

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.

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

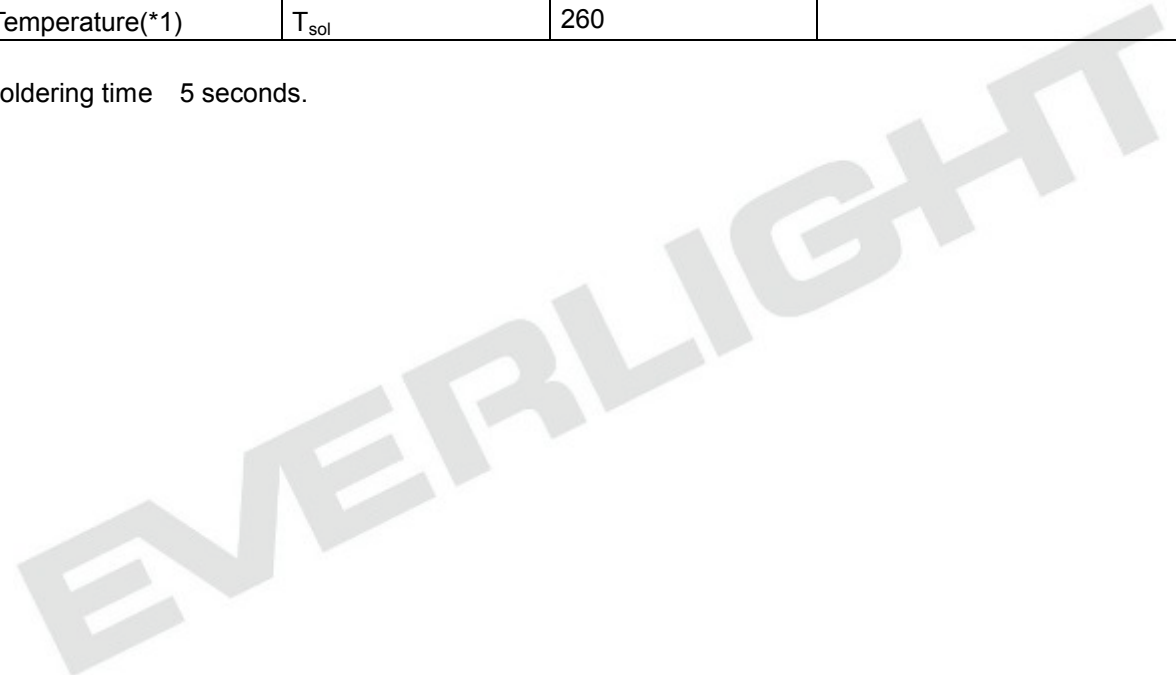
Chip Materials	Lens Color
GaAIAs	Black

Absolute Maximum Ratings (Ta=25)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V _R	32	mA
Power Dissipation	P _d	150	mW
Operating Temperature	T _{opr}	-40 ~ +85	
Storage Temperature	T _{stg}	-40 ~ +100	
Soldering Temperature(*1)	T _{sol}	260	

Notes: *1: Soldering time 5 seconds.

