

SD113-24-21-021

Bi-Cell Silicon Photodiode

The SD113-24-21-021 is a RED enhanced Bi-Cell silicon photodiode with a gap of 100 μ m. It is ideal for accurate nulling, centering, or measuring small positional changes packaged in a hermetic TO-5 metal package.

Applications

- Emitter Alignment
- Position Sensing
- Medical
- Industrial
- Nulling
- Centering
- Surface Profiling
- Targeting
- Guidance Systems

Features

- Low Noise
- Red Enhanced
- High Shunt Resistance
- High Responsivity
- Low Crosstalk
- Very High Accuracy
- Excellent Resolution
- Excellent Response Match

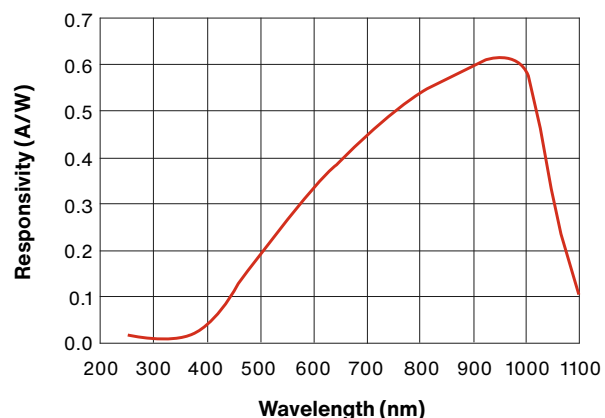
Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Reverse Voltage	V_R	-	50	V
Operating Temperature	T_{OP}	-40	+125	°C
Storage Temperature	T_{STG}	-50	+150	°C

Typical Electro-Optical Specifications at $T_A=23\text{ °C}$

Parameter	Test Conditions	Symbol	Min	typ	Max	Unit
Active Area Per Element	-	AA	-	25.4x1.22	-	mm
Gap Between Elements	-	G	-	0.100	-	mm
Dark Current	$V_R=5V$	I_D	-	0.5	5.0	nA
Shunt Resistance	$V_R=10mV$	R_{SH}	250	-	-	MΩ
Junction Capacitance	$V_R=0V$; $f=1MHz$	C_J	-	60	-	pF
	$V_R=10V$; $f=1MHz$	C_J	-	13	-	pF
Reponsivity	$\lambda=633nm$, $V_R=0V$	R	0.32	0.36	-	A/W
	$\lambda=900nm$, $V_R=0V$	R	0.50	0.55	-	A/W
Noise Equivalent Power	$V_R=0V$ @ $I=900nm$	NEP	-	2.5×10^{-14}	-	W/√Hz
Response Time	$RL=50\Omega$, $V_R=0V$	T_R	-	50	-	nS
	$RL=50\Omega$, $V_R=10V$	T_R	-	15	-	nS

Spectral Response



Mechanical Specifications

Units are in mm

