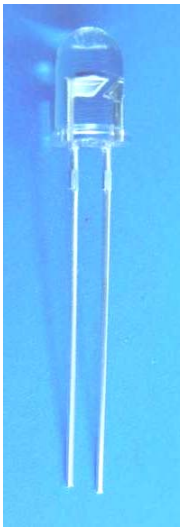
Technical Data Sheet

5mm Silicon PIN Photodiode , T-1 3/4

PD333-3C/H0/L2



Features

- Fast response time
- High photo sensitivity
- Small junction capacitance
- Pb free
- The product itself will remain within RoHS compliant version.

Descriptions

PD333-3C/H0/L2 is a high speed and high sensitive PIN photodiode in a standard 5 ϕ plastic package. Due to its water clear epoxy the device is sensitive to visible and infrared radiation.

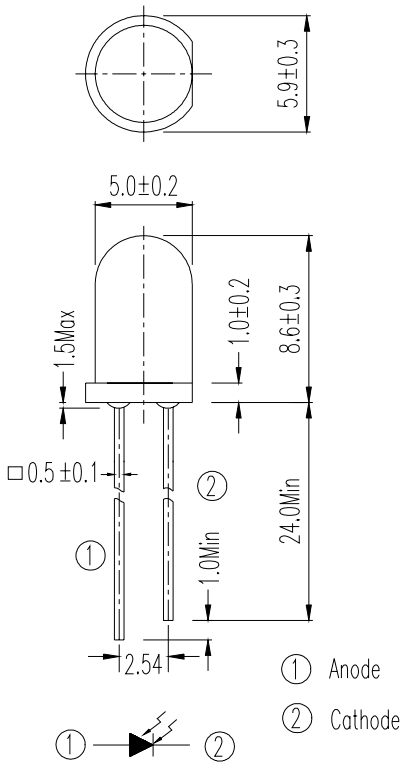
Applications

- High speed photo detector
- Security system
- Camera

Device Selection Guide

LED Part No.	Chip Material	Lens Color
PD	Silicon	Water clear

Package Dimensions



Notes: 1.All dimensions are in millimeters
2.Tolerances unless dimensions ±0.25mm

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Units
Reverse Voltage	V_R	32	V
Power Dissipation	Pd	150	mW
Lead Soldering Temperature	Tsol	260	℃
Operating Temperature	Topr	-25 ~ +85	℃
Storage Temperature	Tstg	-40 ~ +85	℃

Notes: *1:Soldering time≦5 seconds.

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Rang of Spectral Bandwidth	$\lambda_{0.5}$	-----	400	---	1100	nm
Wavelength of Peak Sensitivity	λ_p	-----	---	940	---	nm
Open-Circuit Voltage	V_{OC}	Ee=5m W/cm^2 λ p=940nm	---	0.39	---	V
Short- Circuit Current	I_{SC}	Ee=1m W/cm^2 λ p=940nm	---	40	---	μA
Reverse Light Current	I_L	Ee=1m W/cm^2 λ p=940nm V_R=5V	36	40	---	
Dark Current	Id	Ee=0m W/cm^2 V_R=10V	---	5	30	nA
Reverse Breakdown	BV_R	Ee=0m W/cm^2 I_R=100 μA	32	170	---	V
Total Capacitance	Ct	Ee=0m W/cm^2 V_R=5V f=1MHZ	---	18	---	pF
Rise/Fall Time	t_r/t_f	V_R=10V R_L=1KΩ	---	45/45	---	nS
View Angle	2θ 1/2	I_F=20mA	--	80	--	deg