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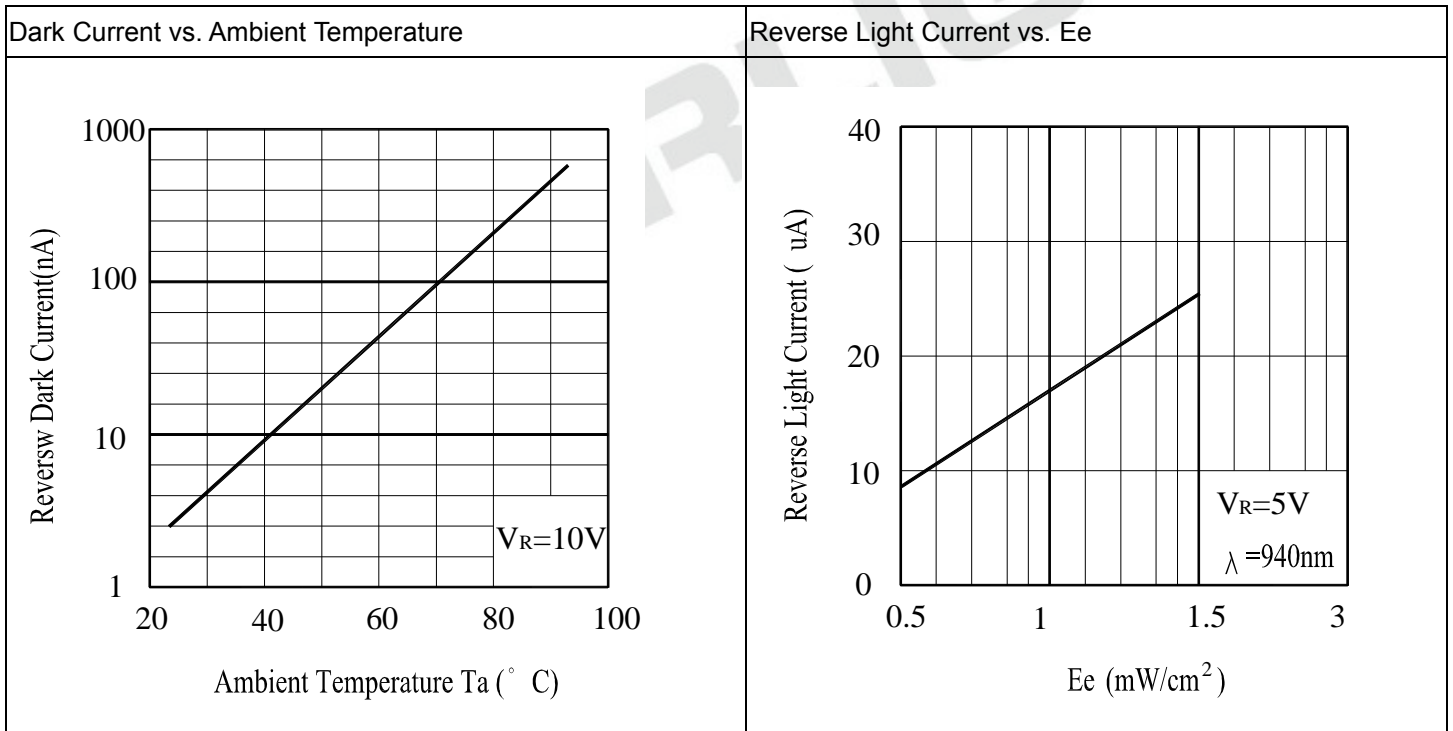
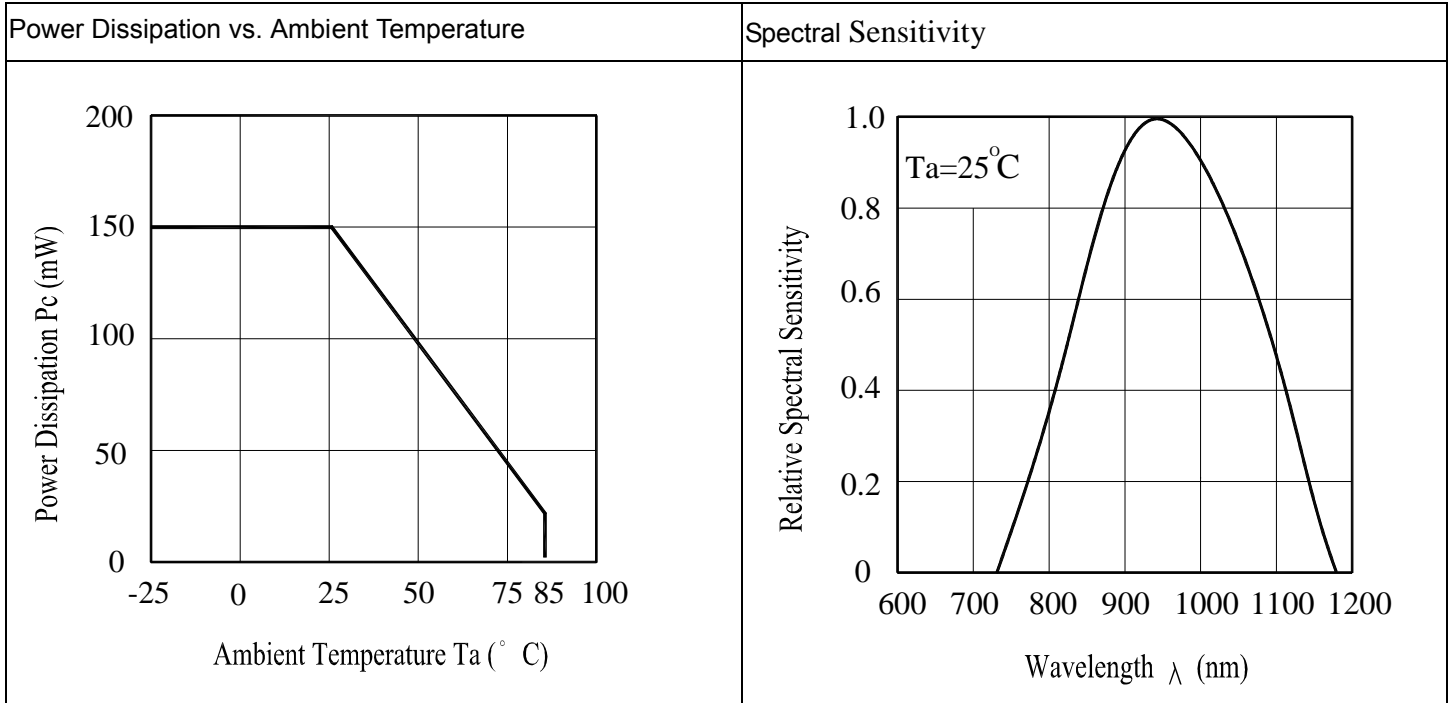
Electro-Optical Characteristics (Ta=25)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Rang of Spectral Bandwidth	$\lambda 0.5$	840	-----	1100	nm	-----
Wavelength of Peak Sensitivity	λp	-----	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=100 μ 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 Ω

