## ヨVヨRLCMI

## DATASHEET

## 5mm photodiode <br> PD333-3B /L2

## Features

- Fast response time
- High photo sensitivity
- Small junction capacitance
- Pb free
- The product itself will remain within RoHS compliant version
- Compliance with EU REACH


## Description

- PD333-3B /L2 is a high speed and high sensitive PIN photodiode in a standard $5 \Phi$ plastic package. Due to its black epoxy the device is sensitive to infrared radiation


## Applications

- High speed photo detector
- Security system
- Camera


## EVERLICHI

## Device Selection Guide

| Chip <br> Materials | Lens Color |
| :--- | :--- |
| Silicon | Black |

## Absolute Maximum Ratings ( $\mathrm{Ta}=\mathbf{2 5}^{\circ} \mathrm{C}$ )

| Parameter | Symbol | Rating | Unit |
| :--- | :--- | :--- | :--- |
| Reverse Voltage | $\mathrm{V}_{\mathrm{R}}$ | 32 | V |
| Operating Temperature | $\mathrm{T}_{\text {opr }}$ | $-25 \sim+85$ | ${ }^{\circ} \mathrm{C}$ |
| Storage Temperature | $\mathrm{T}_{\text {stg }}$ | $-40 \sim+100$ | ${ }^{\circ} \mathrm{C}$ |
| Soldering Temperature | $\mathrm{T}_{\text {sol }}$ | ${ }^{\circ} \mathrm{C}$ |  |
| Power Dissipation at <br> (or below) <br> $25^{\circ} \mathrm{C}$ Free Air Temperature | $\mathrm{P}_{\mathrm{C}}$ | 150 | mW |

## Electro-Optical Characteristics $\left(\mathbf{T a}=\mathbf{2 5}^{\circ} \mathrm{C}\right)$

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Condition |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Range Of Spectral Bandwidth | $\lambda_{0.5}$ | 840 | --- | 1100 | nm | ----- |
| Wavelength Of Peak Sensitivity | $\lambda_{P}$ | ----- | 940 | ----- | nm | ----- |
| Open-Circuit Voltage | $\mathrm{V}_{\mathrm{OC}}$ | ----- | 0.39 | ----- | V | $\begin{aligned} & \mathrm{Ee}=1 \mathrm{~mW} / \mathrm{cm}^{2} \\ & \lambda \mathrm{p}=940 \mathrm{~nm} \end{aligned}$ |
| Short- Circuit Current | $I_{S C}$ | ----- | 35 | ----- | $\mu \mathrm{A}$ | $\begin{aligned} & \mathrm{Ee}=1 \mathrm{~mW} / \mathrm{cm}^{2} \\ & \lambda \mathrm{p}=940 \mathrm{~nm} \end{aligned}$ |
| Reverse Light Current | $\mathrm{I}_{\mathrm{L}}$ | 25 | 35 | ----- | $\mu \mathrm{A}$ | $\begin{aligned} & \mathrm{Ee}=1 \mathrm{~mW} / \mathrm{cm}^{2} \\ & \lambda \mathrm{p}=940 \mathrm{~nm} \\ & \mathrm{~V}_{\mathrm{R}}=5 \mathrm{~V} \end{aligned}$ |
| Reverse Dark Current | $\mathrm{I}_{\mathrm{D}}$ | ---- | 5 | 30 | nA | $\begin{aligned} & \mathrm{Ee}=0 \mathrm{~mW} / \mathrm{cm}^{2} \\ & \mathrm{~V}_{\mathrm{R}}=10 \mathrm{~V} \end{aligned}$ |
| Reverse Breakdown Voltage | $V_{B R}$ | 32 | 170 | ----- | V | $\begin{aligned} & \mathrm{Ee}=0 \mathrm{~mW} / \mathrm{cm}^{2} \\ & \mathrm{I}_{\mathrm{R}}=100 \mu \mathrm{~A} \end{aligned}$ |
| Total Capacitance | $\mathrm{C}_{\mathrm{t}}$ | -- | 18 | ----- | pF | $\begin{aligned} & \mathrm{Ee}=0 \mathrm{~mW} / \mathrm{cm}^{2} \\ & \mathrm{~V}_{\mathrm{R}}=5 \mathrm{~V} \\ & \mathrm{f}=1 \mathrm{MHz} \end{aligned}$ |
| Rise Time/ Fall Time | $t_{r} / t_{f}$ | --- | 45 | --- | ns | $\begin{aligned} & V_{R}=10 \mathrm{~V} \\ & R_{L}=100 \Omega \end{aligned}$ |

## Note:

Tolerance of Luminous Intensity: $\pm 10 \%$
Tolerance of Dominant Wavelength: $\pm 1 \mathrm{~nm}$
Tolerance of Forward Voltage: $\pm 0.1 \mathrm{~V}$

## Typical Electro-Optical Characteristics Curves





## Package Dimension



Note: Tolerances unless dimensions $\pm 0.25 \mathrm{~mm}$

Packing Quantity Specification<br>1.200~500PCS/1Bag, 5Bags/1Box<br>2.10Boxes/1Carton

## Label Form Specification

## RoHS (Pb)EVERLIEATT

CPN: xxxxxxxxxxxxxxxxxxxx
||||||||||||||||||||||||||||||||||||||||||||||||
 $\mathrm{P} / \mathrm{N}: \mathrm{XXXXXXXXXX}$
|||||||||||||||||||||||||||
 LOT NO:Y150716XXX-XXXXXXXXXX-XXXXXXXX


QTY: 0123456789 HUE: XXXXXXXXXX
|||||||||||||||||||
CAT: XXXXXXXXXX
||||||||||||||||||||||

REF: XXXXXXXXXX
||||||||||||||||||||||||

MADE IN XXXXXX

- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number
- X: Month
- Reference: Identify Label Number


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