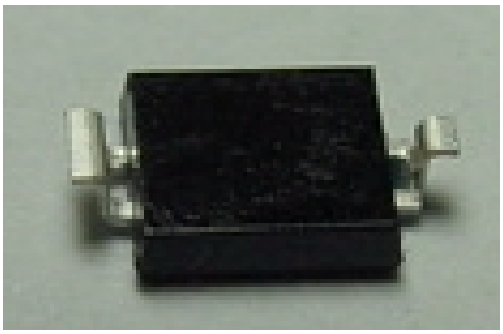
Technical Data Sheet
Silicon Planar PIN Photodiode

PD70-01B/TR10

Features

- Daylight filter
- High sensitivity
- Low capacitance
- Short switching time
- Wide temperature range
- Small package



Descriptions

• The PD70-01B/TR10 is high sensitivity, fast switching times, low capacitance, compact size, and

lack of measurable degradation make it suitable for diverse applications, such as TV and appliance remote control, IR sound transmission, video recorders, and measurement and control.

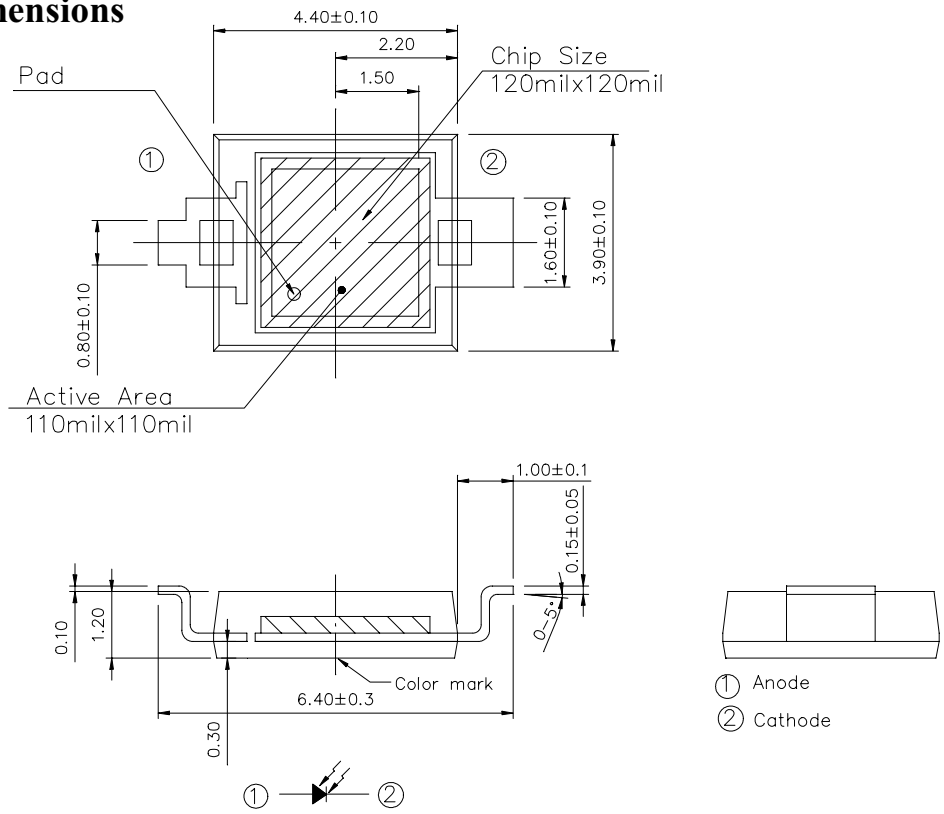
Applications

- High speed photo detector
- Copier
- Elevator

Device Selection Guide

Part No.	Chip Material	Lens Color
PD	Silicon	Black

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	$\lambda_{0.5}$	-----	---	730-1200	---	nm
Wavelength of Peak Sensitivity	λ_p	-----	---	980	---	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	---	35	---	μ A
Reverse Light Current	I_L	Ee=1m W/cm^2 λ p=870nm V_R=5V	17	25	---	μ A
		Ee=1m W/cm^2 λ p=940nm V_R=5V	25	37	---	
Dark Current	Id	Ee=0m W/cm^2 V_R=10V	---	---	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=1K Ω	---	50/50	---	nS

