DATASHEET

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℃)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V_R	32	mA
Power Dissipation	Pd	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	λ0.5	840	-----	1100	nm	-----
Wavelength of Peak Sensitivity	λp	-----	940	-----	nm	-----
Open-Circuit Voltage	VOC	-----	0.35	-----	V	Ee=5m W/cm2 λp=940nm
Short- Circuit Current	ISC	-----	18	-----	uA	Ee=1m W/cm2 λp=940nm
Reverse Light Current	IL	10.2	18	-----	uA	Ee=1m W/cm2 λp=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

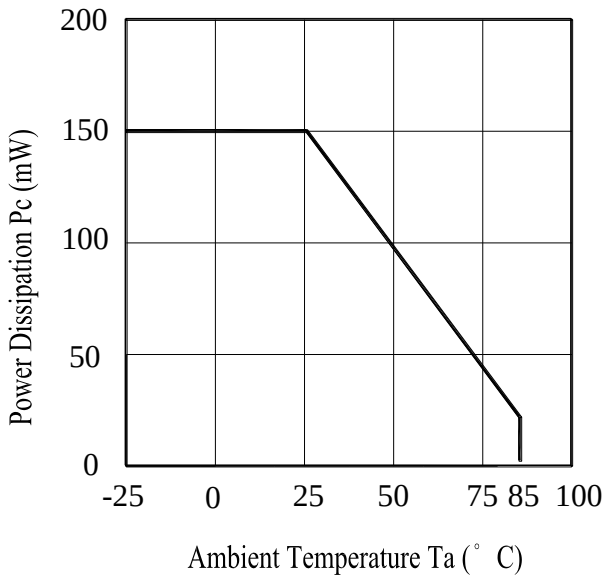
Note:
Tolerance of Luminous Intensity: ±10%
Tolerance of Dominant Wavelength: ±1nm
Tolerance of Forward Voltage: ±0.1V

Rank

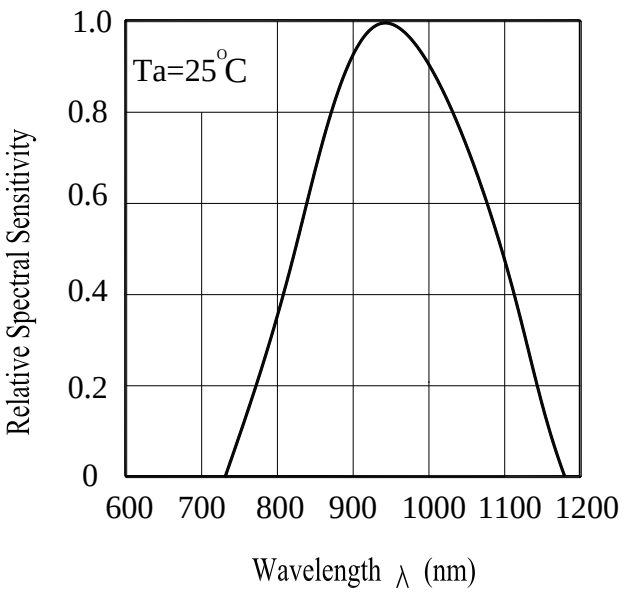
Parameter	Symbol	Min	Max	Unit	Test Condition
BIN1	IL	10.2	16.5	uA	Ee=1m W/cm2 λp=940nm VR=5V
BIN2		13.5	22.0		
BIN3		18.0	27.5		
BIN4		22.5	33.0		

Typical Electro-Optical Characteristics Curves

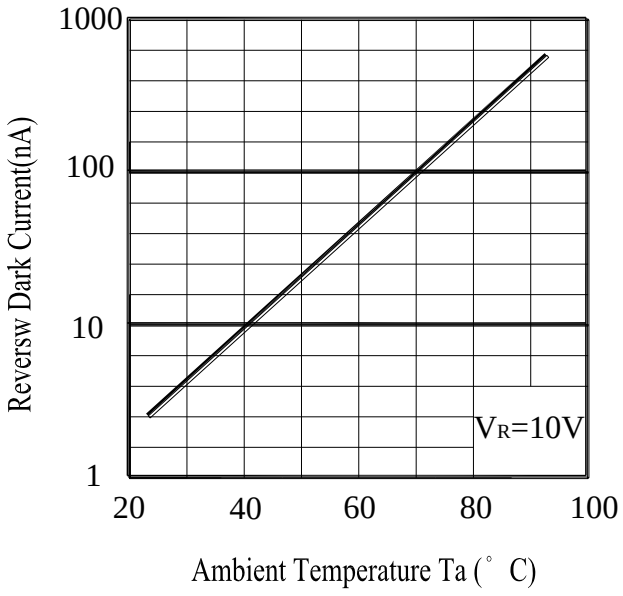
Power Dissipation vs. Ambient Temperature



