

PD481PI Datasheet



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DiGi Electronics Part Number	PD481PI-DG
Manufacturer	Sharp Microelectronics
Manufacturer Product Number	PD481PI
Description	SENSOR PHOTODIODE 960NM SIDE
Detailed Description	Photodiode 960nm Side View

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Purchase and inquiry

Manufacturer Product Number:

PD481PI

Series:

-

Wavelength:

960nm

Spectral Range:

680nm ~ 1200nm

Responsivity @ nm:

-

Voltage - DC Reverse (Vr) (Max):

32 V

Active Area:

-

Operating Temperature:

-25°C ~ 85°C

Package / Case:

Side View

Manufacturer:

Sharp Microelectronics

Product Status:

Obsolete

Color - Enhanced:

-

Diode Type:

-

Response Time:

-

Current - Dark (Typ):

1nA

Viewing Angle:

-

Mounting Type:

Through Hole

Environmental & Export classification

RoHS Status:

RoHS non-compliant

ECCN:

EAR99

Moisture Sensitivity Level (MSL):

2 (1 Year)

HTSUS:

8541.49.1050

PD49PI/PD481PI

High Speed, High Sensitivity Photodiode

■ Features

1. High sensitivity
($I_{sc} >= 3.5 \mu A$ at $E_v = 100lx$: **PD481PI**)
2. Peak sensitivity wavelength matching with infrared LED
($\lambda_p = 960nm$: **PD481PI**)
($\lambda_p = 1000nm$: **PD49PI**)
3. Built-in visible light cut-off filter

■ 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

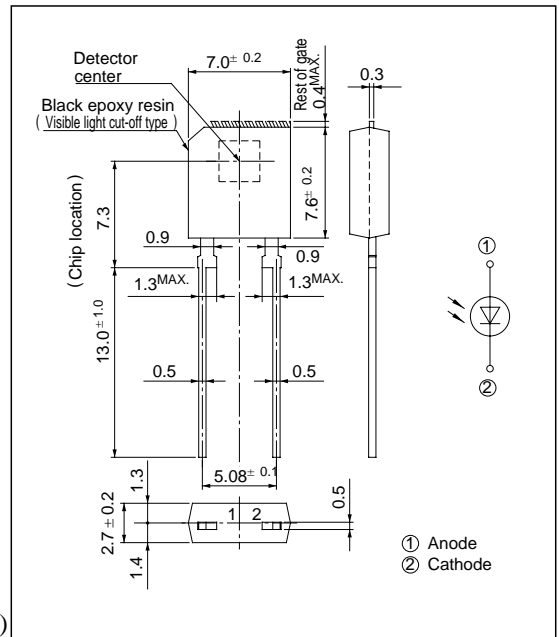
(Ta = 25°C)

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)

■ Outline Dimensions

(Unit : mm)



