



**THE DATASHEET OF  
PD204-6B**



### 3mm Photodiode PD204-6B

#### Features

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



#### Description

PD204-6B is a high speed and high sensitive PIN photodiode in a standard 3Φ plastic package. The device is Spectrally matched to visible and infrared emitting diode.

#### Applications

- Automatic door sensor
- Copier
- Game machine

## Device Selection Guide

Chip Materials	Lens Color
Silicon	Black

## Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Reverse Voltage	$V_R$	32	V
Operating Temperature	$T_{opr}$	-40 ~ +85	°C
Storage Temperature	$T_{stg}$	-40 ~ +100	°C
Soldering Temperature	$T_{sol}$	260	°C
Power Dissipation at (or below) 25°C Free Air Temperature	$P_c$	150	mW

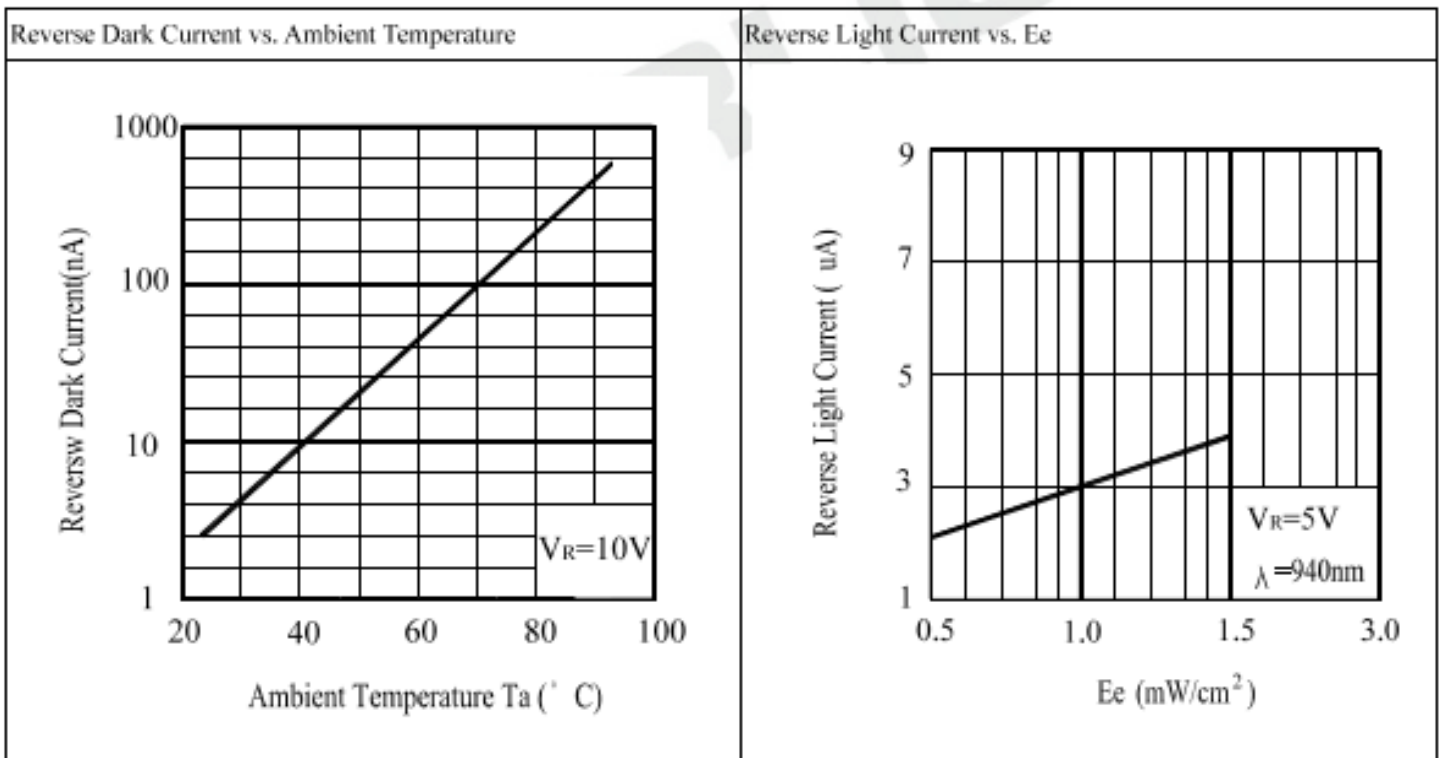
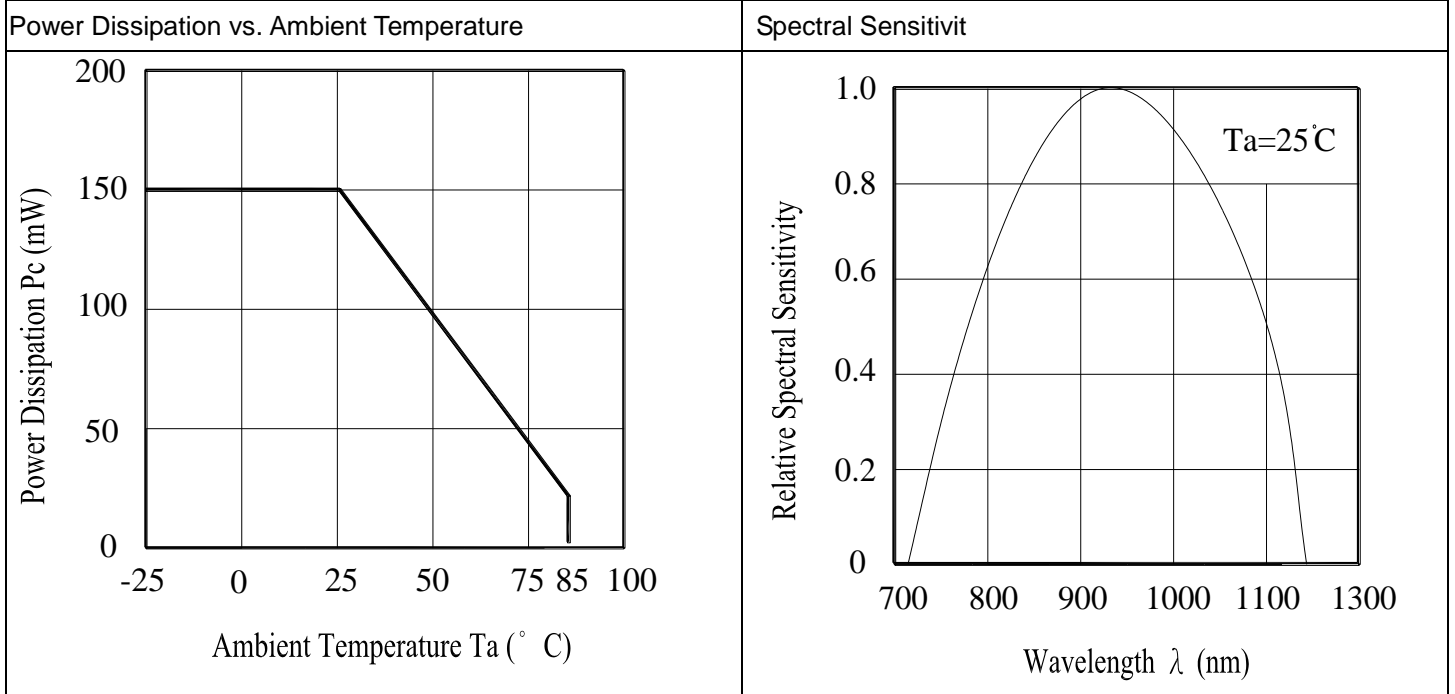
### Electro-Optical Characteristics (Ta=25°C)

