

4.8mm Semi-Lens Silicon PIN Photodiode PD438C

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

- PD438C 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	Water clear

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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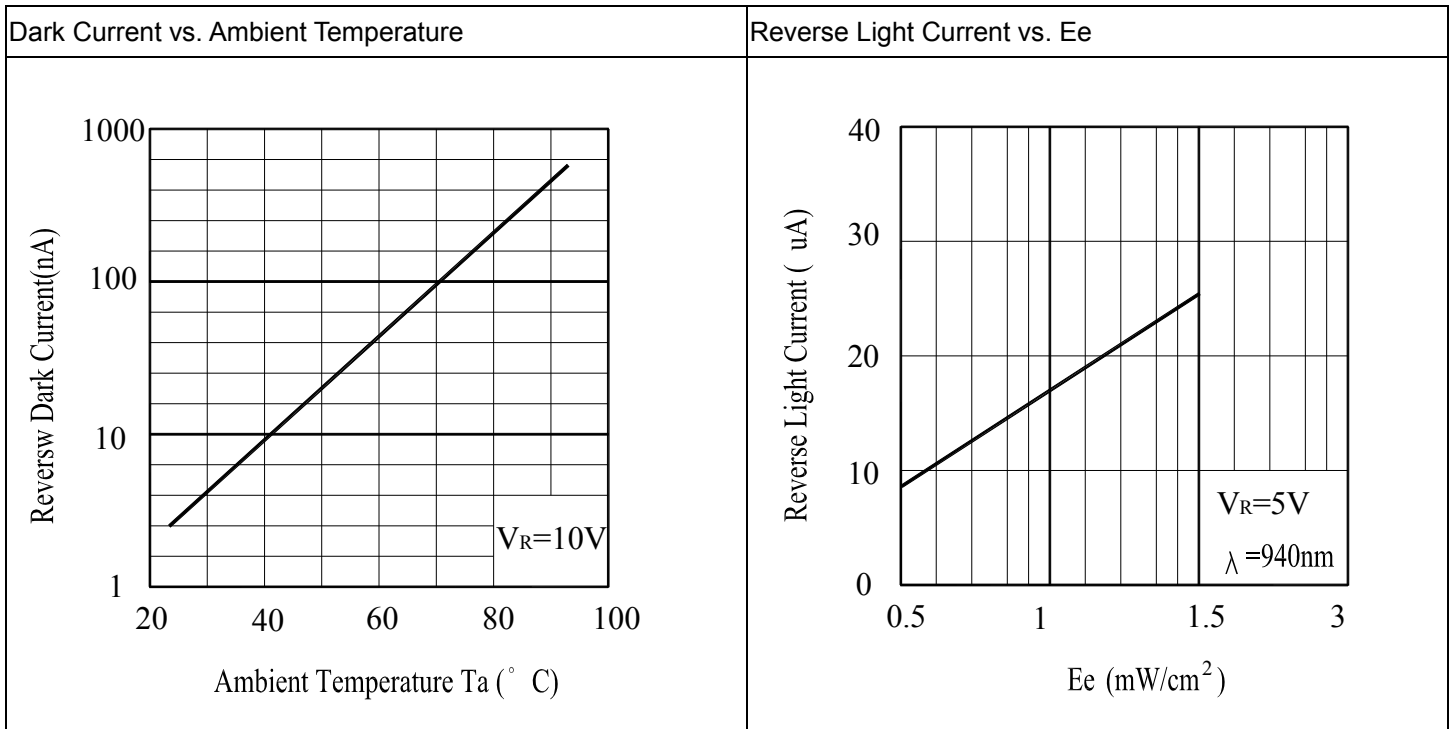
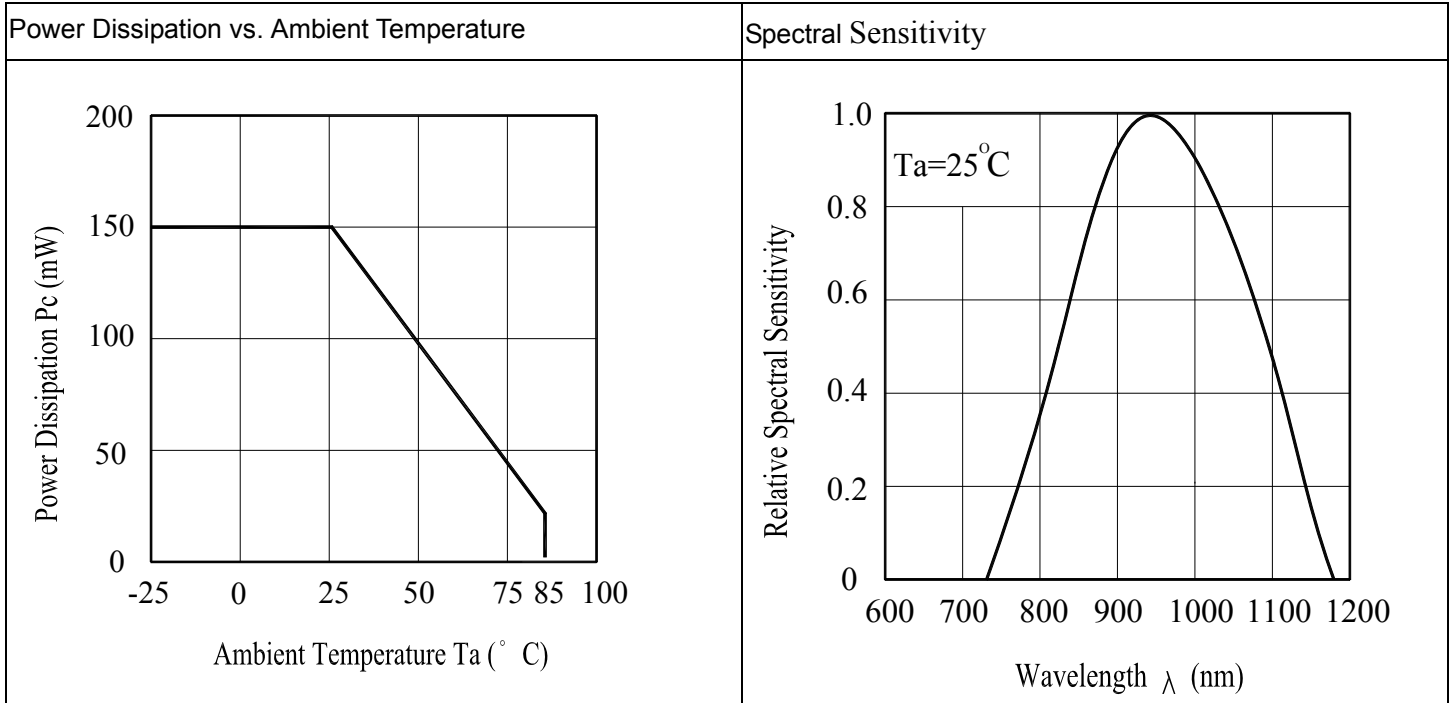
Electro-Optical Characteristics (Ta=25°C)

