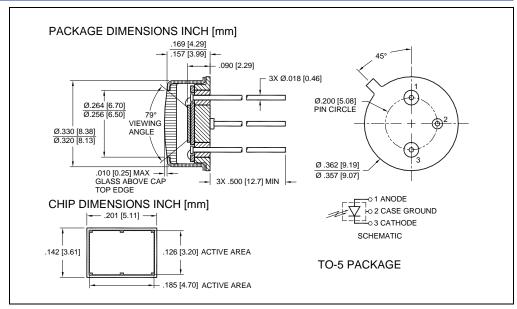


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# **Precision – Control – Results**





#### DESCRIPTION

The **SD 172-11-31-221** is an ultra low capacitance silicon PIN photodiode, red enhanced, packaged in a leaded hermetic TO-5 metal package.

#### **FEATURES**

- Low Noise
- Red Enhanced
- High Shunt Resistance
- High Response

### **RELIABILITY**

Contact Luna for recommendations on specific test conditions and procedures.

### **APPLICATIONS**

- Military
- Industrial
- Medical



## **ABSOLUTE MAXIMUM RATINGS**

SYMBOL	MIN		MAX	UNITS	
Reverse Voltage	-	-	75	V	T <sub>a</sub> = 23°C UNLESS OTHERWISE NOTED
Storage Temperature	-55	to	+150	°C	-
Operating Temperature	-40	to	+125	°C	-
Soldering Temperature*	-	-	+240	°C	-
* 1/16 inch from case for 3 seconds	max.				

SD172-11-31-221

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# **OPTO-ELECTRICAL PARAMETERS**

T<sub>a</sub> = 23°C UNLESS OTHERWISE NOTED

PARAMETER	TEST CONDITIONS	MIN	ТҮР	MAX	UNITS	
Dark Current	V <sub>R</sub> = 50V	-	35	147	nA	
Junction Capacitance	$V_R = 0V, f = 1 MHz$	-	82	-	n-F	
	$V_R = 50V, f = 1 \text{ MHz}$	-	10	-	pF	
Spectral Application Range	Spot Scan	350	-	1100	nm	
Responsivity	λ= 900nm, V <sub>R</sub> =0V	0.50	0.55	-	A/W	
Breakdown Voltage	Ι = 10 μΑ	-	75	-	V	
Noise Equivalent Power	V <sub>R</sub> = 5V@ λ=950nm	-	2.0x10 <sup>-13</sup>	-	W/ √ <sub>Hz</sub>	
Response Time**	$RL = 50\Omega, V_R = 0V$	-	190	-		
	$RL = 50\Omega$ , $V_R = 50V$	-	13	-	nS nS	

<sup>\*\*</sup>Response time of 10% to 90% is specified at 660nm wavelength light.

## **TYPICAL PERFORMANCE**

#### **SPECTRAL RESPONSE**

