

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
GaAIAs	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	λ_p	-----	940	-----	nm	-----
Open-Circuit Voltage	VOC	-----	0.35	-----	V	Ee=5m W/cm2 $\lambda_p=940\text{nm}$
Short- Circuit Current	ISC	-----	18	-----	uA	Ee=1m W/cm2 $\lambda_p=940\text{nm}$
Reverse Light Current	IL	10.2	18	-----	uA	Ee=1m W/cm2 $\lambda_p=940\text{nm}$ 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

Note:

Tolerance of Luminous Intensity: $\pm 10\%$

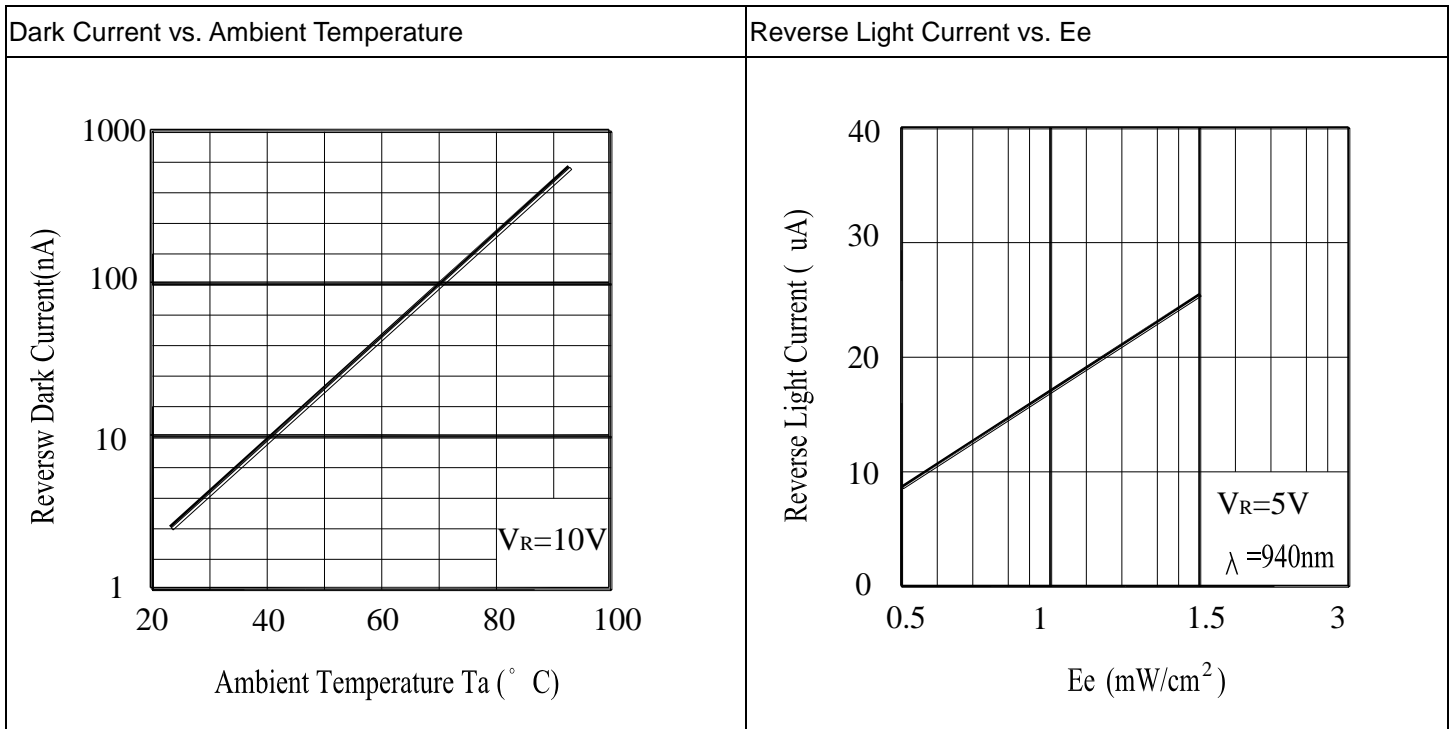
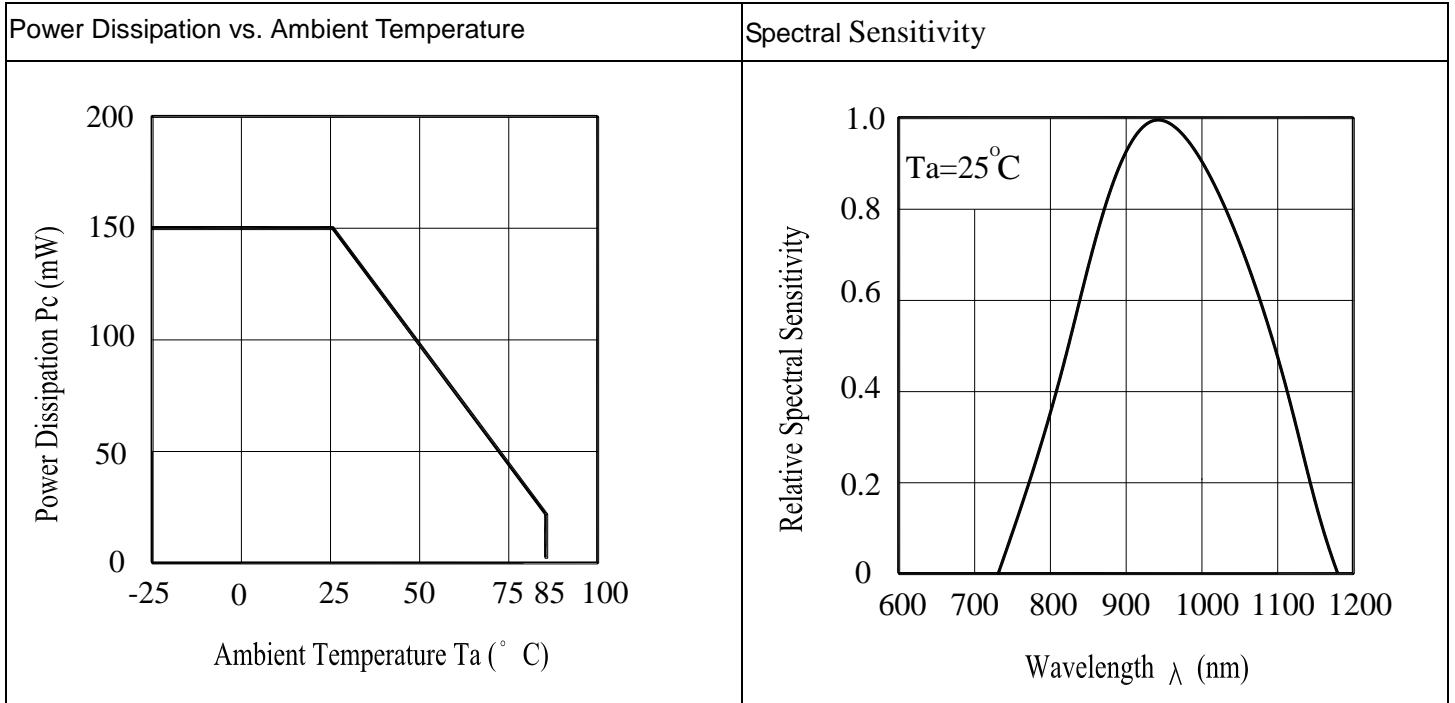
Tolerance of Dominant Wavelength: $\pm 1\text{nm}$

