

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.

:

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	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=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: ±10%

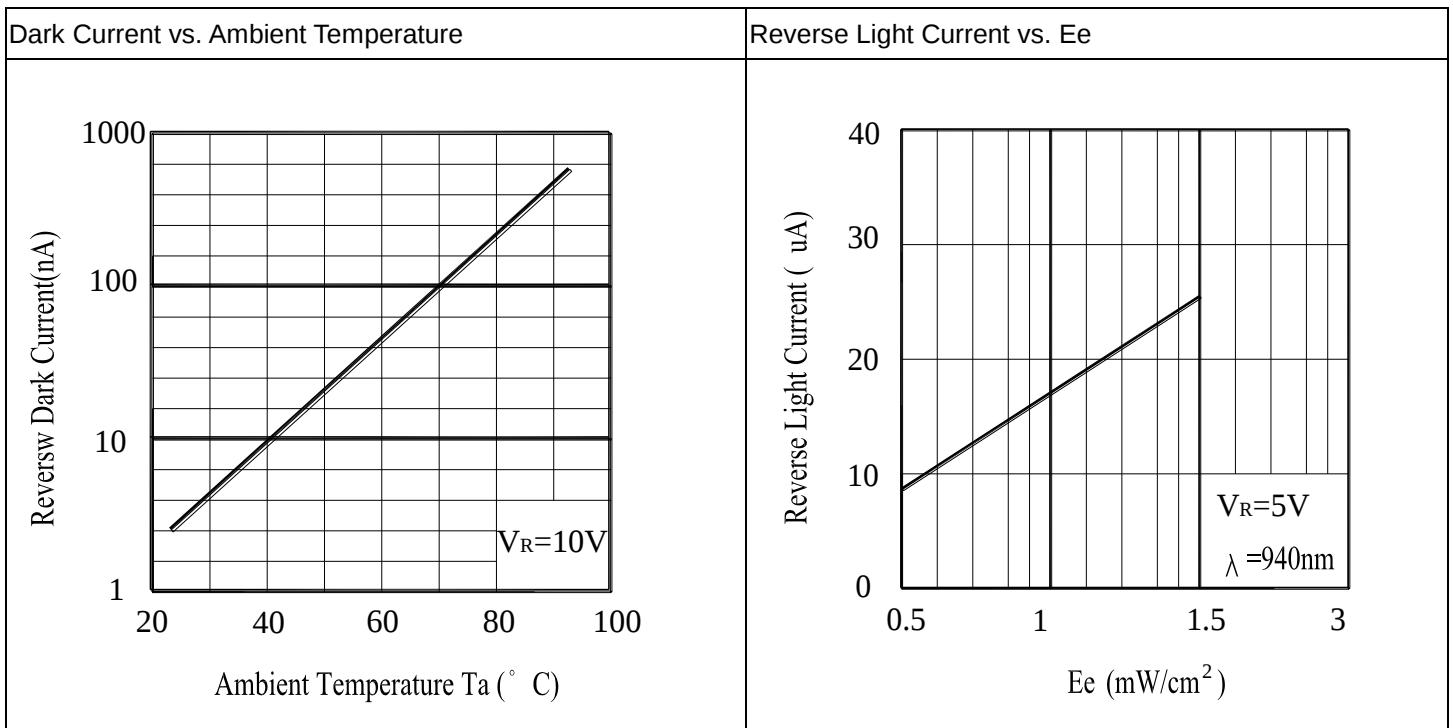
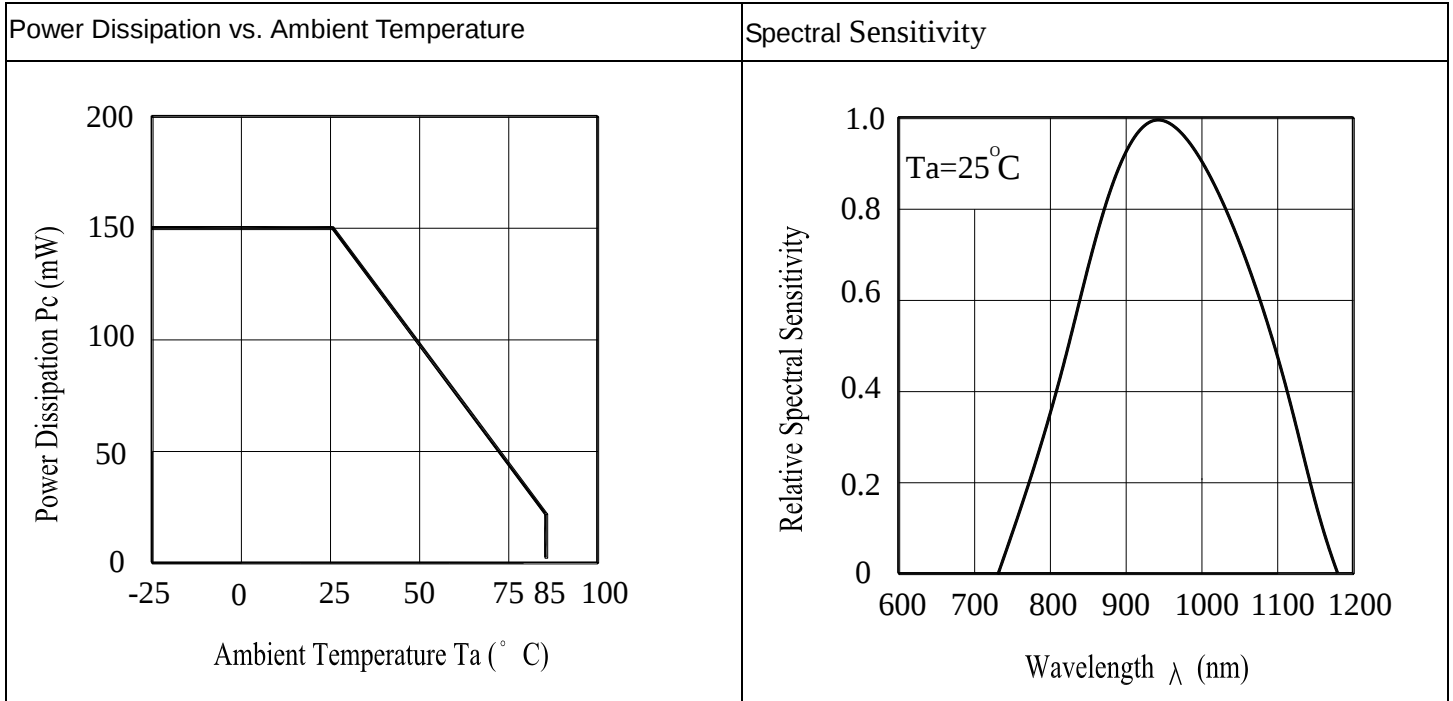
Tolerance of Dominant Wavelength: ±1nm