Typical Electro-Optical Characteristics Curves

Fig.1 Power Dissipation vs. Ambient Temperature

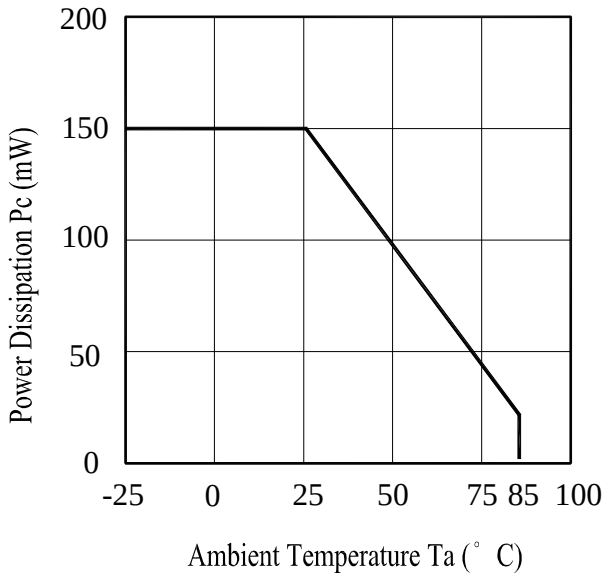


Fig.2 Spectral Sensitivity

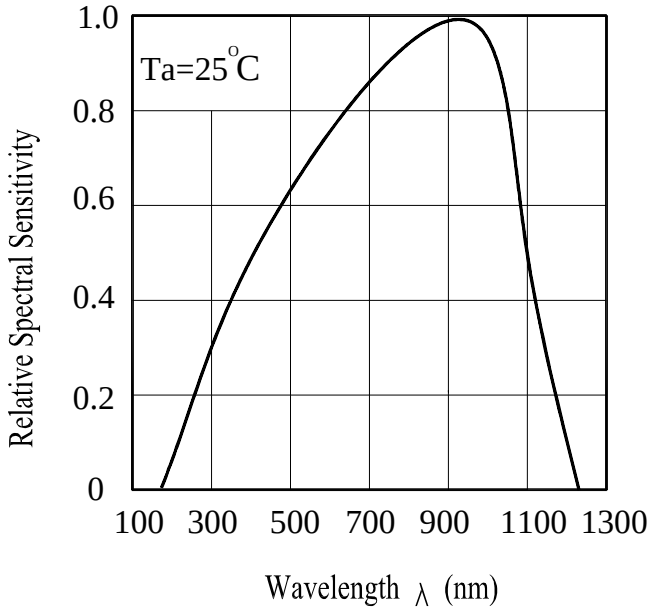


Fig.3 Dark Current vs. Ambient Temperature

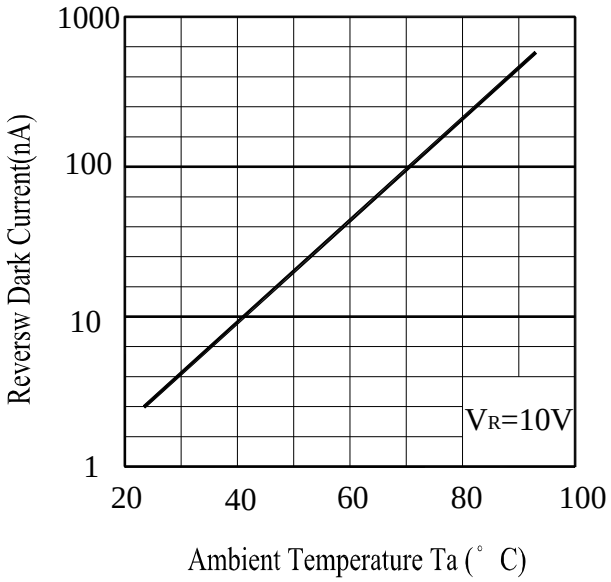
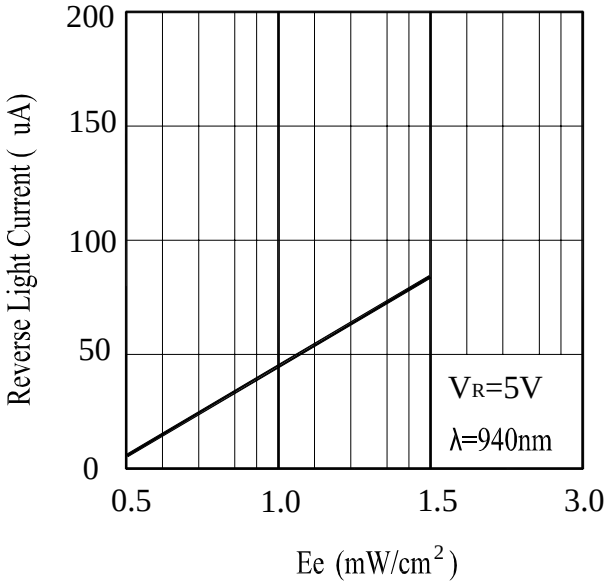


