



DESCRIPTION

The SD197-121-041 is a high sensitivity, low capacitance and noise, 5mm 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-8 package.

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.

ABSOLUTE MAXIMUM RATINGS

SYMBOL	MIN		MAX	UNITS	
Operating Temperature	0	to	+85	°C	$T_a = 23^{\circ}\text{C}$ UNLESS NOTED OTHERWISE
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	-

FEATURES

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

APPLICATIONS

- Industrial Sensing
- Security and Defense
- Communication

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	0.8	.85	-	A/W
Responsivity	λ = 1550 nm	0.9	1.00	-	nA
Shunt Resistance	V _{bias} = 10 mV	0.2	0.8	-	MΩ
Capacitance	V _{bias} = 0V; f = 1 MHz	-	1	5	pF
Rise Time (50Ω load)	V _{bias} = 1V; λ = 826 nm	-	5	-	ns
Noise Equivalent Power	λ = 900 nm	-	9.6	-	10 ⁻¹³ W/Hz ^{0.5}

TYPICAL PERFORMANCE

SPECTRAL RESPONSE