Tolerance of Forward Voltage: ±0.1V

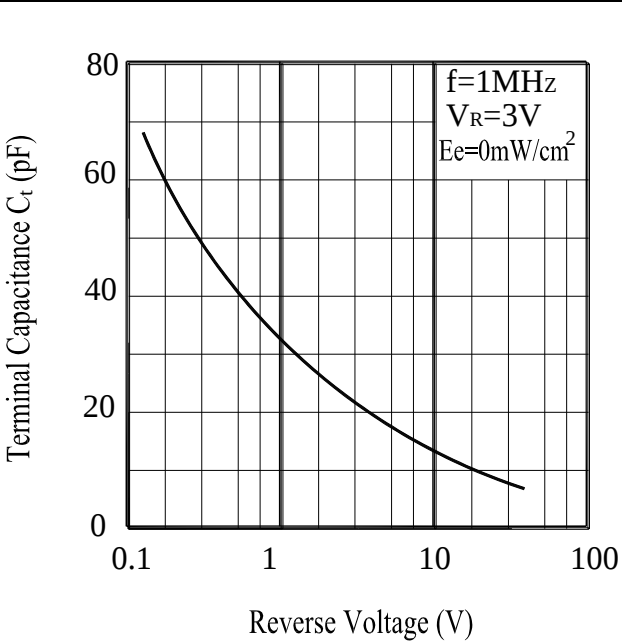
Rank

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		

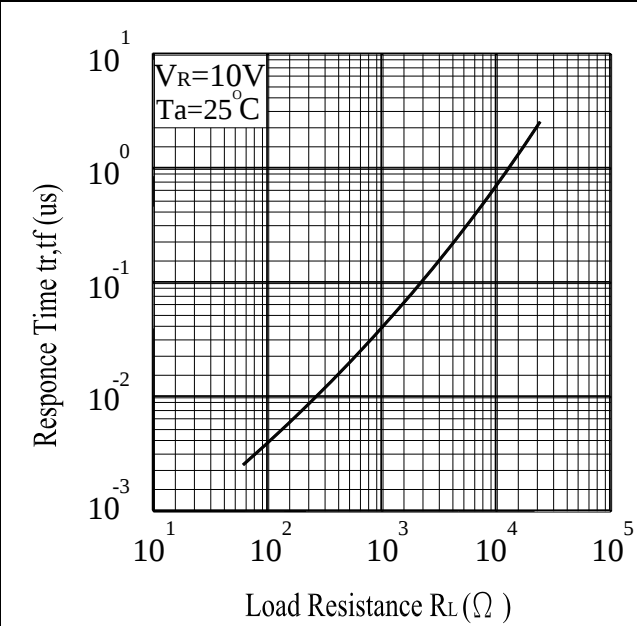
Typical Electro-Optical Characteristics Curves



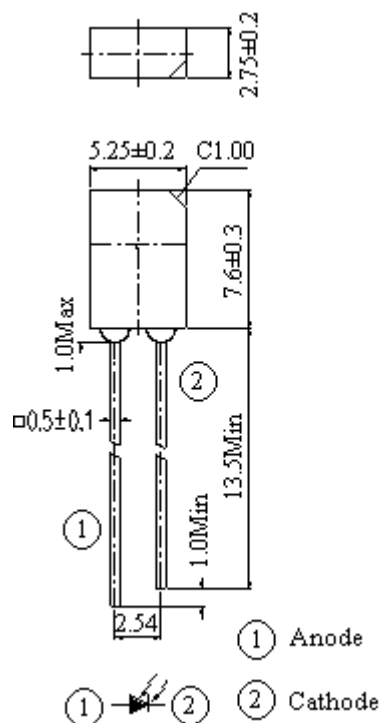
Terminal Capacitance vs. Reverse Voltage



Response Time vs. Load Resistance



Package Dimension



Note: Tolerances unless dimensions ± 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		EVERLIGHT	5
CPN: XXXXXXXXXXXXXXXXXXXX			
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX			
P/N: XXXXXXXXXXXX			
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX			
LOT NO: Y150716XXX-XXXXXXXXXX-XXXXXXXXXX			
QTY: 0123456789 HUE: XXXXXXXXXXXX			
CAT: XXXXXXXXXXXX REF: XXXXXXXXXXXX			
REFERENCE: BTPYYMDDXXXXX			
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

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.
5. These specification sheets include materials protected under copyright of EVERLIGHT. Reproduction in any form is prohibited without obtaining EVERLIGHT's prior consent.
6. This product is not intended to be used for military, aircraft, automotive, medical, life sustaining or life saving applications or any other application which can result in human injury or death. Please contact authorized Everlight sales agent for special application request.