



**DESCRIPTION**

The **SD 380-23-21-251** is a red enhanced quad-cell silicon photodiode used for nulling, centering, or measuring small positional changes packaged in a TO-8 metal package.

**FEATURES**

- Low Noise
- Red Enhanced
- High Shunt Resistance
- High Response

**RELIABILITY**

Contact Luna for recommendations on specific test conditions and procedures.

**APPLICATIONS**

- Emitter Alignment
- Position Sensing
- Medical and Industrial

**ABSOLUTE MAXIMUM RATINGS**

SYMBOL	MIN	MAX	UNITS	
Reverse Voltage	-	50	V	$T_a = 23^{\circ}\text{C}$ UNLESS OTHERWISE NOTED
Storage Temperature	-55	+150	$^{\circ}\text{C}$	-
Operating Temperature	-40	to +125	$^{\circ}\text{C}$	-
Soldering Temperature*	-	+240	$^{\circ}\text{C}$	-

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

**OPTO-ELECTRICAL PARAMETERS**

T<sub>a</sub> = 23°C UNLESS NOTED OTHERWISE

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Dark Current	V <sub>R</sub> = 5 V	-	5.0	27.0	nA
Shunt Resistance	V <sub>R</sub> = 10 mV	100	-	-	MΩ
Junction Capacitance	V <sub>R</sub> = 0V; f = 1 MHz	-	375	-	pF
	V <sub>R</sub> = 5V; f = 1 MHz	-	75	-	
Spectral Application Range	Spot Scan	350	-	1100	nm
Reponsivity	λ = 633nm, V <sub>R</sub> = 0 V	.32	.36	-	A/W
	λ = 900nm, V <sub>R</sub> = 0 V	.50	.55	-	
Breakdown Voltage	I = 10 μA	-	50	-	V
Noise Equivalent Power	V <sub>R</sub> = 0V @ λ = 950nm	-	3.0x10 <sup>-14</sup>	-	W/√Hz
Response Time**	RL = 50 Ω, V <sub>R</sub> = 0 V	-	190	-	nS
	RL = 50 Ω, V <sub>R</sub> = 10 V	-	13	-	

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

**TYPICAL PERFORMANCE**

**SPECTRAL RESPONSE**

