

FEATURES

- Low noise
- Red enhanced
- High shunt resistance
- High response

DESCRIPTION

The **SD 113-24-21-021** is a red enhanced Bi-Cell silicon photodiode used for nulling, centering, or measuring small positional changes packaged in a hermetic TO-5 metal package.

APPLICATIONS

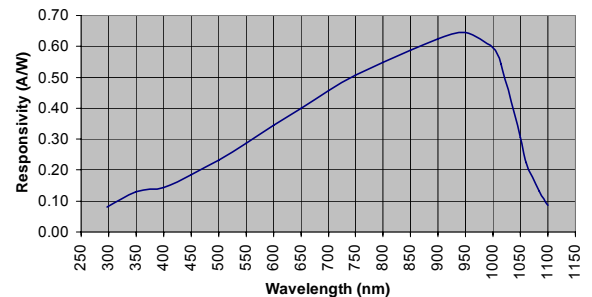
- Emitter Alignment
- Position sensing
- Medical and Industrial

ABSOLUTE MAXIMUM RATING (TA) = 23°C UNLESS OTHERWISE NOTED

SYMBOL	PARAMETER	MIN	MAX	UNITS
V_{BR}	Reverse Voltage		50	V
T_{STG}	Storage Temperature	-55	+150	°C
T_O	Operating Temperature	-40	+125	°C
T_S	Soldering Temperature*		+240	°C

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

SPECTRAL RESPONSE



ELECTRO-OPTICAL CHARACTERISTICS RATING (TA) = 23°C UNLESS OTHERWISE NOTED

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_D	Dark Current	$V_R = 5 \text{ V}$		0.9	5.0	nA
R_{SH}	Shunt Resistance	$V_R = 10 \text{ mV}$	250			$M\Omega$
C_J	Junction Capacitance	$V_R = 0 \text{ V}, f = 1 \text{ MHz}$		60		pF
C_J	Junction Capacitance	$V_R = 10 \text{ V}, f = 1 \text{ MHz}$		13		
λ_{range}	Spectral Application Range	Spot Scan	350		1100	nm
R	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		
V_{BR}	Breakdown Voltage	$I = 10 \mu\text{A}$		50		V
NEP	Noise Equivalent Power	$V_R = 0 \text{ V} @ \lambda = 950 \text{ nm}$		2.5×10^{-14}		$\text{W}/\sqrt{\text{Hz}}$
t_r	Response Time**	$RL = 50 \Omega, V_R = 0 \text{ V}$		190		nS
		$RL = 50 \Omega, V_R = 10 \text{ V}$		13		

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

Information in this technical datasheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject to change without notice.