



SD445-14-21-305

100mm² Silicon Photodiode

The SD 445-14-21-305 is a 10mm x 10mm active area high performance, RED enhanced silicon PIN photodiode, packaged in a 2-pin leaded hermetic ceramic package.

Applications

Instrumentation

Medical

Industrial

Analytical Equipment

Features

Low Noise

Red Enhanced

High Shunt Resistance

High Responsivity

Large Active Area

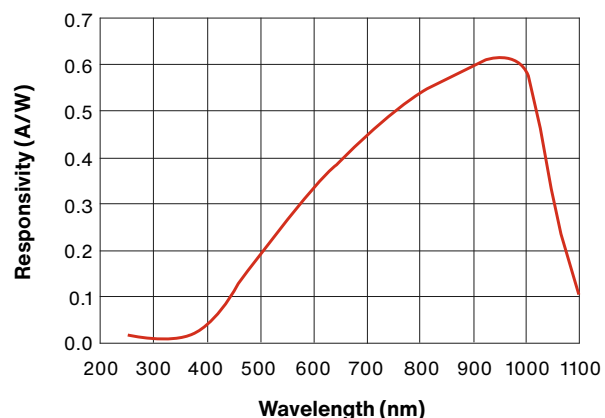
Absolute Maximum Ratings at $T_A=23\text{ }^\circ\text{C}$

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	-	100	-	mm^2
Dark Current	$V_R=5\text{V}$	I_D	-	6.0	30	nA
Shunt Resistance	$V_R=10\text{mV}$	R_{SH}	30	-	-	$\text{M}\Omega$
Junction Capacitance	$V_R=0\text{V}; f=1\text{MHz}$	C_J	-	1700	-	pF
	$V_R=5\text{V}; f=1\text{MHz}$	C_J	-	500	-	pF
Spectral Application Range	Spot Scan	λ	350	-	1100	nm
Responsivity	$\lambda=633\text{nm}, V_R=0\text{V}$	R	0.32	0.36	-	A/W
	$\lambda=900\text{nm}, V_R=0\text{V}$	R	0.50	0.55	-	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	-	1.8×10^{-13}	-	$\text{W}/\sqrt{\text{Hz}}$
Response Time (10% to 90%)	$RL=50\Omega, V_R=0\text{V}, \lambda=660\text{nm}$	T_R	-	190	-	nS
	$RL=50\Omega, V_R=10\text{V}, \lambda=660\text{nm}$	T_R	-	45	-	nS

Spectral Response



Mechanical Specifications

Units are in inches [mm]

