

### 4.8mm Semi-Lens Silicon PIN Photodiode PD438B

#### Features

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

#### Description

- PD438B is a high speed and sensitive PIN photodiode in a cylindrical side view plastic package. The epoxy package itself is an IR filter , spectrally matched to IR emitter.

#### Applications

- High speed photo detector
- Camera
- Optoelectronic switch
- VCRs , Video camera

Device Selection Guide

Chip Materials	Lens Color
Silicon	Black

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V <sub>R</sub>	32	mA
Power Dissipation	P <sub>d</sub>	150	mW
Operating Temperature	T <sub>opr</sub>	-40 ~ +85	℃
Storage Temperature	T <sub>stg</sub>	-40 ~ +100	℃
Soldering Temperature(*1)	T <sub>sol</sub>	260	℃

**Notes:** \*1: Soldering time ≤ 5 seconds.

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Rang of Spectral Bandwidth	$\lambda_{0.5}$	400	-----	1100	nm	-----
Wavelength of Peak Sensitivity	$\lambda_p$	-----	940	-----	nm	-----
Open-Circuit Voltage	VOC	-----	0.35	-----	V	Ee=5m W/cm2 $\lambda_p=940\text{nm}$
Short- Circuit Current	ISC	-----	18	-----	$\mu\text{A}$	Ee=1m W/cm2 $\lambda_p=940\text{nm}$
Reverse Light Current	$I_L$	10.2	18	-----	$\mu\text{A}$	Ee=1m W/cm2 $\lambda_p=940\text{nm}$ VR=5V
Dark Current	$I_d$	----	5	30	nA	Ee=0m W/cm2 VR=10V
Reverse Breakdown	BVR	32	170	-----	V	Ee=0m W/cm2 IR=100 $\mu\text{A}$
Total Capacitance	Ct	----	25	----	pF	Ee=0m W/cm2 VR=3V f=1MHZ
Rise/Fall Time	tr/tf	----	50/50	----	nS	VR=10V RL=1K $\Omega$

Note:

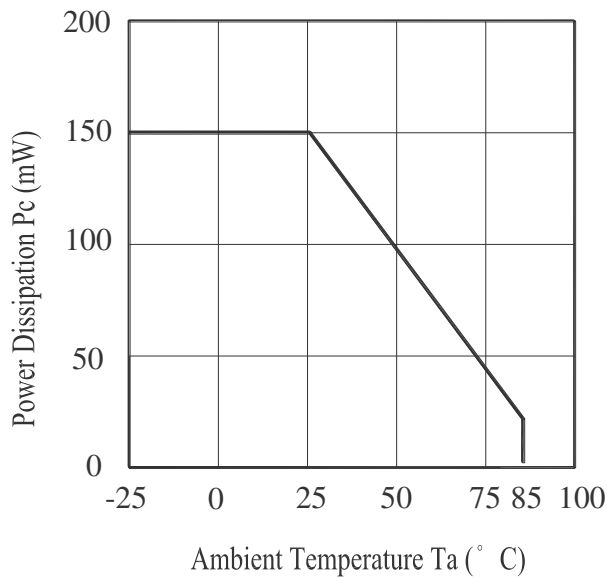
Tolerance of Luminous Intensity:  $\pm 10\%$

Tolerance of Dominant Wavelength:  $\pm 1\text{nm}$

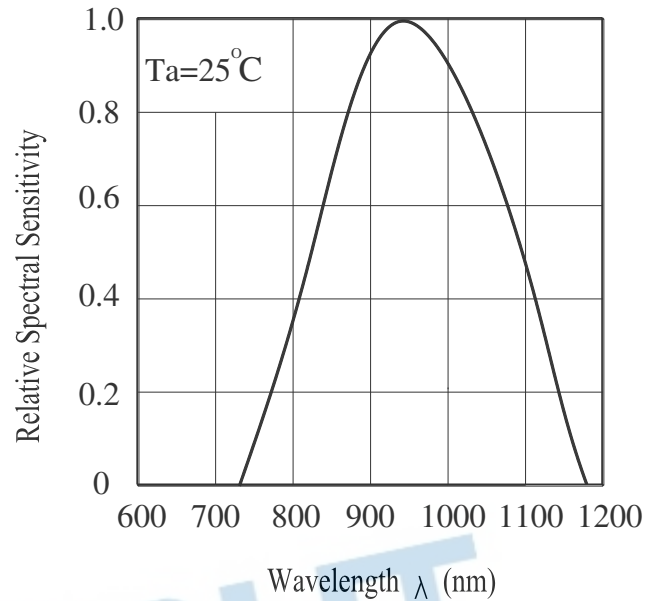
Tolerance of Forward Voltage:  $\pm 0.1\text{V}$

