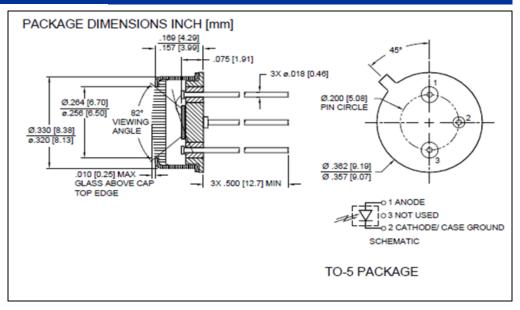


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## **Precision – Control – Results**





#### **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.

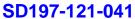
## **APPLICATIONS**

- Industrial Sensing
- · Security and Defense
- Communication
- Medical

## **ABSOLUTE MAXIMUM RATINGS**

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

T<sub>a</sub> = 23°C non condensing see recommended reflow profile





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OPTO-ELECTRICAL PA	ARAMETERS		$T_a = 23$ °C unless noted otherwise		
PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Breakdown Voltage	$I_{\text{bias}} = 100 \mu\text{A}$	10	-	-	V
Responsivity	λ= 660 nm	-	0.35	-	A/W
Responsivity	λ= 1200 nm	-	0.90	-	A/W
Shunt Resistance	$V_{bias} = 10 \text{ mV}$	-	30	-	MΩ
Dark Current	$V_{\text{bias}} = 5V$	-	-	10	nA
Capacitance	$V_{bias} = 0V$ ; $f = 1 MHz$	-	-	100	pF
Rise Time (50 $\Omega$ load)	$V_{bias} = 24V; \lambda = 826 \text{ nm}$	-	5	-	ns
Noise Equivalent Power	λ= 900 nm	-	10	-	10 <sup>-14</sup> W/Hz <sup>0.5</sup>

# **TYPICAL PERFORMANCE**

## **SPECTRAL RESPONSE**

