE

