

4.8mm Semi-Lens Silicon PIN Photodiode PD438B

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

- .PD438B is a high speed and sensitive PIN photodiode in a cylindrical 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 _R	32	V
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)

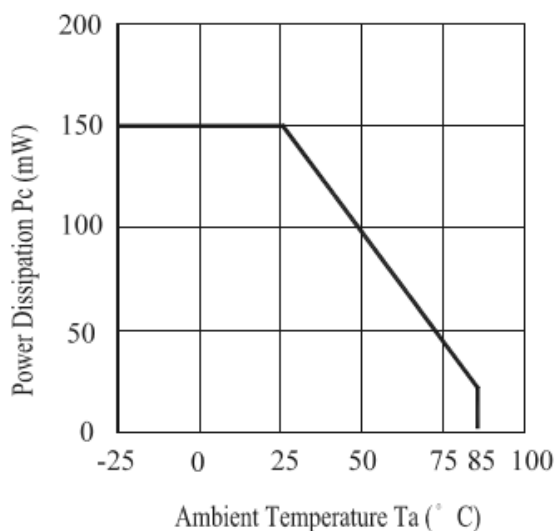
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Rang of Spectral Bandwidth	$\lambda 0.5$	400	-----	1100	nm	-----
Wavelength of Peak Sensitivity	λp	-----	940	-----	nm	-----
Open-Circuit Voltage	Voc	-----	0.35	-----	V	Ee=5m W/cm ² λp =940nm
Short- Circuit Current	Isc	-----	18	-----	uA	Ee=1m W/cm ² λp =940nm
Reverse Light Current	I _L	10.2	18	-----	uA	Ee=1m W/cm ² λp =940nm VR=5V
Dark Current	Id	----	5	30	nA	Ee=0m W/cm ² VR=10V
Reverse Breakdown	BVr	32	170	-----	V	Ee=0m W/cm ² IR=100μA
Total Capacitance	Ct	----	25	----	pF	Ee=0m W/cm ² VR=3V f=1MHZ
Rise/Fall Time	tr/tf	----	50/50	----	nS	VR=10V RL=1KΩ

Note:

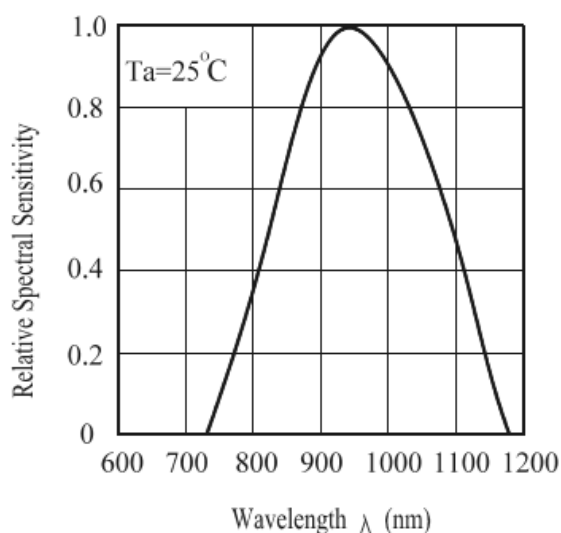
Tolerance of Luminous Intensity: ±10%
Tolerance of Dominant Wavelength: ±1nm
Tolerance of Forward Voltage: ±0.1V

Typical Electro-Optical Characteristics Curves

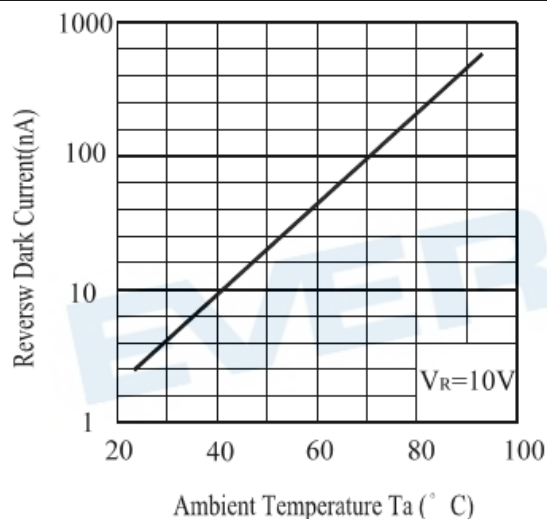
Power Dissipation vs. Ambient Temperature



