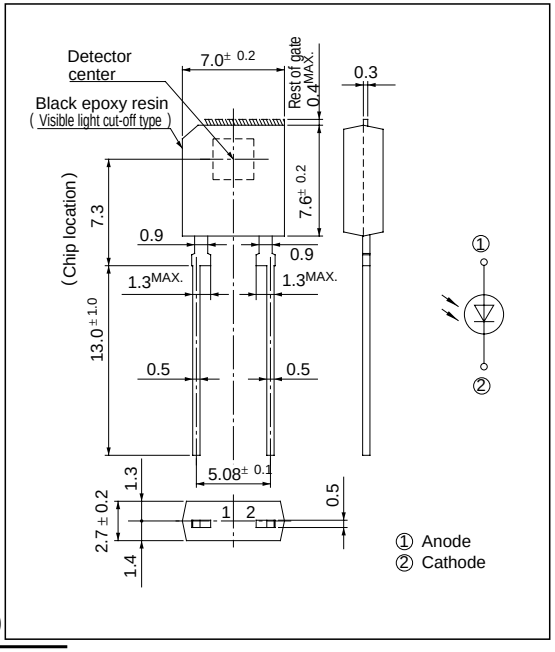
PD49PI/PD481PI

High Speed, High Sensitivity Photodiode

■ Features

1. High sensitivity
   (I_{SC}>=3.5μA at E_V= 100lx: **PD481PI**)
2. Peak sensitivity wavelength matching with infrared LED
   (λp= 960nm: **PD481PI**)
   (λp= 1000nm: **PD49PI**)
3. Built-in visible light cut-off filter

■ Outline Dimensions (Unit : mm)



■ Applications

1. Infrared remote controllers for TVs, VCRs, audio equipment and air conditioners, etc.

■ Absolute Maximum Ratings (Ta = 25˚C)

Parameter	Symbol	Rating	Unit
Reverse voltage	V_R	32	V
Power dissipation	P	150	mW
Operating temperature	T_{opr}	-25 to + 85	˚C
Storage temperature	T_{stg}	-40 to + 100	˚C
*1 Soldering temperature	T_{sol}	260	˚C

*For 10 seconds at the position of 2.3mm from the bottom face of resin package

■ Electro-optical Characteristics (Ta = 25˚C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
*2 Short circuit current	**PD49PI**	I_{SC}	E_V= 100lx	2.4	3	-	μA
	PD481PI			3.5	5	-	
*2 Short circuit current temperature coefficient		β_T	E_V= 100lx	-	0.2	-	%/˚C
Dark current		I_d	V_R= 10V	-	1	30	nA
Dark current temperature coefficient		α_T	V_R= 10V	-	3.5	5	times/10˚C
Terminal capacitance		C_t	V_R= 3V, f= 1MHz	-	20	50	pF
Peak sensitivity wavelength	**PD49PI**	λ_P	-	-	1 000	-	nm
	PD481PI			910	960	1 010	

*2 E_V: Illuminance by CIE standard light source A (tungsten lamp)