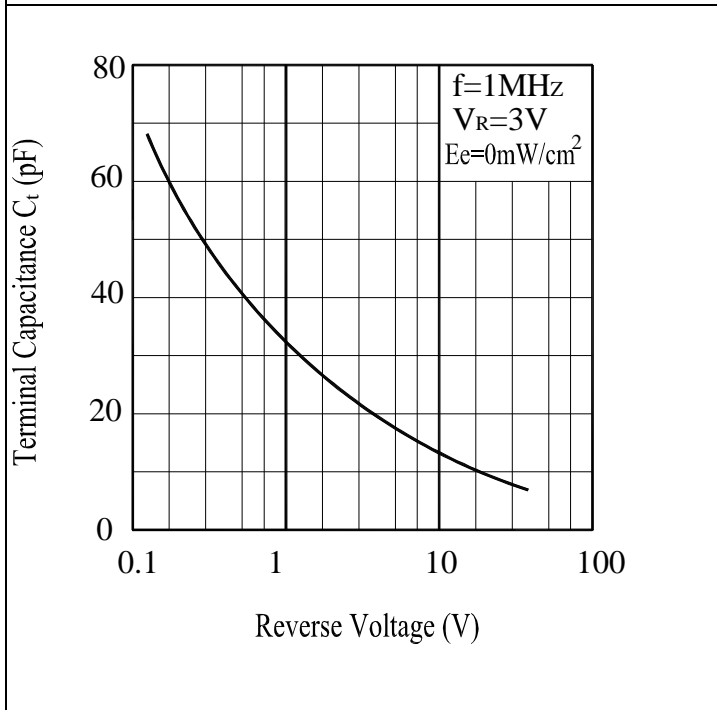
Rank

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		

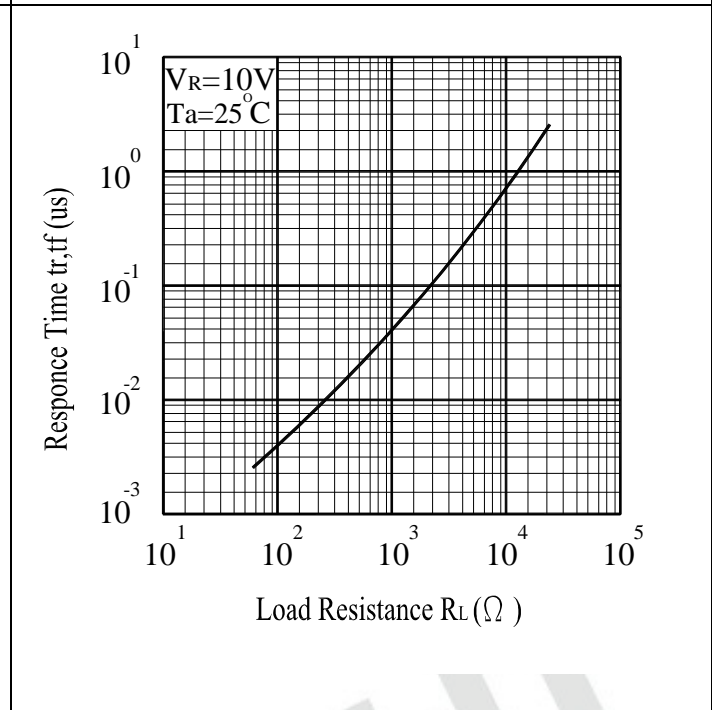
Typical Electro-Optical Characteristics Curves



Terminal Capacitance vs. Reverse Voltage



Response Time vs. Load Resistance



Packing Specification

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

Label Form Specification

The diagram shows a rectangular label form with the following fields and markings:

- Top left: A circle containing 'Pb' (RoHS exemption mark).
- Top center: A box containing the brand name 'EVERLIGHT'.
- Top right: A circle containing 'X' (Month indicator).
- Below 'Pb': Fields for 'CPN:', 'P/N:', and a barcode.
- Below the first barcode: 'PD638B' and a 'RoHS' box.
- Below 'PD638B': Fields for 'QTY:', 'CAT:', 'HUE:', and 'REF:'.
- Below 'QTY:': A second barcode.
- Below the second barcode: 'LOT NO:' and a third barcode.
- Below the third barcode: 'Reference' and a fourth barcode.

- 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

Notes:

1. Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification.
2. 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 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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