Device No:DTD-700-062

Typical Electro-Optical Characteristics Curves

Fig. 1 Power Dissipation vs. Ambient Temperature

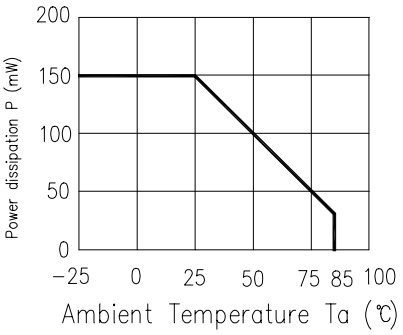


Fig.2 Spectral Sensitivity

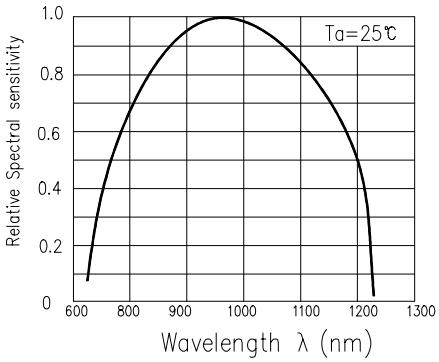


Fig.3 Dark Current vs. Ambient Temperature

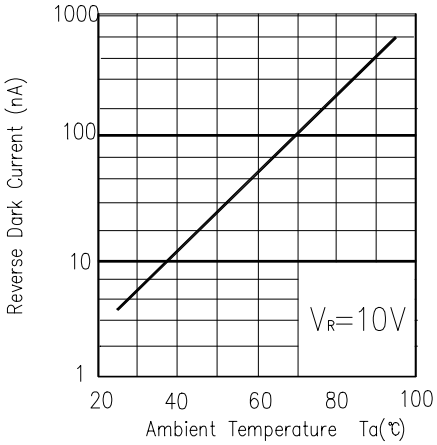


Fig.4 Reverse Light Current vs.Ee

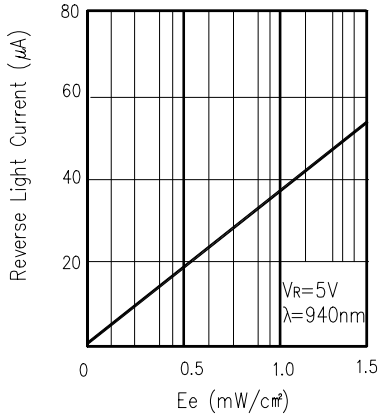


Fig.5 Terminal Capacitance vs. Reverse Voltage

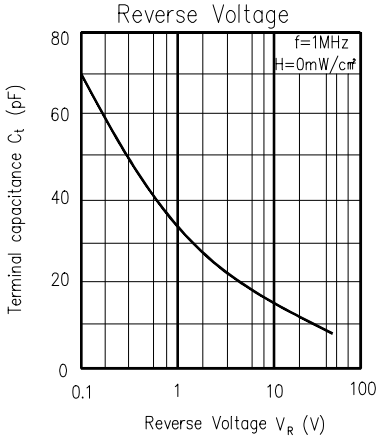
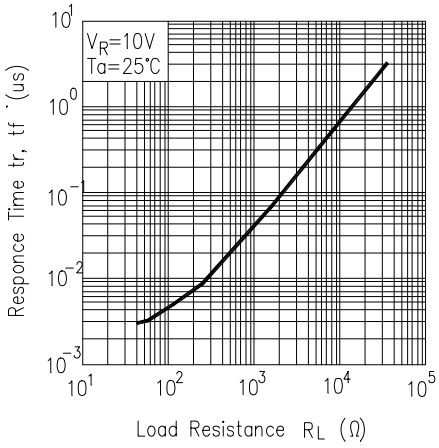