Fig .1 Power Dissipation vs. Ambient Temperature

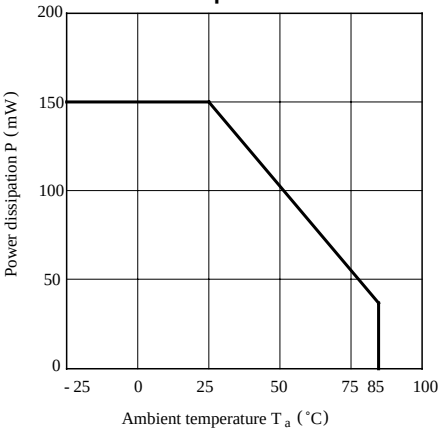


Fig. 2 Spectral Sensitivity

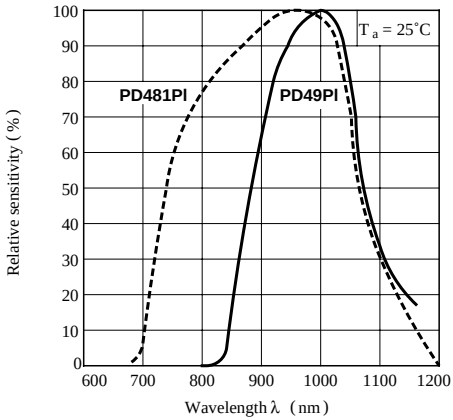


Fig. 3 Dark Current vs. Ambient Temperature

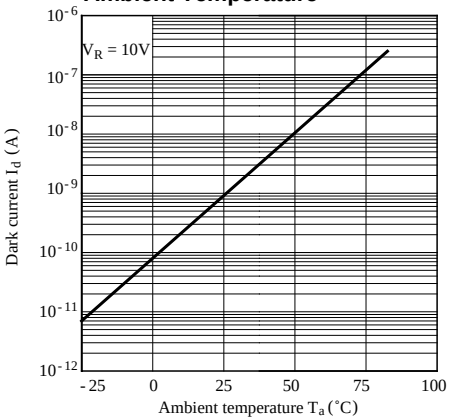


Fig. 4 Dark Current vs. Reverse Voltage

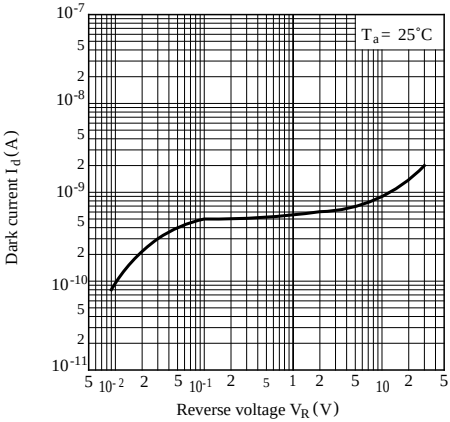


Fig. 5 Terminal Capacitance vs. Reverse Voltage

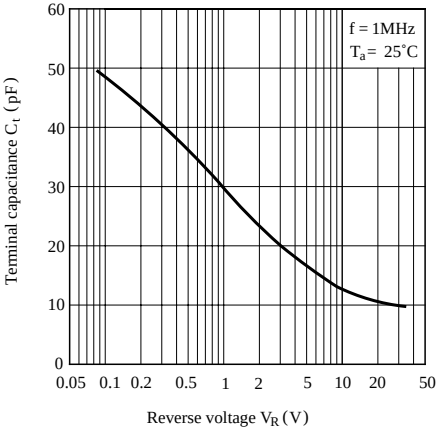


Fig. 6 Relative Output vs. Ambient Temperature

(Emitter : GL537/GL538,Detector : PD49PI/PD481PI)

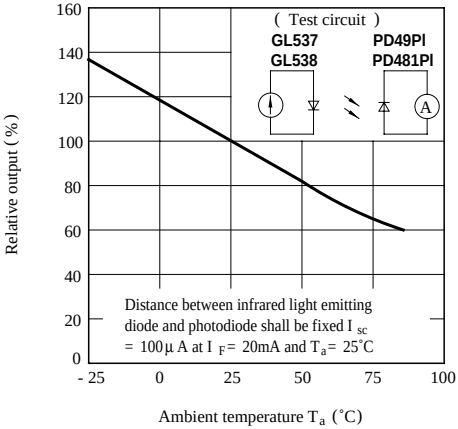


Fig. 7 Sensitivity Diagram (T_a = 25°C)

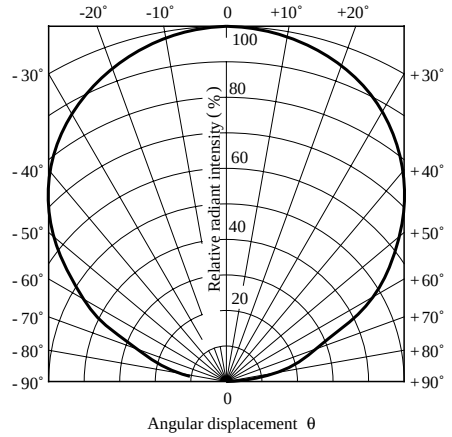


Fig. 8 Relative Output vs. Distance
(Emitter:GL537/GL538
Detector : PD49PI/ PD481PI)

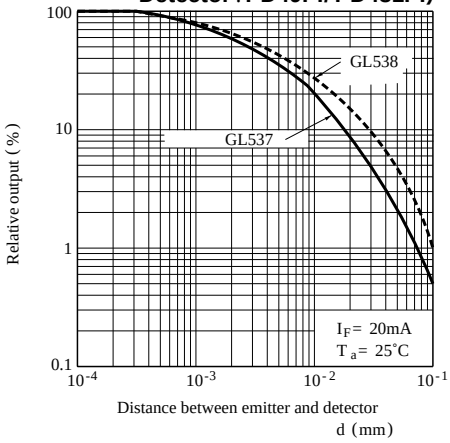
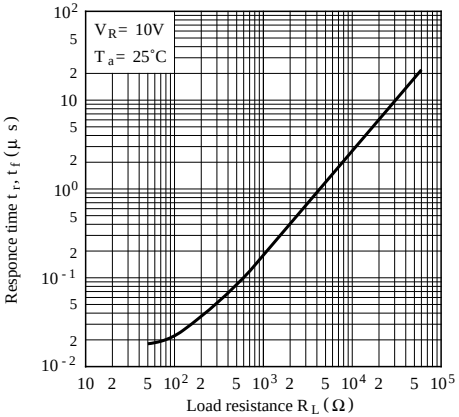
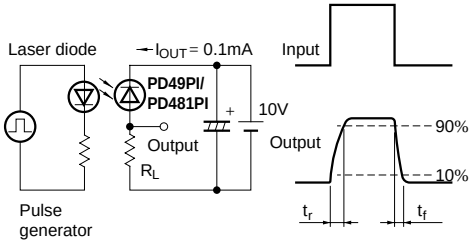


Fig. 9 Responce Time vs. Load Resistance



Test Circuit for Responce Time



● Please refer to the chapter "Precautions for Use."

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— Telecommunication equipment [terminal]
— Test and measurement equipment
— Industrial control
— Audio visual equipment
— Consumer electronics

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— Gas leakage sensor breakers
— Alarm equipment
— Various safety devices, etc.

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