

PDB-V601-1

Photovoltaic Solderable Die Silicon Photodiode

The PDB-V601-1 is a 1.9x0.56mm active area solderable die silicon photodiode designed for applications requiring a very small active area photodiode with low capacitance and very slow rise time.

Order PDB-V601-2 for solderable die with two 32mm flying leads for anode and cathode.
Order PDB-V601-3 for solderable die with 25mm long buss wire.

Applications

Optical Encoder

Position Sensor

Industrial Controls

Instrumentation

Features

High Responsivity

Very Low Dark Current

1.1mm² Active Area

Absolute Maximum Ratings

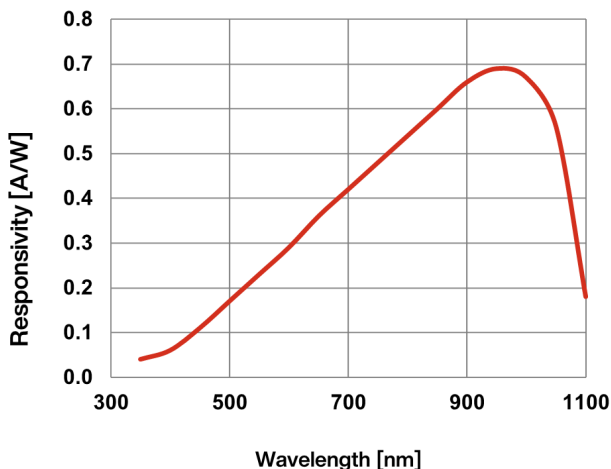
| Parameter | Symbol | Min | Max | Unit |
|-----------------------|-----------|-----|------|------|
| Reverse Voltage | V_R | - | 25 | V |
| Operating Temperature | T_{OP} | -40 | +100 | °C |
| Storage Temperature | T_{STG} | -40 | +125 | °C |
| Package | Bare Die | | | |

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

| Parameter | Test Conditions | Symbol | Min | Typ | Max | Unit |
|------------------------|----------------------------|-------------------|------|---------------------|------|-----------------|
| Active Area | - | A.A. | - | 1.1 | - | mm ² |
| Active Area Dimensions | - | A.A. _D | - | 1.9x0.56 | - | mm |
| Spectral Range | - | - | 350 | - | 1100 | nm |
| Short Circuit Current | H=100fc, 2850K | I_{sc} | 10 | 13 | - | μA |
| Breakdown Voltage | I=10μA | V_{BD} | 5 | 15 | - | V |
| Responsivity | λ =Peak, $V_R=0V$ | R_λ | 0.55 | 0.69 | - | A/W |
| Capacitance | $V_R=5V$; f=1MHz | C_J | - | 250 | - | pF |
| Dark Current | $V_R=5V$ | I_D | - | 3 | 7 | nA |
| Shunt Resistance | $V_R=10mV$ | R_{SH} | 100 | 250 | - | MΩ |
| Noise Equivalent Power | $V_R=0V$ @ λ =Peak | NEP | - | 2×10^{-14} | - | W/√Hz |
| Rise Time* | $R_L=1K\Omega$, $V_R=50V$ | T_R | - | 300 | - | ns |

*Rise time of 10% to 90% is specified at 660nm wavelength light

Typical Spectral Response



Mechanical Specifications

Units are in inches [mm]

