

4.8mm Semi-Lens Silicon PIN Photodiode PD438B/L1

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

- PD438B/L1 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	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	$\lambda_{0.5}$	400	-----	1100	nm	-----
Wavelength of Peak Sensitivity	λ_p	-----	940	-----	nm	-----
Open-Circuit Voltage	VOC	-----	0.41	-----	V	Ee=5m W/cm2 $\lambda_p=940\text{nm}$
Short- Circuit Current	ISC	-----	4	-----	uA	Ee=1m W/cm2 $\lambda_p=940\text{nm}$
Reverse Light Current	I_L	2.6	4	-----	uA	Ee=1m W/cm2 $\lambda_p=940\text{nm}$ VR=5V
Dark Current	I_d	----	5	30	nA	Ee=0m W/cm2 VR=10V
Reverse Breakdown	BVR	32	170	-----	V	Ee=0m W/cm2 IR=100uA
Total Capacitance	Ct	----	6	----	pF	Ee=0m W/cm2 VR=3V f=1MHZ
Rise/Fall Time	tr/tf	----	10/10	----	nS	VR=10V RL=1KΩ

Note:

Tolerance of Luminous Intensity: $\pm 10\%$
Tolerance of Dominant Wavelength: $\pm 1\text{nm}$
Tolerance of Forward Voltage: $\pm 0.1\text{V}$