Fig. 4 Reverse Light Current vs. Ee



Typical Electro-Optical Characteristics Curves

Fig.5 Terminal Capacitance vs. Reverse Voltage

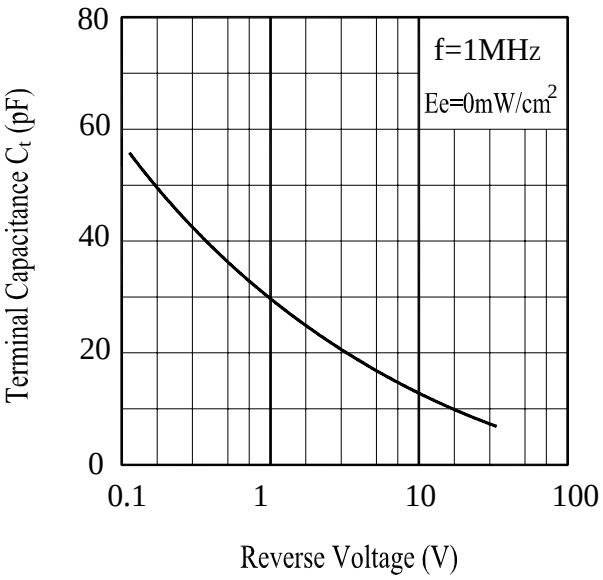


Fig.6 Response Time vs. Load Resistance

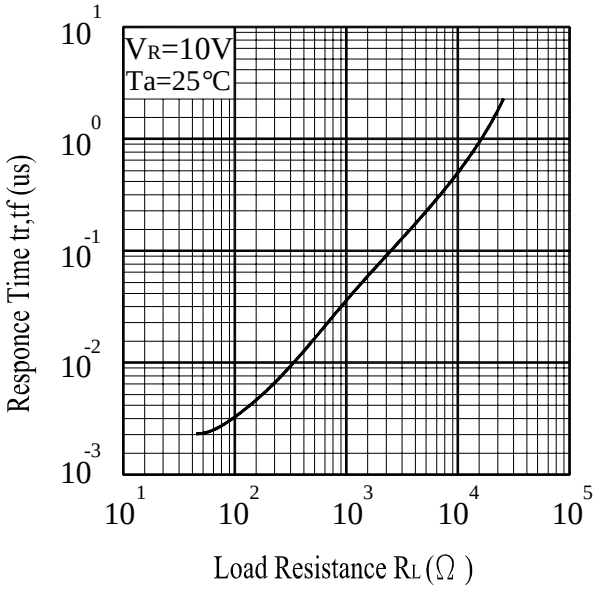


Fig.7 Relative Reverse Light Current vs. Ambient Temperature(°C)

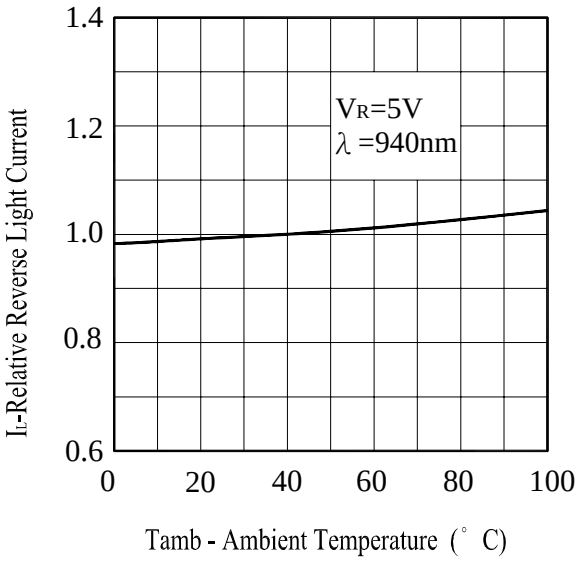
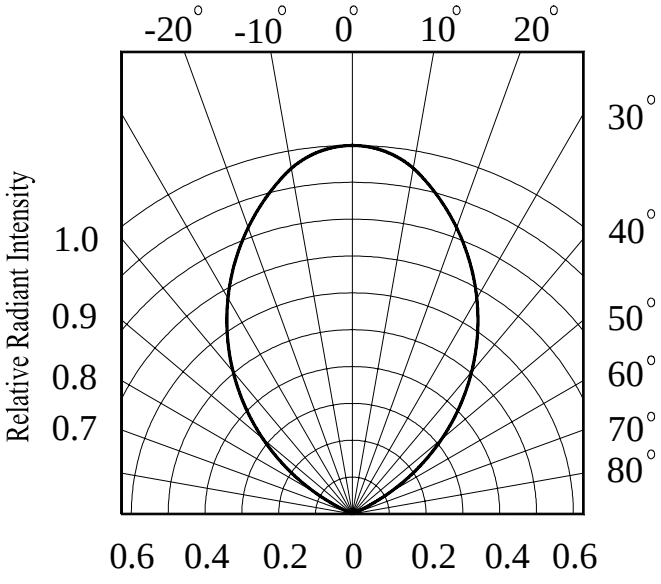


Fig.8 Relative Radiant Intensity vs. Angular Displacement



Reliability Test Item And Condition

The reliability of products shall be satisfied with items listed below.

Confidence level：90%

LTPD：10%

NO.	Item	Test Conditions	Test Hours/ Cycles	Sample Sizes	Failure Judgement Criteria	Ac/Re
1	Solder heat	TEMP.：260℃±5℃	10secs	22pcs	$I_L \leqq L \times 0.8$ L：Lower Specification Limit	0/1
2	Temperature Cycle	H : +100℃ 15mins 5mins L : -40℃ 15mins	300Cycles	22pcs		0/1
3	Thermal Shock	H :+100℃ 5mins 10secs L :-10℃ 5mins	300Cycles	22pcs		0/1
4	High Temperature Storage	TEMP.：+100℃	1000hrs	22pcs		0/1
5	Low Temperature Storage	TEMP.：-40℃	1000hrs	22pcs		0/1
6	DC Operating Life	V_R=5V	1000hrs	22pcs		0/1
7	High Temperature/ High Humidity	85℃ / 85% R.H	1000hrs	22pcs		0/1

Packing Quantity Specification

1.500PCS/1Bag，5Bags/1Box

2.10Boxes/1Carton

Label Form Specification

CPN: Customer’s Production Number

P/N : Production Number

QTY: Packing Quantity

CAT: Ranks

HUE: Peak Wavelength

REF: Reference

LOT No: Lot Number

MADE IN TAIWAN: Production Place