

### 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
- Compliance Halogen Free. (Br<900ppm, Cl<900ppm, Br+Cl<1500ppm)

#### 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
Silicon	Black

## Absolute Maximum Ratings (Ta=25°C)

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

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

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## 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	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=100μA
Total Capacitance	Ct	----	25	----	pF	Ee=0m W/cm2 VR=3V f=1MHZ
Rise/Fall Time	tr/tf	----	50/50	----	nS	VR=10V RL=1KΩ

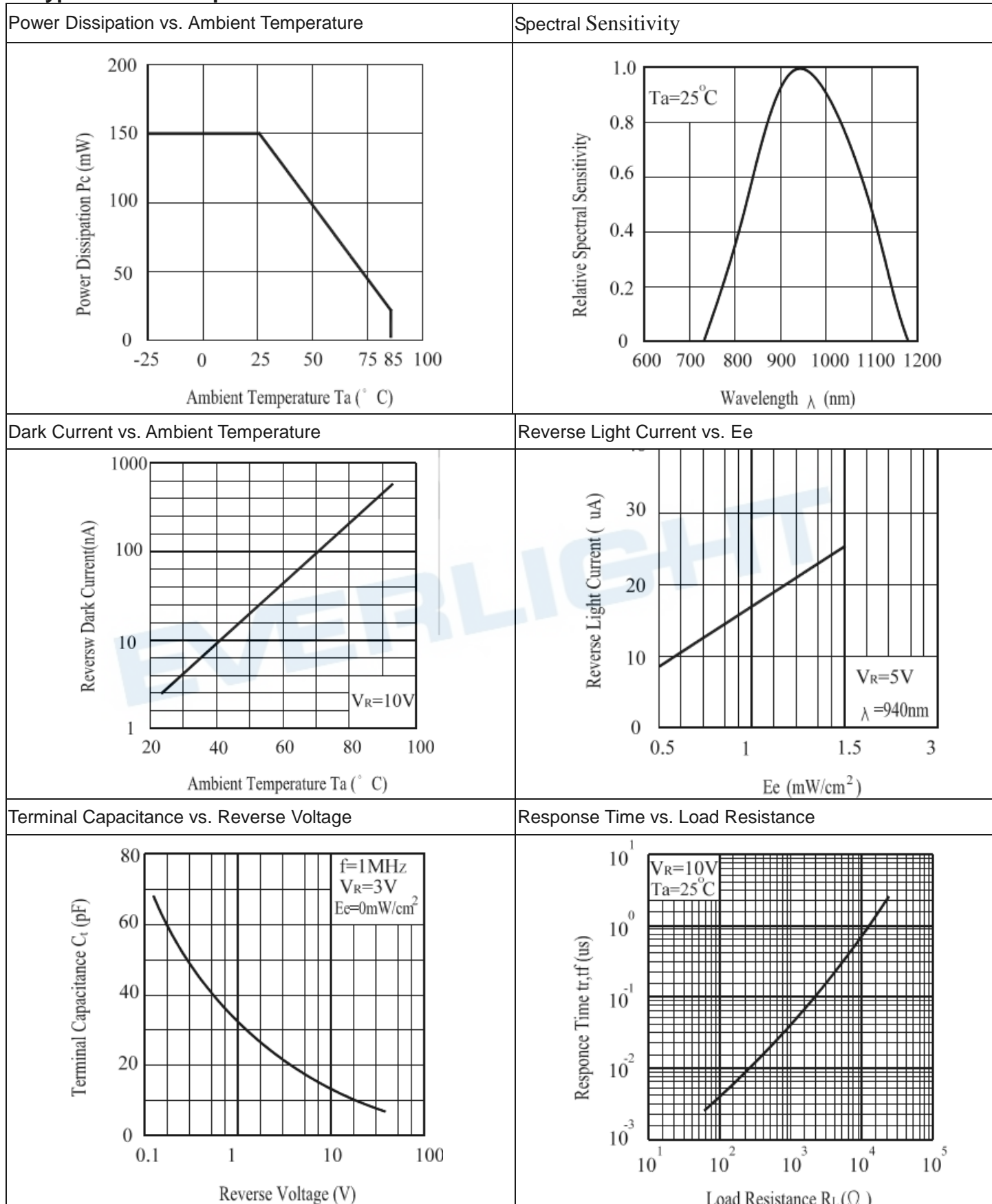
### Note:

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

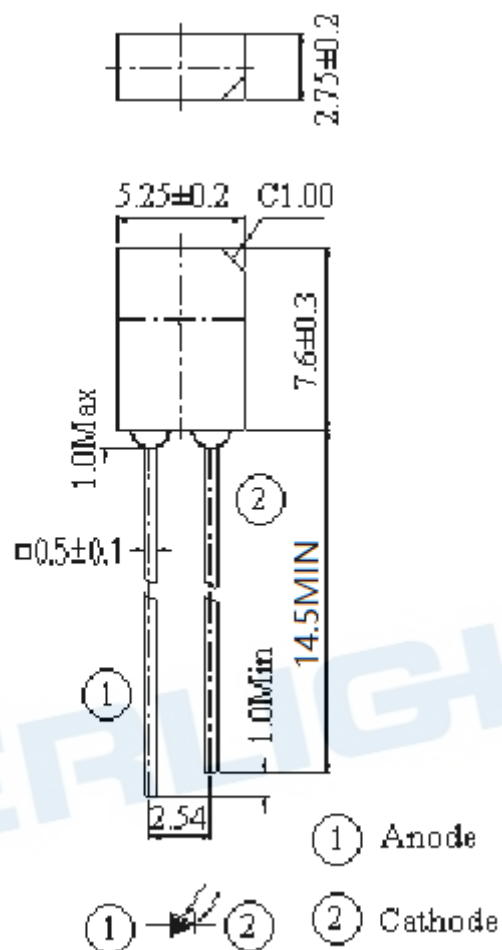
## Rank

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



## Package Dimension



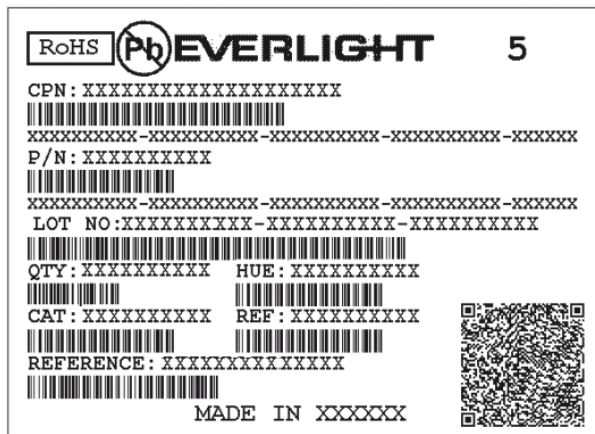
Note: Tolerances unless dimensions  $\pm 0.25$ mm  
Note: Remark yellow line at back side

## Packing Specification

### ■ Packing Quantity

1. 1000 PCS/1 Bag, 4 ags/1 Inner Carton
2. 10Inner 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

1. EVERLIGHT reserves the right(s) on the adjustment of product material mix for the specification.
2. The product meets EVERLIGHT published specification for a period of twelve (12) months from date of shipment.
3. The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
4. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT assumes no responsibility for any damage resulting from the use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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