Typical Electro-Optical Characteristics Curves

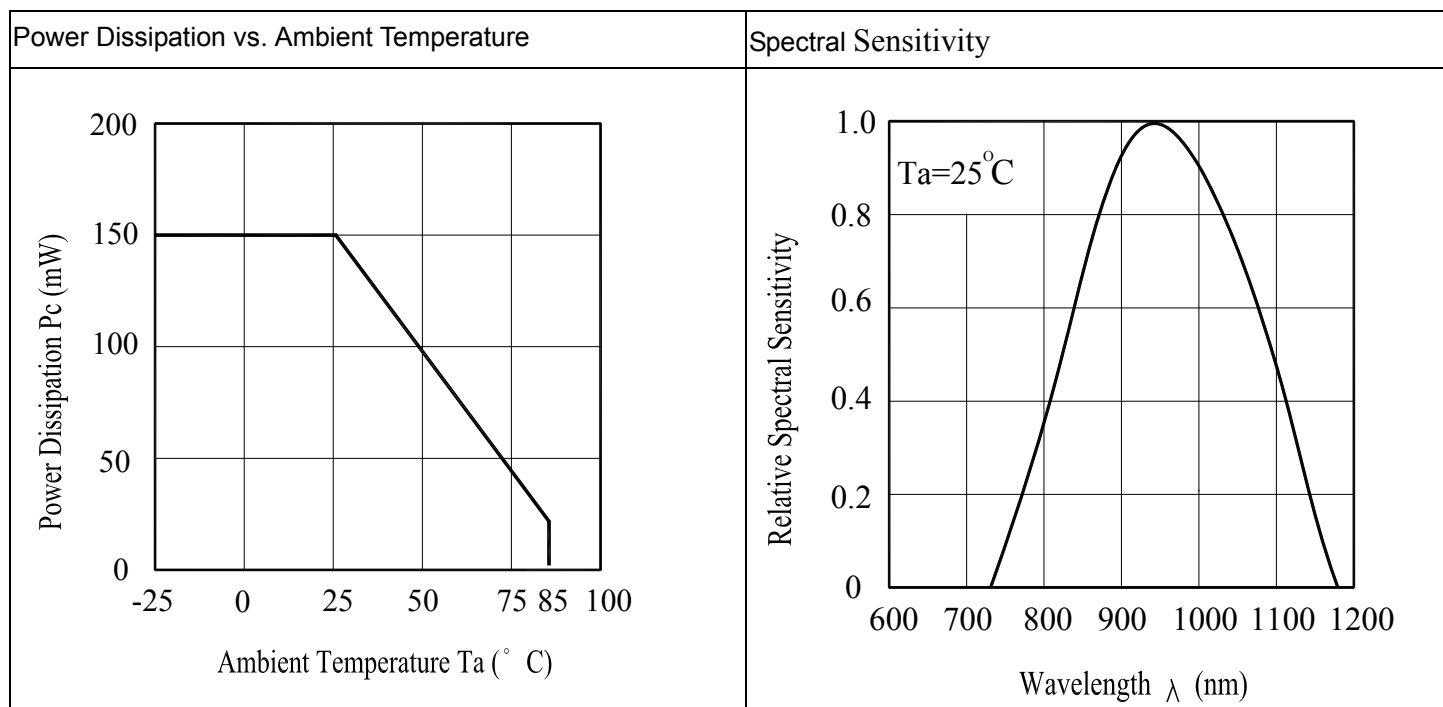


Fig.3 Dark Current vs. Ambient Temperature

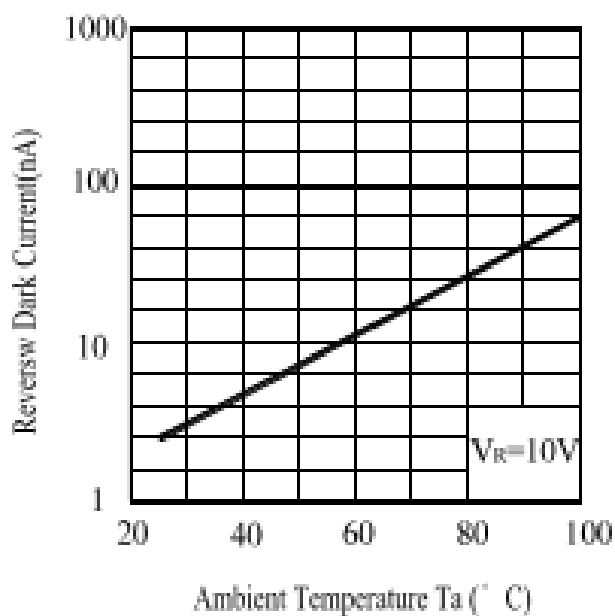
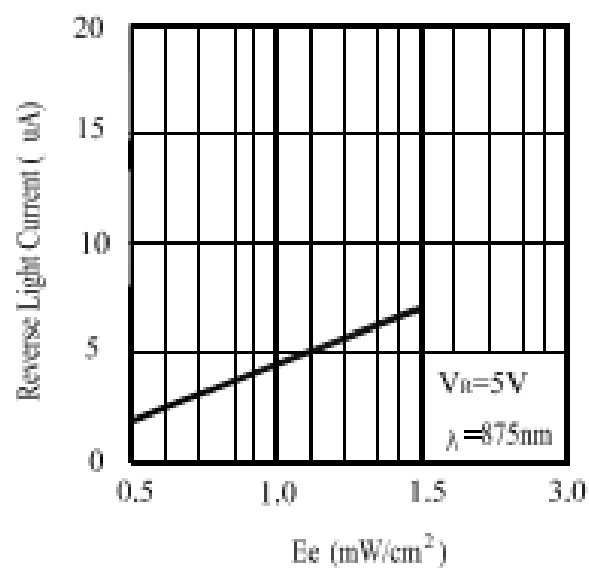
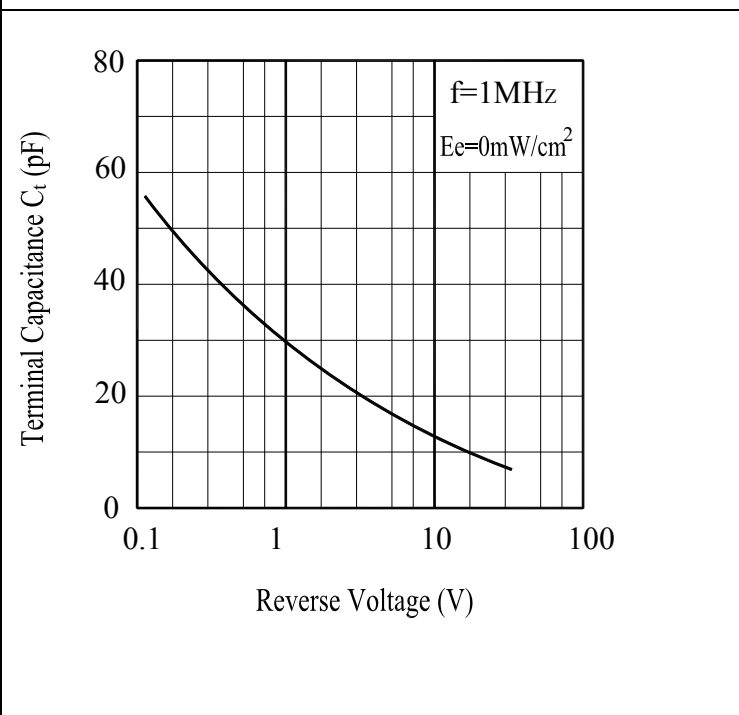


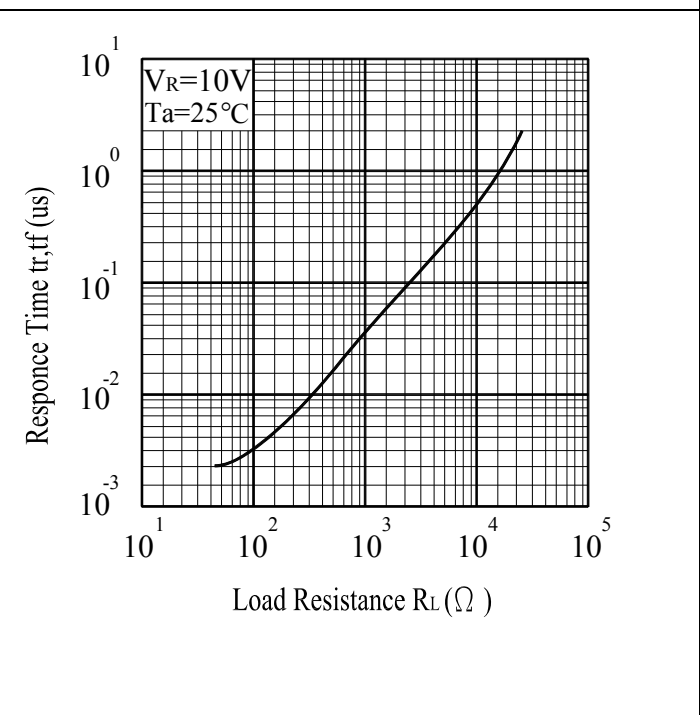
Fig. 4 Reverse Light Current vs. E_e



Terminal Capacitance vs. Reverse Voltage



Response Time vs. Load Resistance



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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-XXXXXXXXXX			
P/N: XXXXXXXXXXXX			
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX			
LOT NO: Y150716XXX-XXXXXXXXXX-XXXXXXXXXX			
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-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
- Reference: Identify Label Number

Notes:

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