Tolerance of Forward Voltage: $\pm 0.1\text{V}$

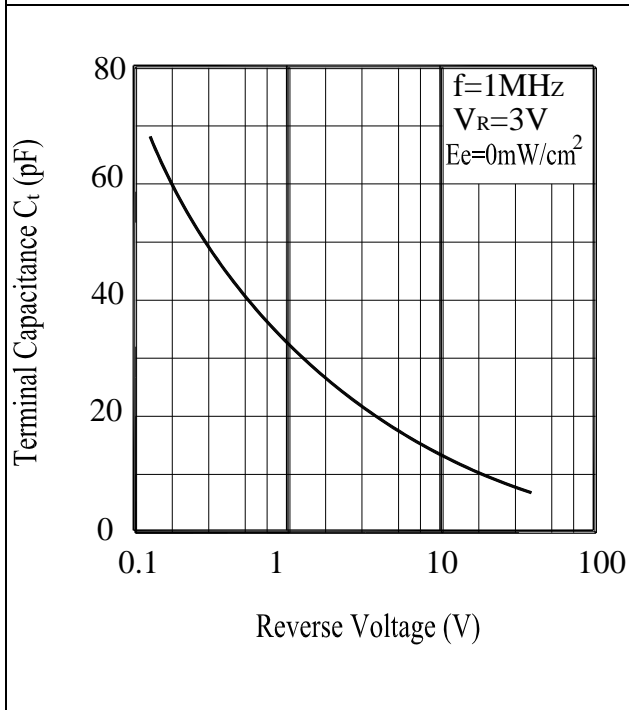
Rank

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

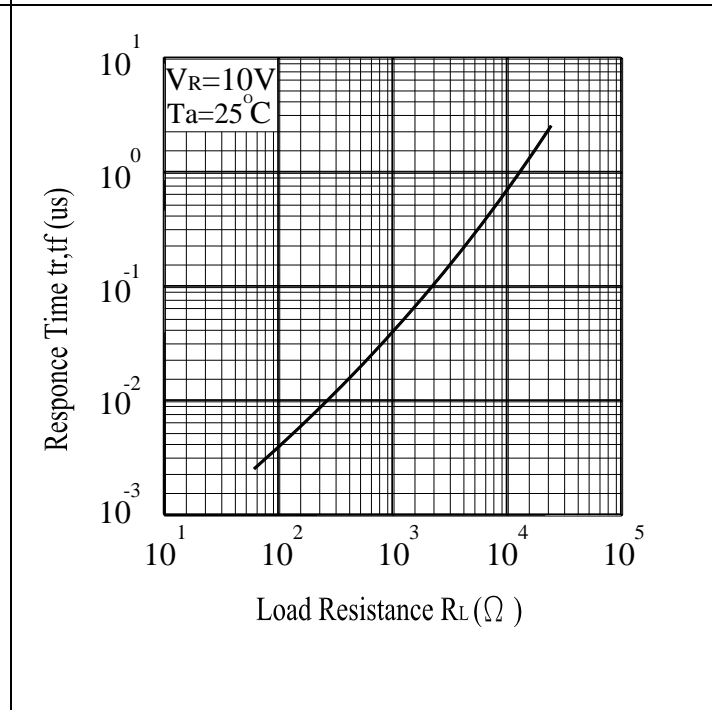
Typical Electro-Optical Characteristics Curves



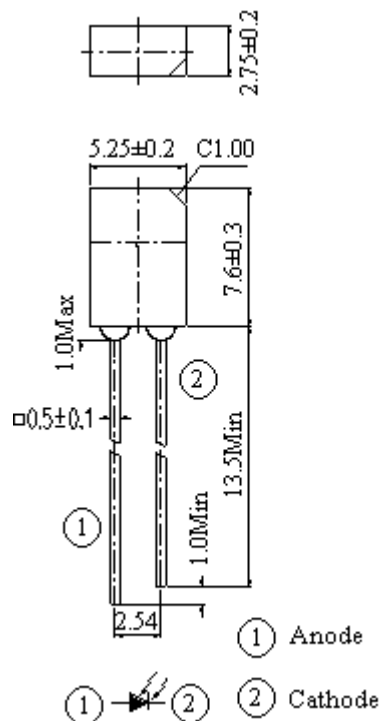
Terminal Capacitance vs. Reverse Voltage



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



- 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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