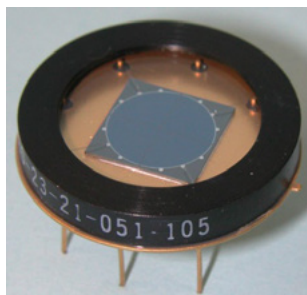




# Advanced Photonix

A Division of OSI Optoelectronics

**SD380-23-21-051**


## FEATURES

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

## DESCRIPTION

The **SD380-23-21-051** is a red enhanced quad-cell silicon photodiode used for nulling, centering, or measuring small positional changes packaged in a TO-8 metal package.

## APPLICATIONS

- Emitter Alignment
- Position Sensing
- Medical and Industrial

### > Absolute Maximum Ratings

Part No.	Wavelength Range [nm]	Reverse Voltage [V]	Operating Temperature [C]	Storage Temperature [C]	Package
SD380-23-21-051	350 to 1100	50	-40 to +125	-55 to +150	TO-8

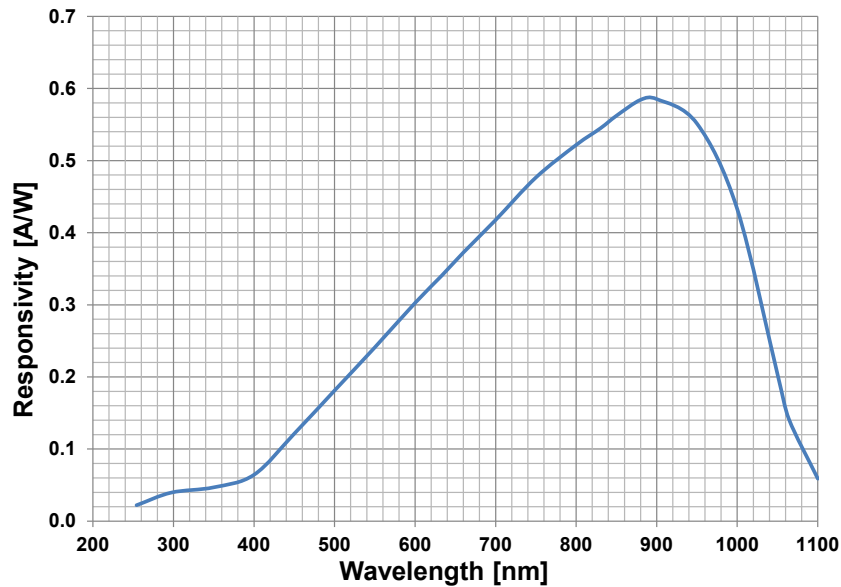
### > Electrical and Optical Characteristics

Typical Characteristics per elements (T=23°C unless specified)						
Parameter	Test Conditions	Symbol	Min	Typical	Max	Unit
Dark Current	$V_R = 5\text{ V}$	$I_D$	-	5.0	27.0	nA
Shunt Resistance	$V_R = 10\text{ mV}$	$R_{SH}$	100	-	-	MΩ
Junction Capacitance	$V_R = 0\text{ V}; f = 1\text{ MHz}$	$C_J$	-	375	-	pF
	$V_R = 5\text{ V}; f = 1\text{ MHz}$		-	75	-	
Responsivity	$\lambda = 633\text{ nm}, V_R = 0\text{ V}$	$R$	.32	.36	-	A/W
	$\lambda = 900\text{ nm}, V_R = 0\text{ V}$		.50	.55	-	
Breakdown Voltage	$I = 10\text{ }\mu\text{A}$	$V_{BD}$	-	50	-	V
Noise Equivalent Power	$V_R = 0\text{ V @ } I = 950\text{ nm}$	NEP	-	$1.5 \times 10^{-13}$	-	$\text{W}/\sqrt{\text{Hz}}$
Response Time**	$R_L = 50\text{ }\Omega, V_R = 0\text{ V}$	$t_r$	-	110	-	nS
	$R_L = 50\text{ }\Omega, V_R = 10\text{ V}$		-	12	-	

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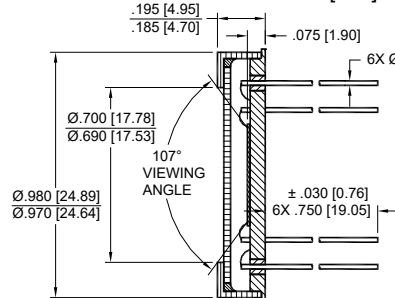
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> Typical Spectral Response

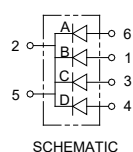
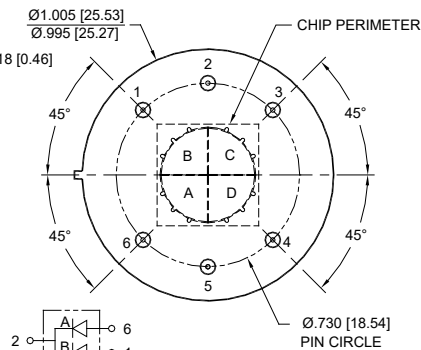
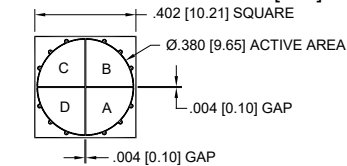


> Package Dimensions

PACKAGE DIMENSIONS INCH [mm]



CHIP DIMENSIONS INCH [mm]



TO-8 PACKAGE

> Soldering Conditions: 260°C 1/16 inch away from case for 3 seconds max.

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## MATERIALS SAFETY

*This product is free of conflict minerals and meets REACH compliance. Please see website for reports.*

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