Technical Data Sheet

2.75× 5.25mm Silicon PIN Photodiode

PD638B/C1

Features

- Fast response time
- High photo sensitivity
- Small junction capacitance

Descriptions

PD638B/C1 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 emitters.

Applications

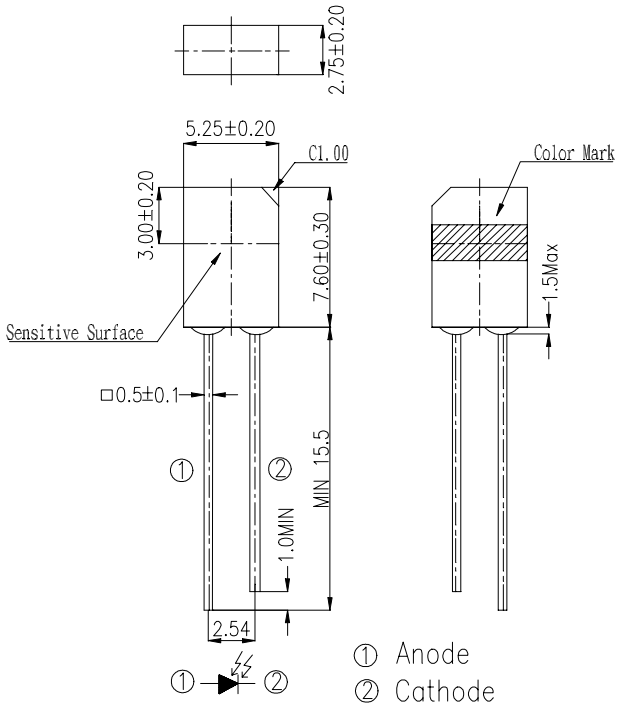
- High speed photo detector
- Camera
- Optoelectronic switch
- VCRs , Video camera

Device Selection Guide

LED Part No.	Chip Material	Lens Color
PD	Silicon	Black

Device No:DPD-063-034

Package Dimensions



Notes: 1.All dimensions are in millimeters
2.Tolerances unless dimensions ± 0.1mm

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	$\lambda_{0.5}$	-----	760	---	1200	nm
Wavelength of Peak Sensitivity	λ_p	-----	---	940	---	nm
Open-Circuit Voltage	V_{OC}	Ee=5m W/cm^2 λ p=940nm	---	0.35	---	V
Short- Circuit Current	I_{SC}	Ee=1m W/cm^2 λ p=940nm	---	45	---	μ A
Reverse Light Current	I_L	Ee=1m W/cm^2 λ p=940nm V_R=5V	---	45	---	
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 μ A	32	170	---	V
Total Capacitance	Ct	Ee=0m W/cm^2 V_R=3V f=1MHZ	---	25	---	pF
Rise/Fall Time	t_r/t_f	V_R=10V R_L=1KΩ	---	50/50	---	nS

Typical Electro-Optical Characteristics Curves

Fig. 1 Power Dissipation vs. Ambient Temperature

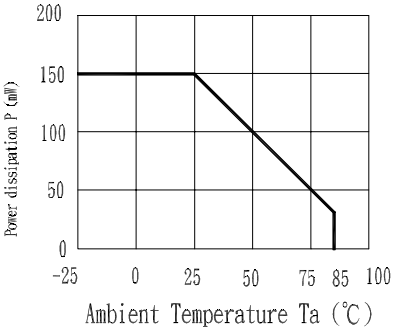


Fig. 2 Spectral Sensitivity

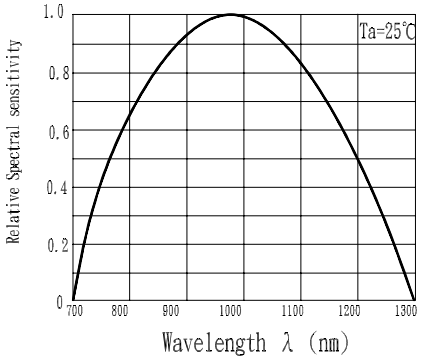


Fig. 3 Dark Current vs. Ambient Temperature

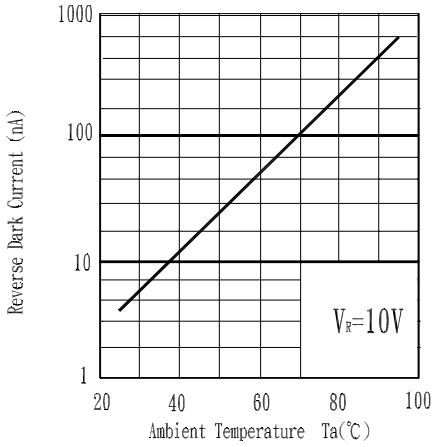


Fig. 4 Reverse Light Current vs. Ee

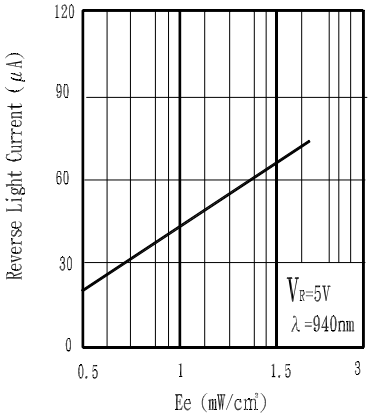


Fig. 5 Terminal Capacitance vs. Revere Voltage

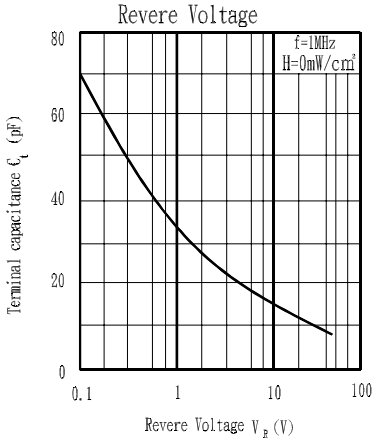
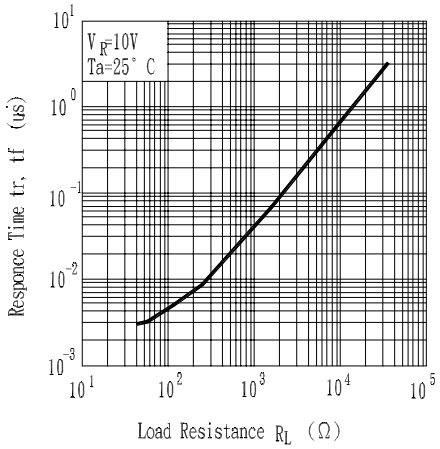


Fig. 6 Responce Time vs. Load Resistance



Device No:DPD-063-034

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℃	10sec	22pcs	$I_R \geqq U \times 2$ $Ee \leqq L \times 0.8$ $V_F \geqq U \times 1.2$ U：Upper Specification Limit L：Lower Specification Limit	0/1
2	Temperature Cycle	H : +85℃ 30mins 5mins L : -55℃ 30mins	50Cycle	22pcs		0/1
3	Thermal Shock	H :+100℃ 5mins 10secs L :-10℃ 5mins	50Cycle	22pcs		0/1
4	High Temperature Storage	TEMP.：+100℃	1000hrs	22pcs		0/1
5	Low Temperature Storage	TEMP.：-55℃	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

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