

## 2.75 ×5.25mm Silicon PIN Photodiode PD638B

### 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

- PD638B is a high speed and sensitive PIN photodiode in a flat 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
GaAlAs	Black

### Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Reverse Voltage	$V_R$	32	mA
Power Dissipation	$P_d$	150	mW
Operating Temperature	$T_{opr}$	-40 ~ +85	°C
Storage Temperature	$T_{stg}$	-40 ~ +100	°C
Soldering Temperature(*1)	$T_{sol}$	260	°C

**Notes:** \*1: Soldering time  $\leq$  5 seconds.

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Rang of Spectral Bandwidth	$\lambda 0.5$	840	-----	1100	nm	-----
Wavelength of Peak Sensitivity	$\lambda p$	-----	940	-----	nm	-----
Open-Circuit Voltage	VOC	-----	0.35	-----	V	Ee=5m W/cm2 $\lambda p=940nm$
Short- Circuit Current	ISC	-----	18	-----	uA	Ee=1m W/cm2 $\lambda p=940nm$
Reverse Light Current	IL	10.2	18	-----	uA	Ee=1m W/cm2 $\lambda p=940nm$ VR=5V
Dark Current	Id	----	5	30	nA	Ee=0m W/cm2 VR=10V
Reverse Breakdown	BVR	32	170	-----	V	Ee=0m W/cm2 IR=100uA
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:  $\pm 10\%$