Fig.6 Responce Time vs. Load Resistance



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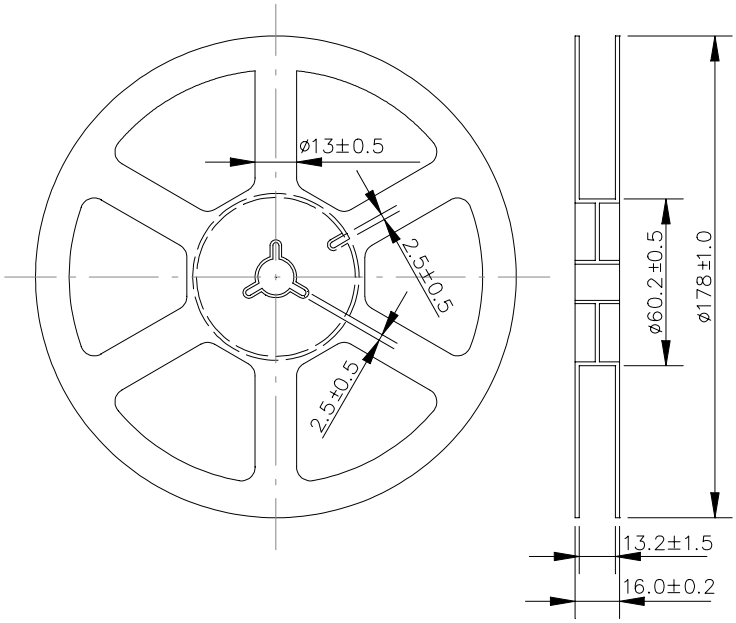
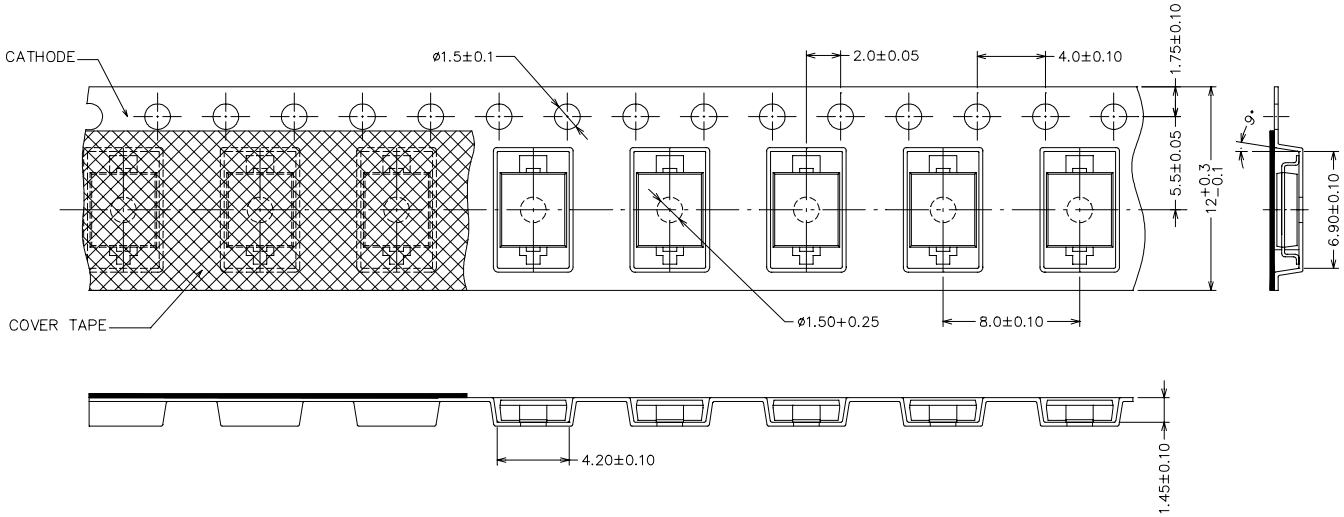
Package Dimensions



Loaded Quantity Per Reel 1000PCS/Reel



unit: mm

Device No:DTD-700-062

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	REFLOW	TEMP.：240℃± 5℃ 5 secs	6mins	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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