



SD012-151-011

0.3mm Diameter Active Area InGaAs Photodiode

The SD012-151-011 is a high sensitivity, low noise, 0.3mm diameter active area InGaAs photodiode for detecting photons at SWIR, NIR wavelengths. The photodiode is assembled in a TO-46 package.

Applications

Industrial Sensing
Security and Defence
Communications
Medical

Features

Low Noise
High Sensitivity
Detection in SWIR and NIR
0.3mm Diameter

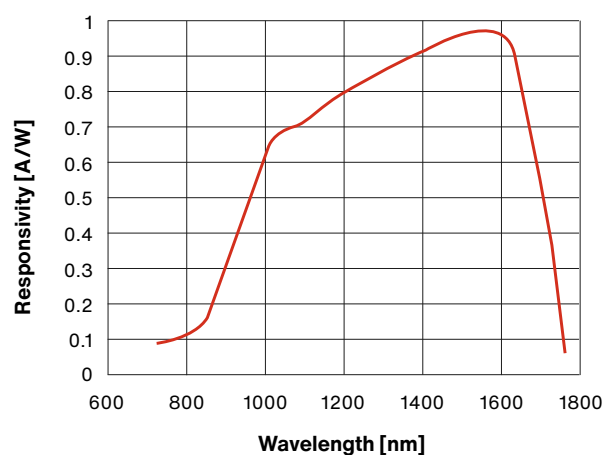
Absolute Maximum Ratings at $T_A=23\text{ }^\circ\text{C}$

| Parameter | Symbol | Min | Max | Unit |
|-----------------------|-----------|-------|------|------------------|
| Reverse Voltage | V_R | - | 20 | V |
| Operating Temperature | T_{STG} | -40 | +100 | $^\circ\text{C}$ |
| Storage Temperature | T_{STG} | -40 | +125 | $^\circ\text{C}$ |
| Package | | TO-46 | | |

Typical Electro-Optical Specifications at $T_A=23\text{ }^\circ\text{C}$

| Parameter | Test Conditions | Symbol | Min | Typ | Max | Unit |
|------------------------|--|-------------------|------|-----------------------|------|-----------------------|
| Active Area Diameter | - | A.A. _Ø | - | 0.3 | - | mm |
| Spectral range | Spot Scan | $\Delta\lambda$ | 800 | - | 1700 | nm |
| Reponsivity | $\lambda=1300\text{nm}, V_R=5\text{V}$ | R_λ | 0.90 | 0.95 | - | A/W |
| | $\lambda=1550\text{nm}, V_R=5\text{V}$ | R_λ | 0.95 | 1.0 | - | A/W |
| Capacitance | $V_R=5\text{V}; f=1\text{MHz}$ | C_J | - | 6.0 | 8.0 | pF |
| Dark Current | $V_R=5\text{V}$ | I_D | - | 0.20 | 5.0 | nA |
| Shunt Resistance | $V_R=10\text{mV}$ | R_{SH} | 40 | - | - | M Ω |
| Noise Equivalent Power | $V_R=5\text{V} @\lambda=1310\text{nm}$ | NEP | - | 400×10^{-14} | - | W/ $\sqrt{\text{Hz}}$ |
| Rise Time | $RL=50\Omega, V_R=5\text{V}$ | T_R | - | 1.2 | - | nS |

Typical Responsivity



Mechanical Specifications

Units are in inches [mm]