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	-----	0.35	-----	V	Ee=5m W/cm2 $\lambda_p=940\text{nm}$
Short- Circuit Current	ISC	-----	18	-----	μA	Ee=1m W/cm2 $\lambda_p=940\text{nm}$
Reverse Light Current	I_L	10.2	18	-----	μA	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=100 μA
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

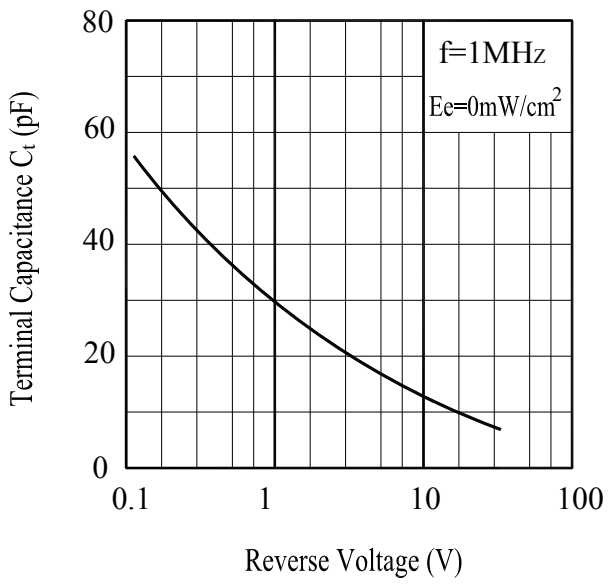
Note:

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

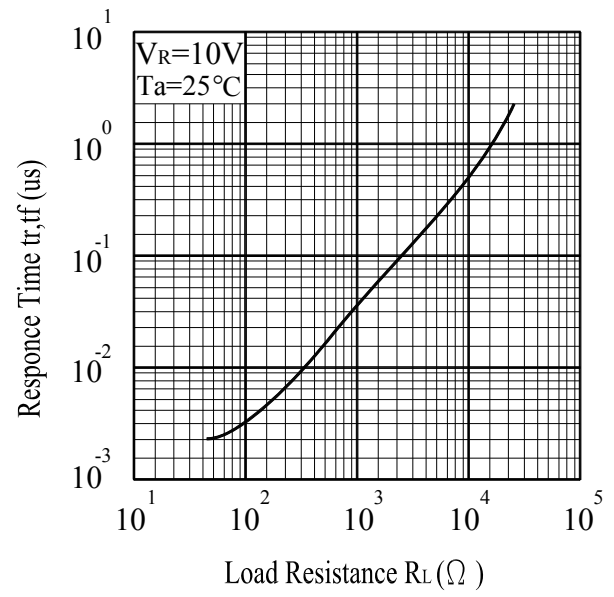
Typical Electro-Optical Characteristics Curves



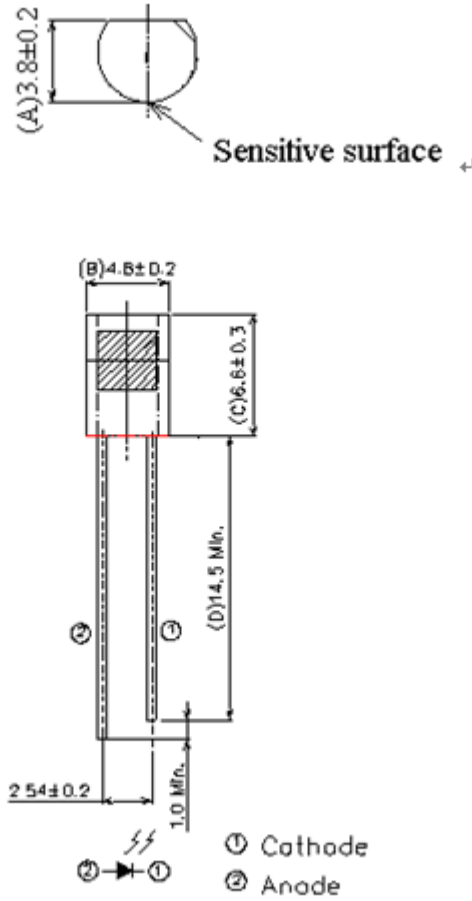
Terminal Capacitance vs. Reverse Voltage



Response Time vs. Load Resistance



Package Dimension



Note: Tolerances unless dimensions ± 0.25 mm