LASER COMPONENTS®

Advanced Photonix
A Division of OSI Optoelectronics

# SD197-23-21-041

RoHS COMPLIANT


## FEATURES

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

## DESCRIPTION

The **SD 197-23-21-041** is a red enhanced quad-cell silicon photodiode used for nulling, centering, or measuring small positional changes packaged in a hermetic TO-8 metal package.

## APPLICATIONS

- Position Sensing
- Emitter Alignment
- Medical
- Industrial

> Absolute Maximum Ratings

| Part No. | Wavelength Range [nm] | Reverse Voltage [V] | Operating Temperature [C] | Storage Temperature [C] | Package |
|---|---|---|---|---|---|
| SD197-23-21-041 | 350 to 1100 | 50 | -40 to +125 | -55 to +150 | TO-8 |

> Electrical and Optical Characteristics

| **Typical Characteristics** (T=23°C unless specified) | | | | | | |
|---|---|---|---|---|---|---|
| **Parameter** | **Test Conditions** | **Symbol** | **Min** | **Typical** | **Max** | **Unit** |
| Dark Current | $V_R$=5 V | $I_D$ | - | 1.4 | 7.5 | nA |
| Shunt Resistance | $V_R$=10 mV | $R_{SH}$ | 175 | - | - | MΩ |
| Junction Capacitance | $V_R$=0V; f=1 MHz | $C_J$ | | 100 | | pF |
| | $V_R$=10V; f=1 MHz | | - | 20 | - | |
| Responsivity | λ=633nm, $V_R$=0 V | R | .32 | .36 | - | A/W |
| | λ=900nm, $V_R$=0 V | | .50 | .55 | - | |
| Breakdown Voltage | I=10 µA | VBD | - | 50 | - | V |
| Noise Equivalent Power | VR=0V @ λ=950nm | NEP | - | $9x10^{-14}$ | - | W/ $\sqrt{}$ Hz |
| Response Time | RL=50 Ω, $V_R$=0 V | TR | - | 320 | - | nS |
| | RL=50 Ω, $V_R$=10 V | | - | 10 | - | |

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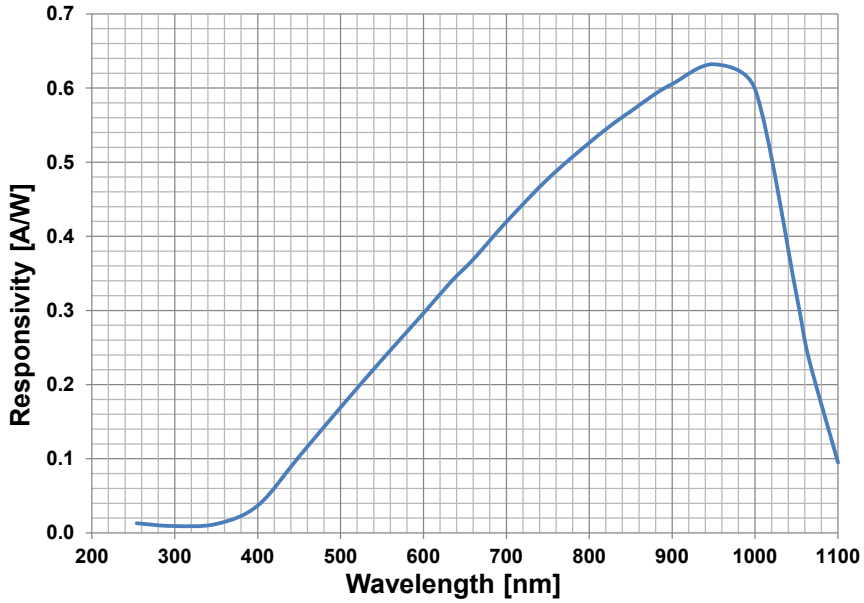
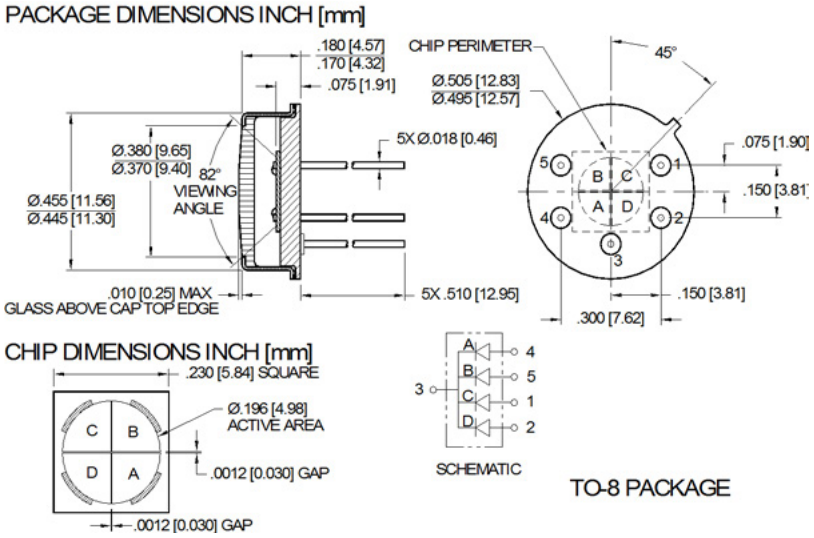
beyond borders

*SD197-23-21-041*

> Typical Spectral Response




> Package Drawing




>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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