

# SD200-12-22-041

## Silicon Photodiode

The SD 445-14-21-305 is a 5.1mm diameter (20mm<sup>2</sup>) active area BLUE enhanced silicon PIN photodiode, packaged in a hermetically sealed TO-8 metal package.

### Applications

Instrumentation

Medical

Industrial

Analytical Equipment

### Features

Low Noise

Blue Enhanced

High Shunt Resistance

High Responsivity

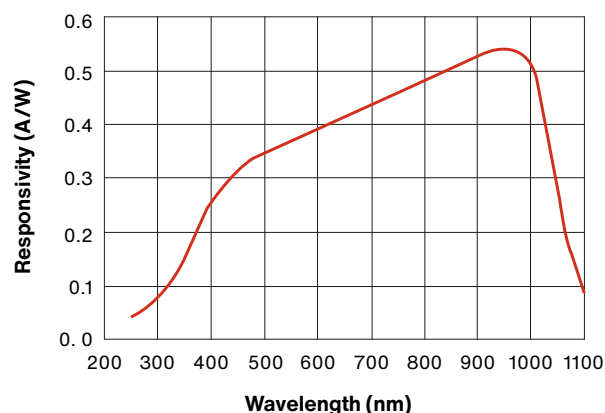
## Absolute Maximum Ratings at $T_A=23\text{ }^\circ\text{C}$

Parameter	Symbol	Min	Max	Unit
Reverse Voltage	$V_R$	-	75	V
Operating Temperature	$T_{OP}$	-40	+125	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-55	+150	$^\circ\text{C}$

## Typical Electro-Optical Specifications at $T_A=23\text{ }^\circ\text{C}$

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
Active Area	-	AA	-	20	-	$\text{mm}^2$
Dark Current	$V_R=5\text{V}$	$I_D$	-	6.5	26.0	nA
Shunt Resistance	$V_R=10\text{mV}$	$R_{SH}$	70	-	-	M $\Omega$
Junction Capacitance	$V_R=0\text{V}; f=1\text{MHz}$	$C_J$	-	-	415	pF
	$V_R=10\text{V}; f=1\text{MHz}$	$C_J$	-	75	125	pF
Spectral Application Range	Spot Scan	$\lambda$	350	-	1100	nm
Responsivity	$\lambda=450\text{nm}, V_R=0\text{V}$	R	0.20	0.28	-	A/W
Breakdown Voltage	$I=10\mu\text{A}$	$V_{BD}$	-	50	-	V
Noise Equivalent Power	$V_R=5\text{V}@\lambda=\text{Peak}$	NEP	-	$1.6 \times 10^{-13}$	-	W/ $\sqrt{\text{Hz}}$
Response Time (10% to 90%)	$RL=50\Omega, V_R=0\text{V}, \lambda=660\text{nm}$	$T_R$	-	125	-	nS
	$RL=50\Omega, V_R=5\text{V}, \lambda=660\text{nm}$	$T_R$	-	16	-	nS

## Spectral Response



## Mechanical Specifications

Units are in inches [mm]

