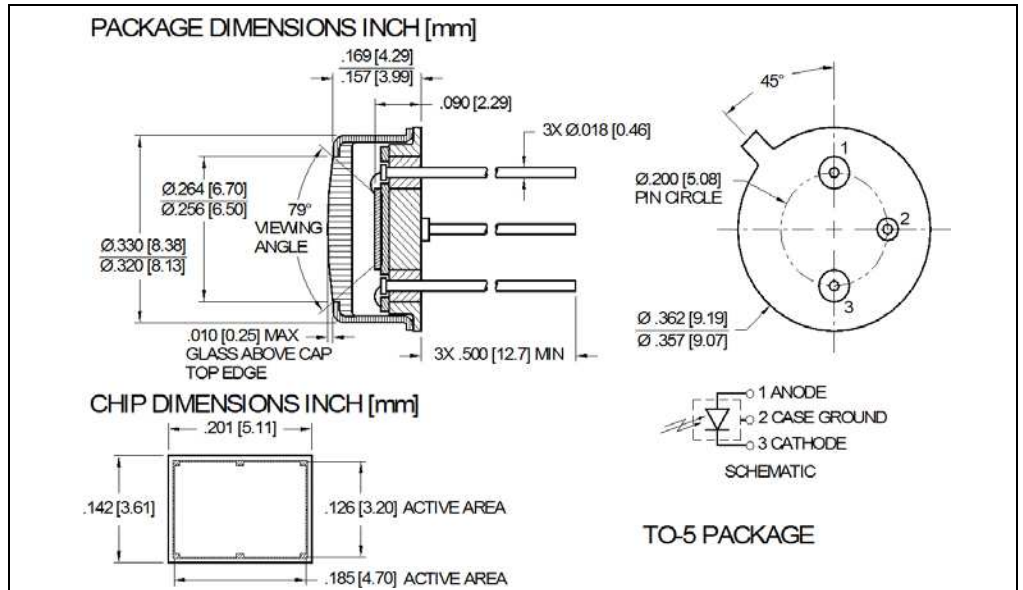




DESCRIPTION

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	$T_a = 23^{\circ}\text{C}$ unless noted
Storage Temperature	-55	to	+150	$^{\circ}\text{C}$	-
Operating Temperature	-40	to	+125	$^{\circ}\text{C}$	-
Soldering Temperature	-	-	+240	$^{\circ}\text{C}$	-

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

OPTO-ELECTRICAL PARAMETERS

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

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Dark Current	$V_R = 5\text{V}$	-	5.0	-20.0	nA
Shunt Resistance	$V_R = 10\text{ mV}$	100	-	-	$\text{M}\Omega$
Junction Capacitance	$V_R = 0\text{V}, f = 1\text{ MHz}$	-	255	-	pF
	$V_R = 10\text{V}, f = 1\text{ MHz}$	-	53	-	
Spectral Application Range	Spot Scan	350	-	1100	nm
Responsivity	$\lambda = 633\text{ nm}, V_R = 0\text{V}$	0.32	0.36	-	A/W
	$\lambda = 900\text{nm}, V_R = 0\text{V}$	0.50	0.55	-	
Breakdown Voltage	$I = 10\text{ }\mu\text{A}$	-	50	-	V
Noise Equivalent Power	$V_R = 5\text{V}@ \lambda = 950\text{nm}$	-	7.0×10^{-14}	-	$\text{W}/\sqrt{\text{Hz}}$
Response Time**	$\text{RL} = 50\Omega, V_R = 0\text{V}$	-	190	-	nS
	$\text{RL} = 50\Omega, V_R = 10\text{V}$	-	13	-	

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

TYPICAL PERFORMANCE

NOISE CURRENT vs. REVERSE BIAS