## Typical Electro-Optical Characteristics Curves

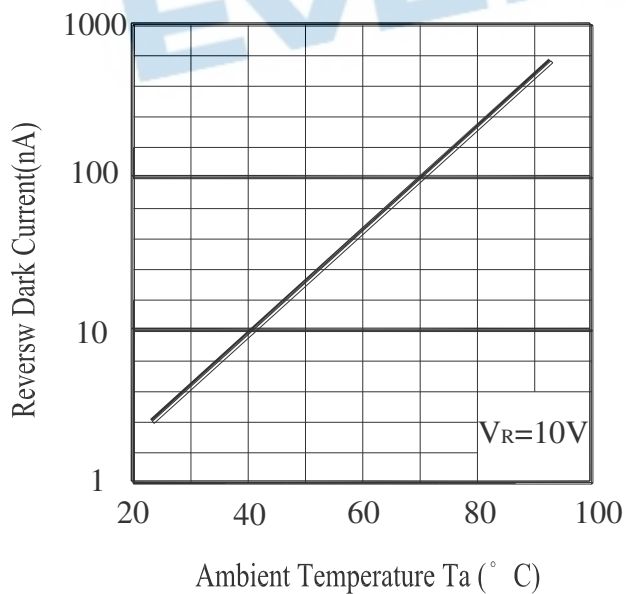
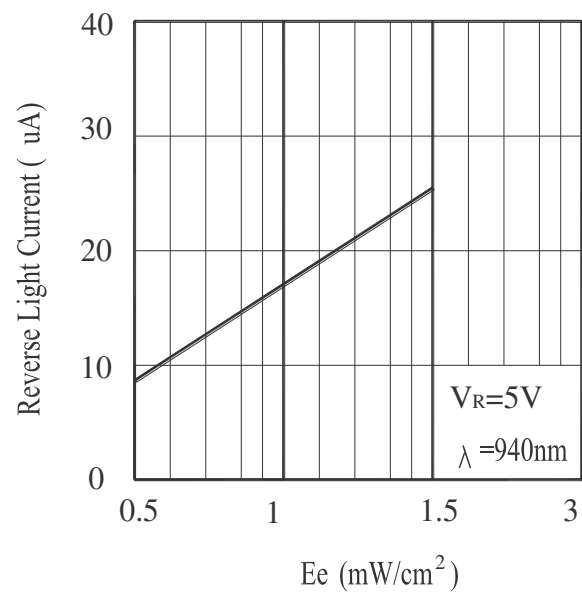
Power Dissipation vs. Ambient Temperature

