

### FEATURES

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

### DESCRIPTION

The **SD 445-14-21-305** is a high performance silicon PIN photodiode, red enhanced, packaged in a leaded hermetic ceramic package.

### APPLICATIONS

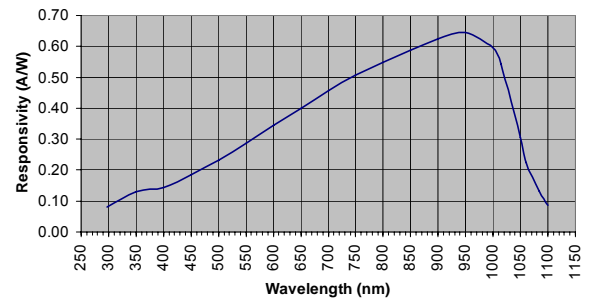
- Instrumentation
- Industrial
- Medical

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

SYMBOL	PARAMETER	MIN	MAX	UNITS
$V_{BR}$	Reverse Voltage		75	V
$T_{STG}$	Storage Temperature	-55	+150	°C
$T_O$	Operating Temperature	-20	+75	°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	$V_R = 5\text{ V}$		6.0	30	nA
$R_{SH}$	Shunt Resistance	$V_R = 10\text{ mV}$	30			$M\Omega$
$C_J$	Junction Capacitance	$V_R = 0\text{ V}, f = 1\text{ MHz}$		1700		pF
		$V_R = 5\text{ V}, f = 1\text{ MHz}$		500		
$\lambda_{range}$	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	$V_R = 5\text{ V @ } \lambda = 950\text{ nm}$		$8.6 \times 10^{-14}$		$\text{W}/\sqrt{\text{Hz}}$
$t_r$	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.