



**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	$T_a = 23^{\circ}\text{C}$ UNLESS OTHERWISE NOTED
Storage Temperature	-55	+150	$^{\circ}\text{C}$	-
Operating Temperature	-40	+125	$^{\circ}\text{C}$	-
Soldering Temperature*	-	+240	$^{\circ}\text{C}$	-

\* 1/16 inch from case for 3 seconds max.

**OPTO-ELECTRICAL PARAMETERS**

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

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

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

**TYPICAL PERFORMANCE**

**SPECTRAL RESPONSE**

