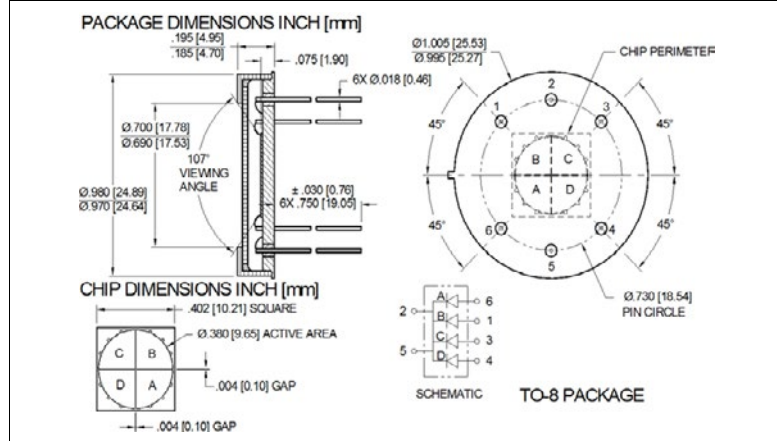
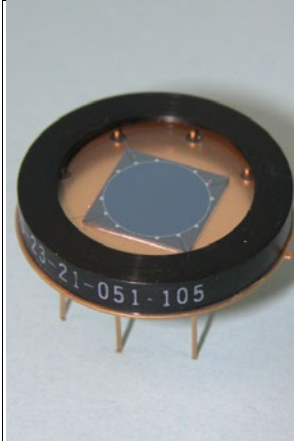


**Red Enhanced Quad Cell Silicon Photodiode**  
**SD 380-23-21-051**

**Precision – Control – Results**



**DESCRIPTION**

The **SD 380-23-21-051** 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 Optoelectronics 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.

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.

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**Red Enhanced Quad Cell Silicon Photodiode**  
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**Precision – Control – Results**

**OPTO-ELECTRICAL PARAMETERS**

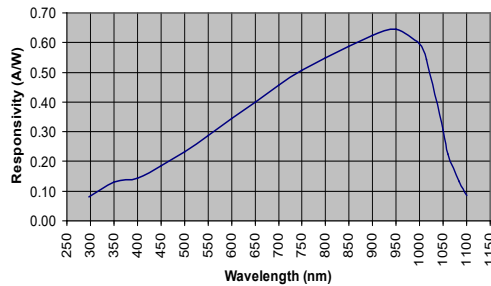
T<sub>a</sub> = 23°C UNLESS NOTED OTHERWISE

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 @ I = 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**



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