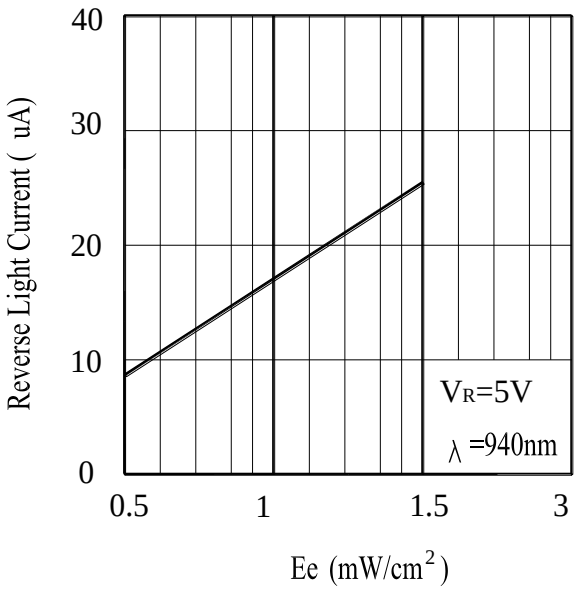
Spectral Sensitivity

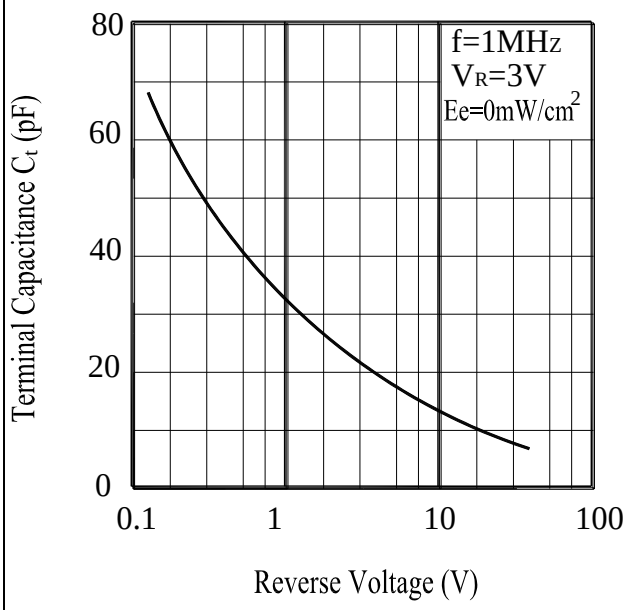
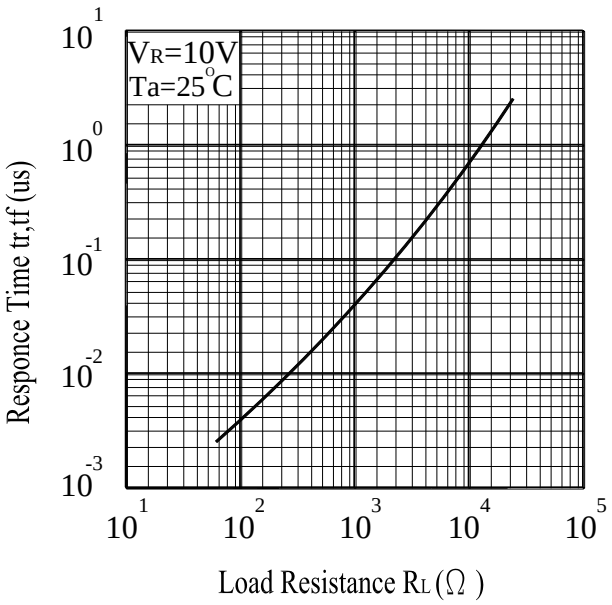


Dark Current vs. Ambient Temperature

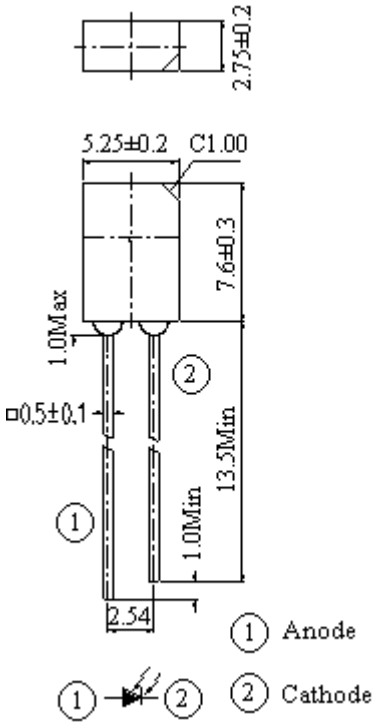


Reverse Light Current vs. Ee



Terminal Capacitance vs. Reverse Voltage	Response Time vs. Load Resistance
	

Package Dimension

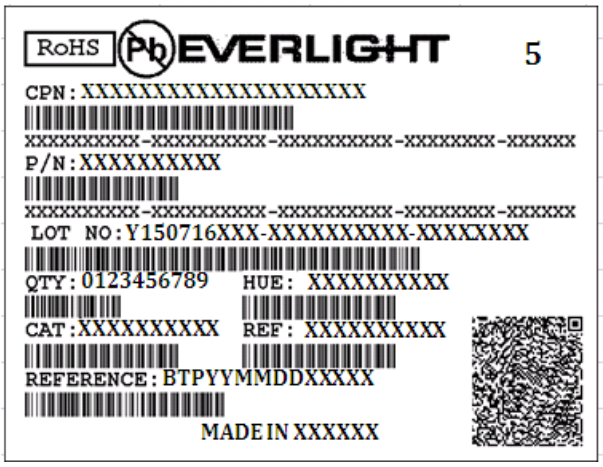


Note: Tolerances unless dimensions ±0.25mm

Packing Specification

■ Packing Quantity
1. 500 PCS/1 Bag, 6Bags/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

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