① Anode
② Cathode

Fig. 1 Power Dissipation vs. Ambient Temperature

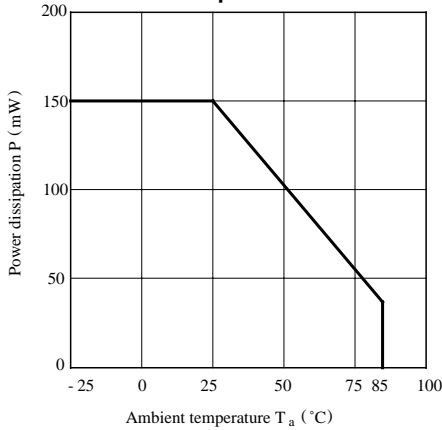


Fig. 2 Spectral Sensitivity

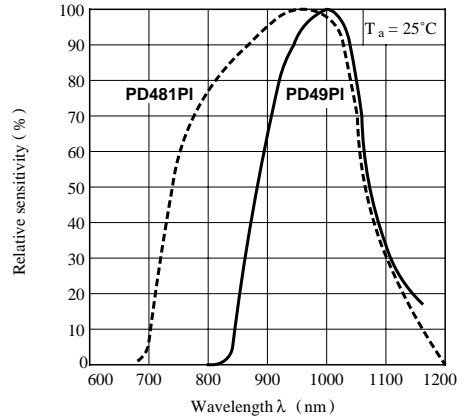


Fig. 3 Dark Current vs. Ambient Temperature

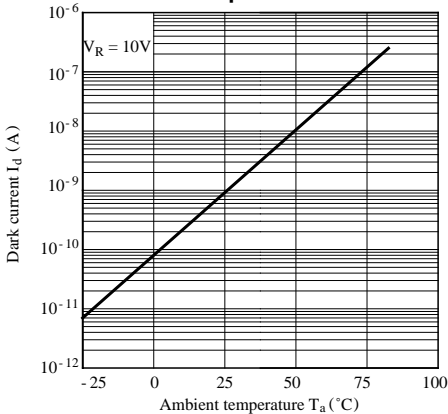


Fig. 4 Dark Current vs. Reverse Voltage

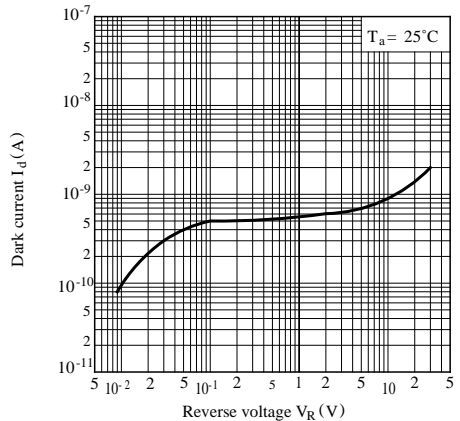


Fig. 5 Terminal Capacitance vs. Reverse Voltage

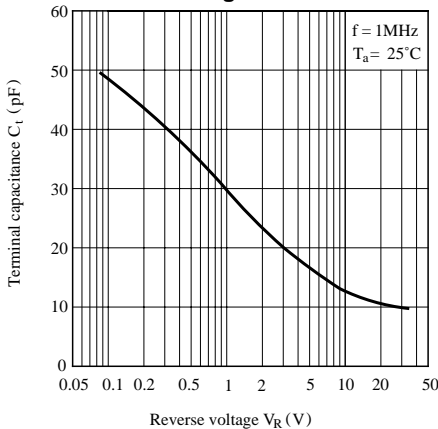


Fig. 6 Relative Output vs. Ambient Temperature
(Emitter : GL537/GL538, Detector : PD49PI/PD481PI)

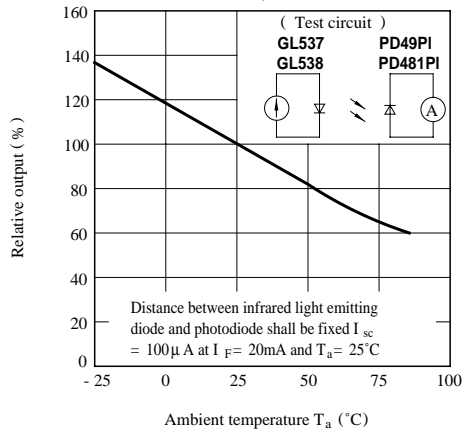


Fig. 7 Sensitivity Diagram ($T_a = 25^\circ\text{C}$)

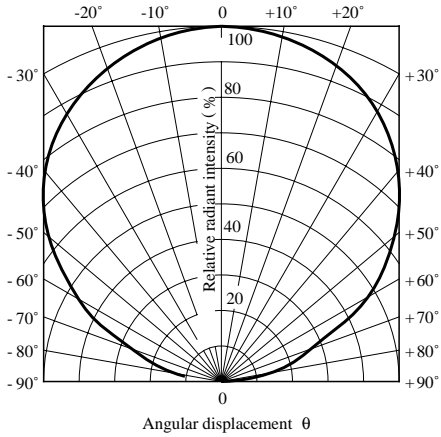


Fig. 8 Relative Output vs. Distance
(Emitter:GL537/GL538
Detector : PD49PI/ PD481PI)

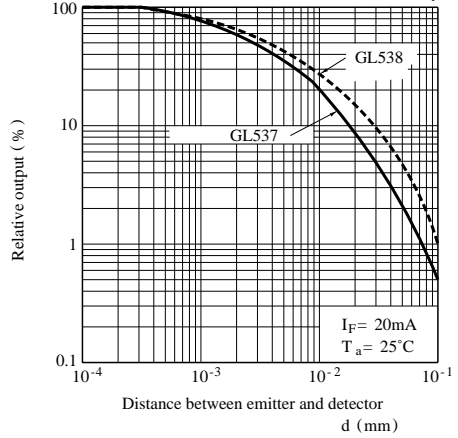
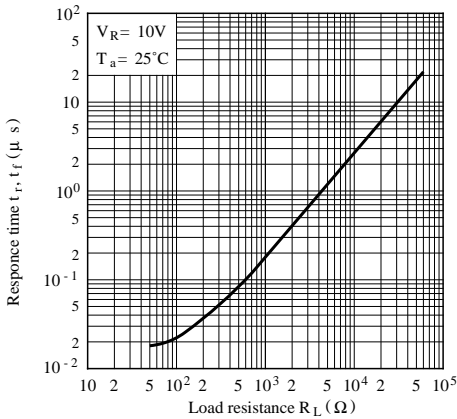
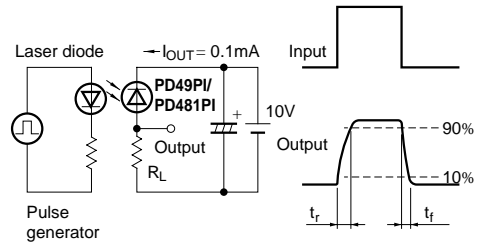


Fig. 9 Responce Time vs. Load Resistance



Test Circuit for Responce Time



● Please refer to the chapter “Precautions for Use.”

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