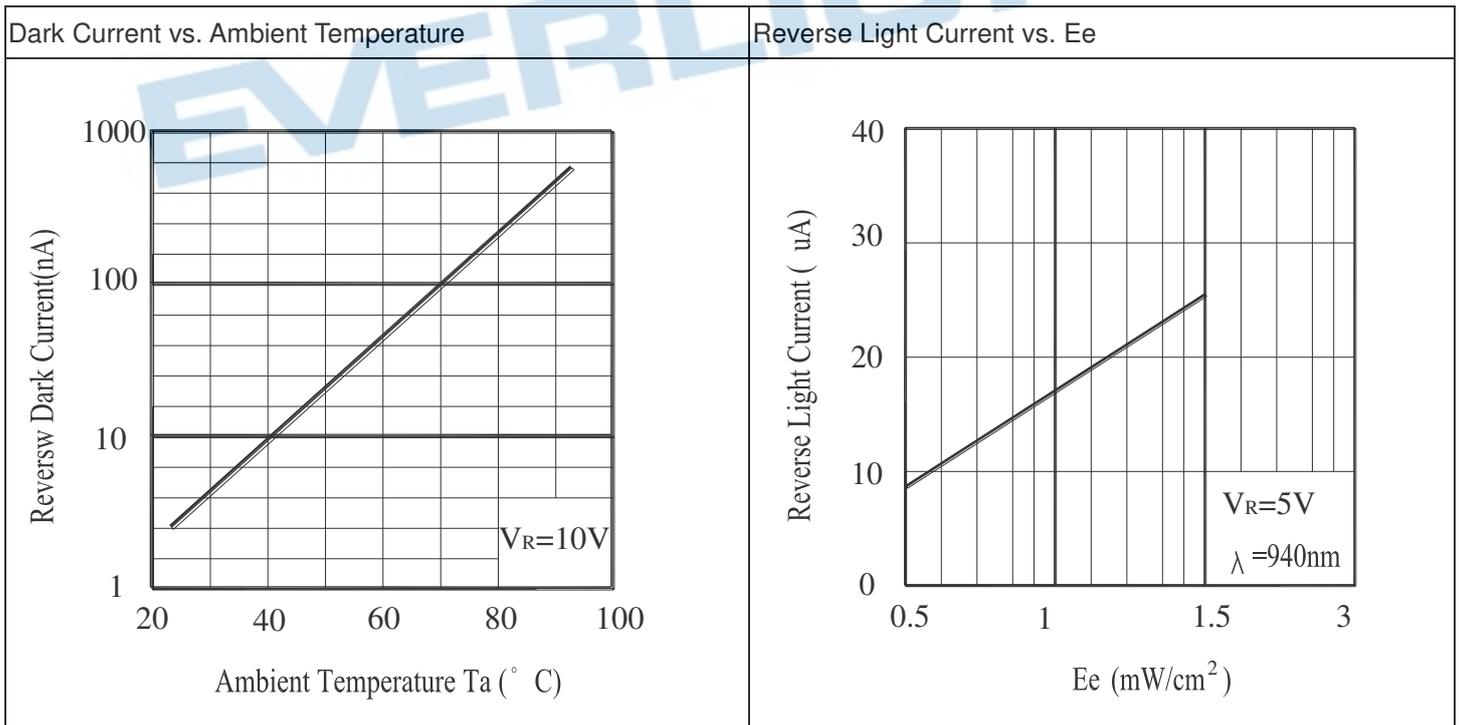
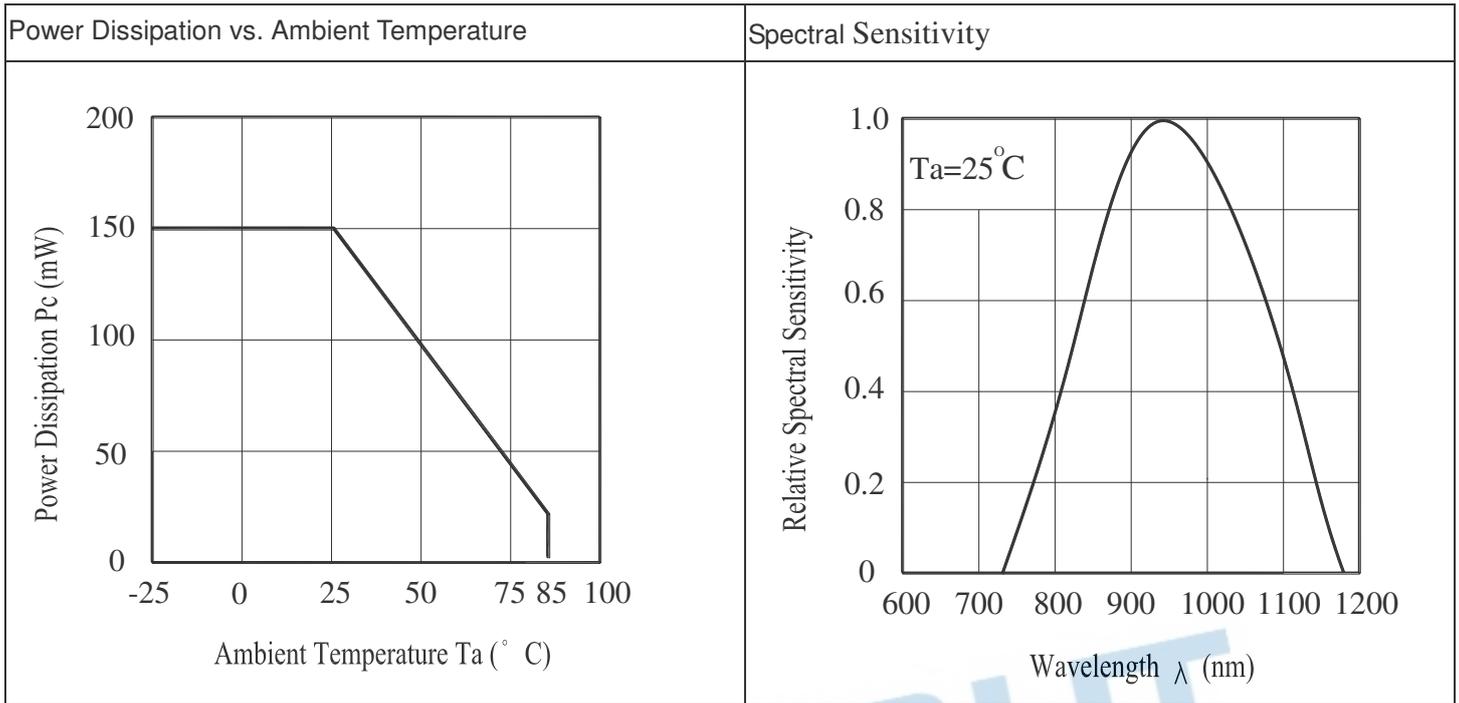
Tolerance of Dominant Wavelength:  $\pm 1nm$

Tolerance of Forward Voltage:  $\pm 0.1V$

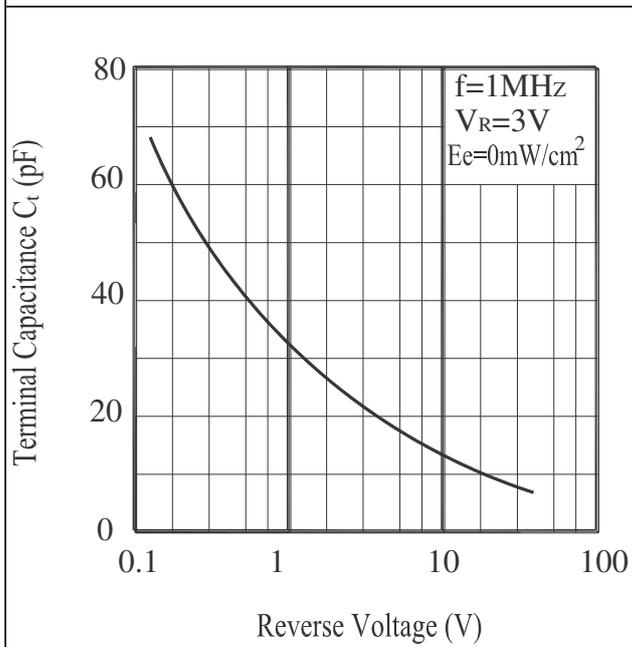
## Rank

Parameter	Symbol	Min	Max	Unit	Test Condition
BIN1	IL	10.2	16.5	uA	Ee=1m W/cm2 $\lambda p=940nm$ VR=5V
BIN2		13.5	22.0		
BIN3		18.0	27.5		
BIN4		22.5	33.0		