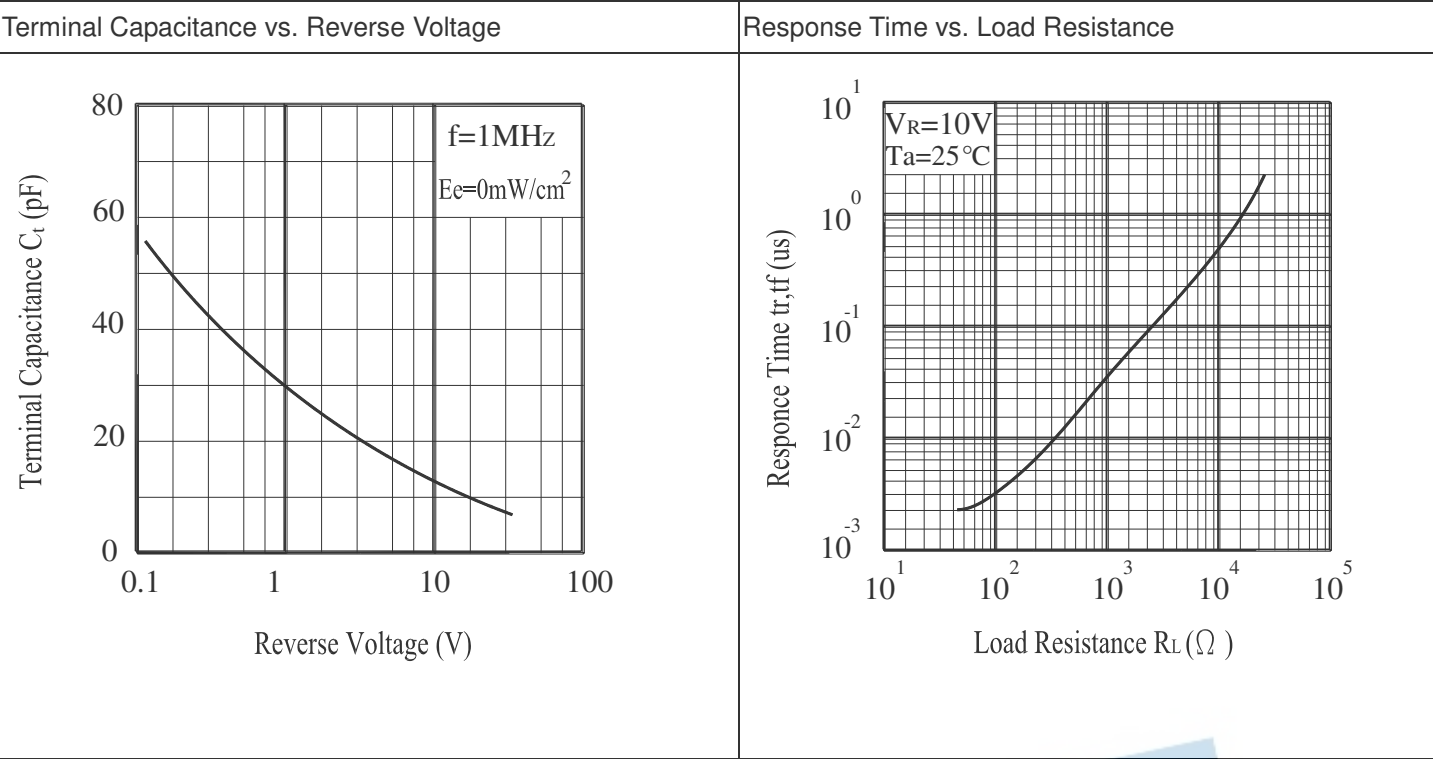


Spectral Sensitivity



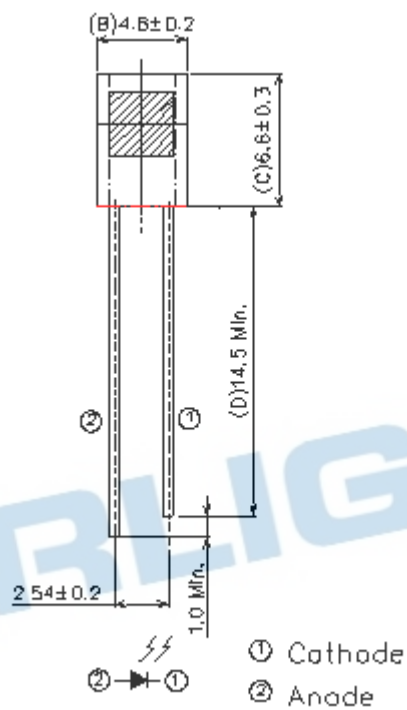
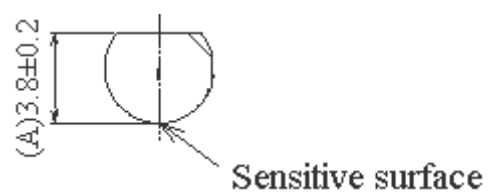
Dark Current vs. Ambient Temperature

Reverse Light Current vs.  $E_e$ 



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## Package Dimension



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

## Packing Specification

### ■ Packing Quantity

1. 500 PCS/1 Bag, 6Bags/1 Inner Carton
2. 10Inner Cartons/1 Outside Carton

## Label Form Specification

RoHS		<b>EVERLIGHT</b>	5
CPN: XXXXXXXXXXXXXXXXXXXX			
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX			
P/N: XXXXXXXXXXXX			
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX			
LOT NO: Y150716XXX-XXXXXXXXXX-XXXXXXXXXX			
QTY: 0123456789 HUE: XXXXXXXXXXXX			
CAT: XXXXXXXXXXXX REF: XXXXXXXXXXXX			
REFERENCE: BTPYYMMDDXXXXX			
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
- Reference: Identify Label Number

### Notes:

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