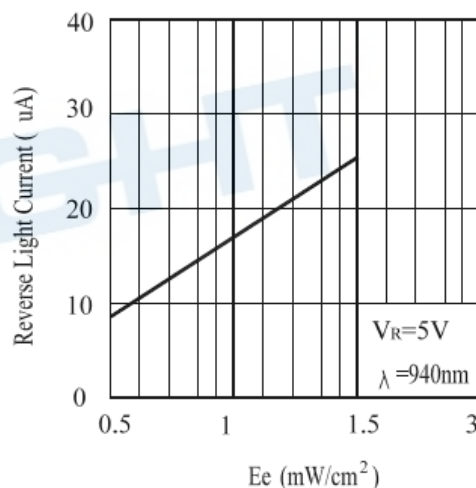
Spectral Sensitivity



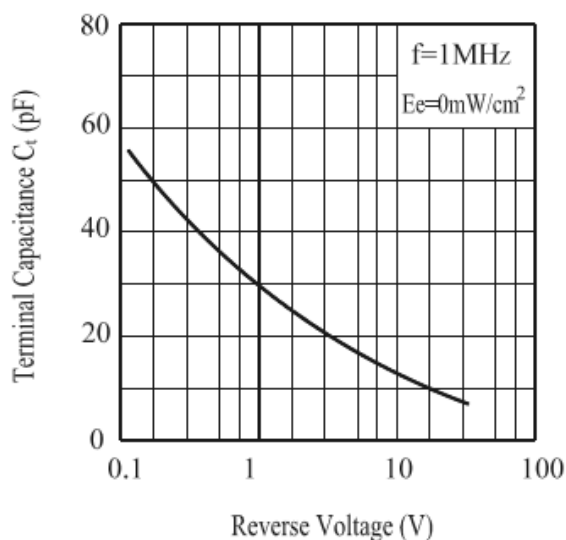
Dark Current vs. Ambient Temperature



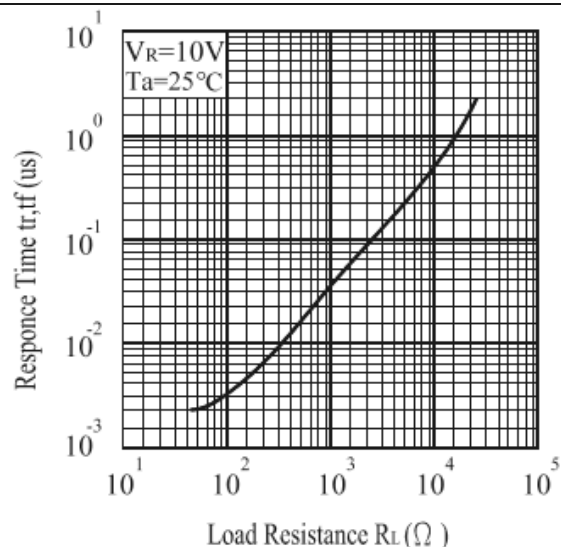
Reverse Light Current vs. E_e



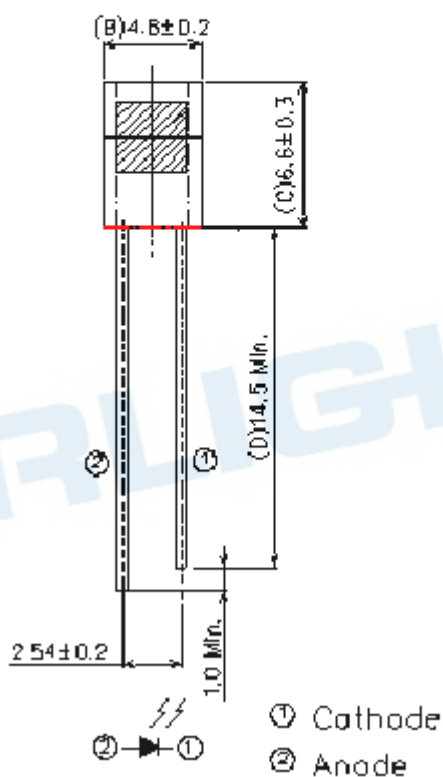
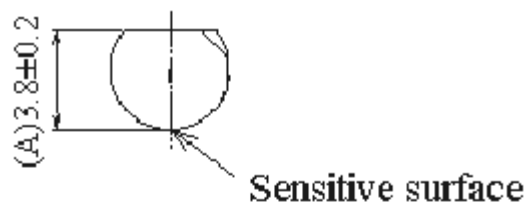
Terminal Capacitance vs. Reverse Voltage



Response Time vs. Load Resistance



Package Dimension



Note: Tolerances unless dimensions ± 0.25 mm

Packing Specification

■ Packing Quantity

- 1.1000 PCS/1 Bag, 4Bags/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
- Reference: Identify Label Number

Notes:

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