



**DESCRIPTION**

The **SD 172-11-21-221** is a general purpose silicon PIN photodiode, red enhanced, packaged in a leaded hermetic TO-8 metal package.

**FEATURES**

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

**RELIABILITY**

Contact Luna for recommendations on specific test conditions and procedures.

**APPLICATIONS**

- Instrumentation
- Industrial
- Medical



**ABSOLUTE MAXIMUM RATINGS**

SYMBOL	MIN	MAX	UNITS		
Reverse Voltage	-	-	75	V	T <sub>a</sub> = 23°C unless 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.

**OPTO-ELECTRICAL PARAMETERS**

T<sub>a</sub> = 23°C unless noted otherwise

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Dark Current	V <sub>R</sub> = 5V	-	5.0	-20.0	nA
Shunt Resistance	V <sub>R</sub> = 10 mV	100	-	-	MΩ
Junction Capacitance	V <sub>R</sub> = 0V, f = 1 MHz	-	255	-	pF
	V <sub>R</sub> = 10V, f = 1 MHz	-	53	-	
Spectral Application Range	Spot Scan	350	-	1100	nm
Responsivity	λ = 633 nm, V <sub>R</sub> = 0V	0.32	0.36	-	A/W
	λ = 900nm, V <sub>R</sub> = 0V	0.50	0.55	-	
Breakdown Voltage	I = 10 μA	-	50	-	V
Noise Equivalent Power	V <sub>R</sub> = 5V @ λ = 950nm	-	7.0x10 <sup>-14</sup>	-	W/√Hz
Response Time**	RL = 50Ω, V <sub>R</sub> = 0V	-	190	-	nS
	RL = 50Ω, V <sub>R</sub> = 10V	-	13	-	

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

**TYPICAL PERFORMANCE**

**NOISE CURRENT vs. REVERSE BIAS**