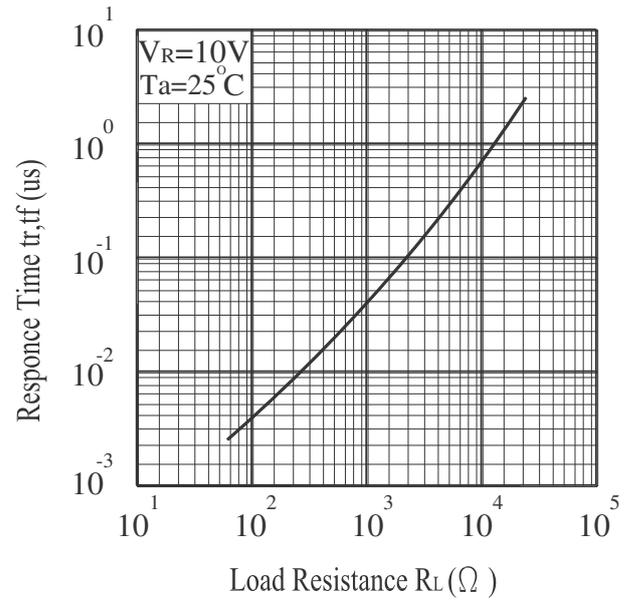
## Typical Electro-Optical Characteristics Curves



Terminal Capacitance vs. Reverse Voltage

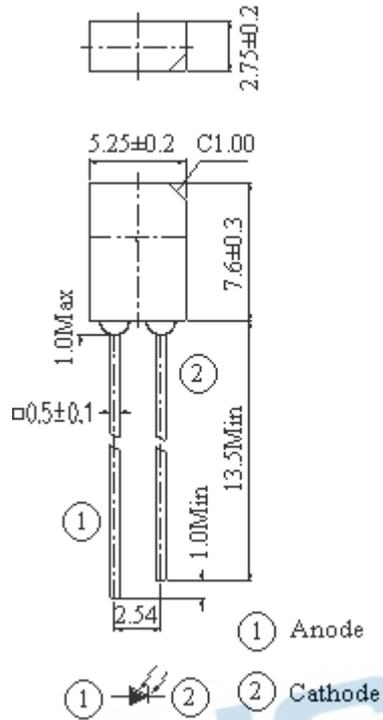


Response Time vs. Load Resistance

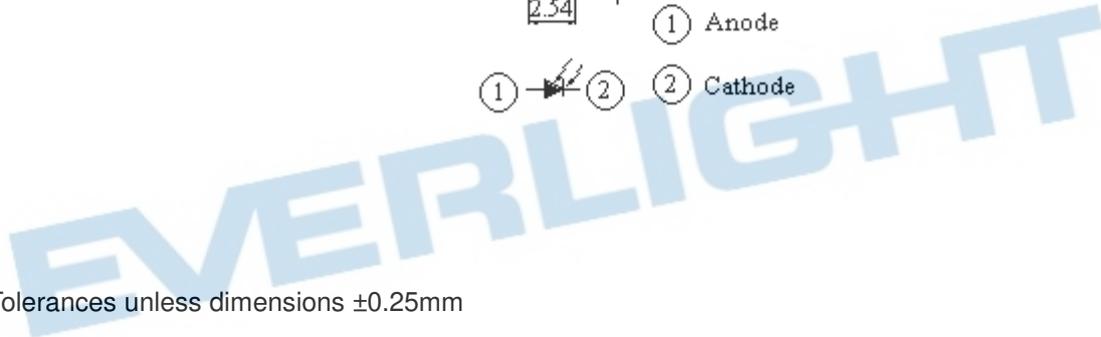


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### Package Dimension



Note: Tolerances unless dimensions  $\pm 0.25$ 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-XXXXXXXX-XXXXXX			
P/N : XXXXXXXXXXXX			
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXX-XXXXXX			
LOT NO : Y150716XXX-XXXXXXXXXX-XXXXXXXXXX			
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXX-XXXXXX			
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
- X: Month
- Reference: Identify Label Number

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