



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-5 package.

FEATURES

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

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.

APPLICATIONS

- Industrial Sensing
- Security and Defense
- Communication
- Medical

ABSOLUTE MAXIMUM RATINGS

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

T_a = 23°C
 non condensing
 see recommended reflow profile

OPTO-ELECTRICAL PARAMETERS

$T_a = 23^\circ\text{C}$ unless noted otherwise

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Breakdown Voltage	$I_{\text{bias}} = 100 \mu\text{A}$	10	-	-	V
Responsivity	$\lambda = 660 \text{ nm}$	-	0.35	-	A/W
Responsivity	$\lambda = 1200 \text{ nm}$	-	0.90	-	A/W
Shunt Resistance	$V_{\text{bias}} = 10 \text{ mV}$	-	30	-	$\text{M}\Omega$
Dark Current	$V_{\text{bias}} = 5\text{V}$	-	-	10	nA
Capacitance	$V_{\text{bias}} = 0\text{V}; f = 1 \text{ MHz}$	-	-	100	pF
Rise Time (50 Ω load)	$V_{\text{bias}} = 24\text{V}; \lambda = 826 \text{ nm}$	-	5	-	ns
Noise Equivalent Power	$\lambda = 900 \text{ nm}$	-	10	-	$10^{-14} \text{ W/Hz}^{0.5}$

TYPICAL PERFORMANCE

SPECTRAL RESPONSE