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	$V_{OC}$	-----	0.42	-----	V	$E_e=1\text{mW/cm}^2$ $\lambda_p=940\text{nm}$
Short- Circuit Current	$I_{SC}$	-----	3.0	-----	$\mu\text{A}$	$E_e=1\text{mW/cm}^2$ $\lambda_p=940\text{nm}$
Reverse Light Current	$I_L$	1.0	3.0	----	$\mu\text{A}$	$E_e=1\text{mW/cm}^2$ $\lambda_p=940\text{nm}$ $V_R=5\text{V}$
Reverse Dark Current	$I_D$	----	----	10	nA	$E_e=0\text{mW/cm}^2$ $V_R=10\text{V}$
Reverse Breakdown Voltage	$V_{BR}$	32	170	----	$\mu\text{A}$	$E_e=0\text{mW/cm}^2$ $I_R=100\mu\text{A}$
Total Capacitance	$C_t$	-----	5	-----	pF	$E_e=0\text{mW/cm}^2$ $V_R=5\text{V}$ $f=1\text{MHz}$
Rise Time/ Fall Time	$t_r/ t_f$	-----	6	-----	ns	$V_R=10\text{V}$ $R_L=100\Omega$

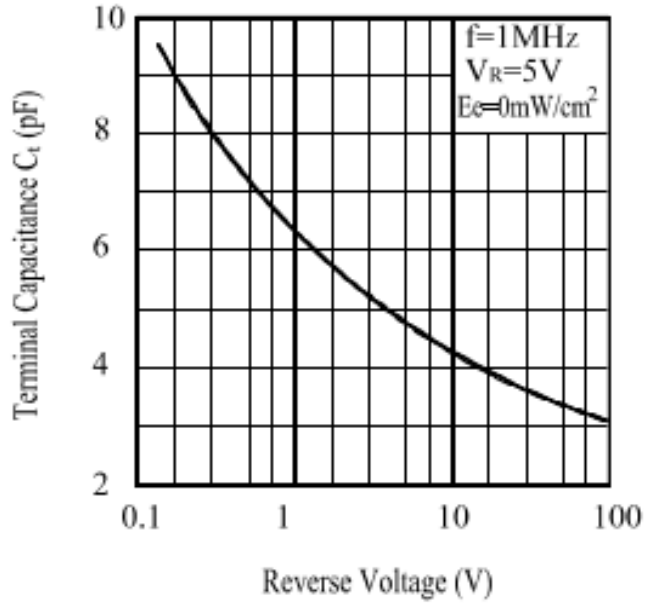
Note:

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

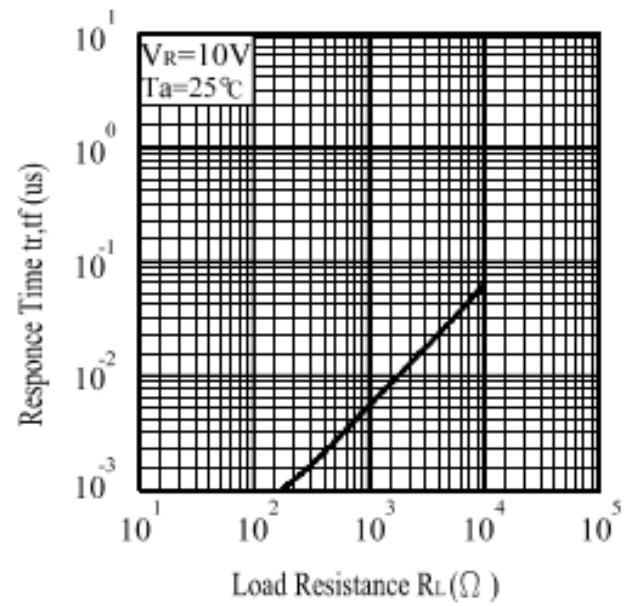
Typical Electro-Optical Characteristics Curves



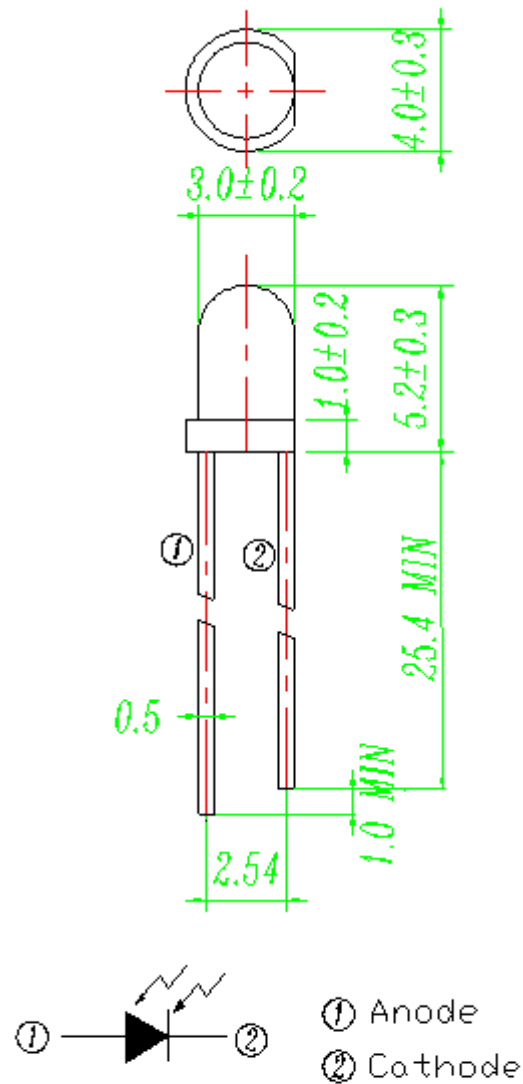
Terminal Capacitance vs. Reverse Voltage



Response Time vs. Load Resistance



## Package Dimension



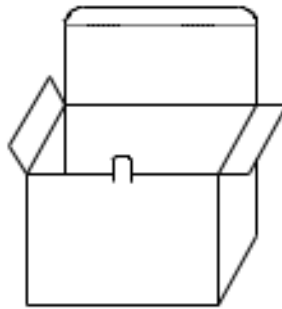
Note: Tolerances unless dimensions  $\pm 0.25$ mm

**Packing Quantity Specification**

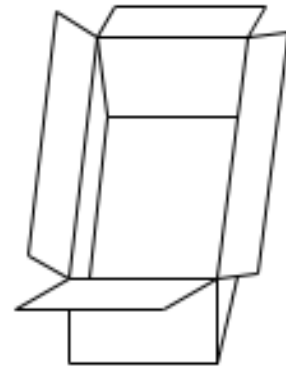
■ Anti-electrostatic bag



■ Inner Carton



■ Outside Carton



1. 200~1000PCS/1Bag,4Bags/1 Inner Carton
2. 1 Inner Cartons /1 Outside Carton

**Label Form Specification**





- 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

## **DISCLAIMER**

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