

PD480PI/PD480PI 1

High Speed, Narrow Acceptance Photodiodes

■ Features

1. High speed response (t_r, t_f : TYP. 100ns at $R_L = 1k\Omega$)
2. Narrow acceptance ($\Delta\theta$: TYP. $\pm 20^\circ$)
3. Compact
4. Lead forming type (PD480PI 1)

■ Applications

1. Game machines
2. Optoelectronic switches
3. Infrared remote controllers for TVs, VCRs, audio equipment, air conditioners, etc.

■ Absolute Maximum Ratings ($T_a = 25^\circ C$)

Parameter	Symbol	Rating	Unit
Reverse voltage	V_R	20	v
Power dissipation	P	75	mW
Operating temperature	T_{opr}	-25 to +85	°C
Storage temperature	T_{stg}	-40 to +85	°C
*1 Soldering temperature	T_{sol}	260	°C

*1 For 3 seconds at the position of 2.5mm from the surface of resin edge

■ Electro-optical Characteristics ($T_a = 25^\circ C$)

Parameter	Symbol	Condition	MIN	TYP	MAX	Unit
*2 Short circuit current	I_{sc}	$E_V = \pm 1000 \text{ Ix}$	1.0	1.7	2.4	μA
Dark current	I_d	$V_R = 10\text{V}, E_V = 0$	—	—	10	nA
Terminal capacitance	$C_{t,C}$	$V_R = 0, f = 1\text{MHz}$	—	4.0	10	pF
Peak sensitivity wavelength	λ_o	—	950	—	—	nm
Response time	t_r, t_f	$R_L = 1k\Omega, V_R = 10\text{V}$	—	100	250	ns
Half intensity angle	$\Delta\theta$	—	± 20	—	—	—

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

■ Outline Dimensions

(Unit : mm)

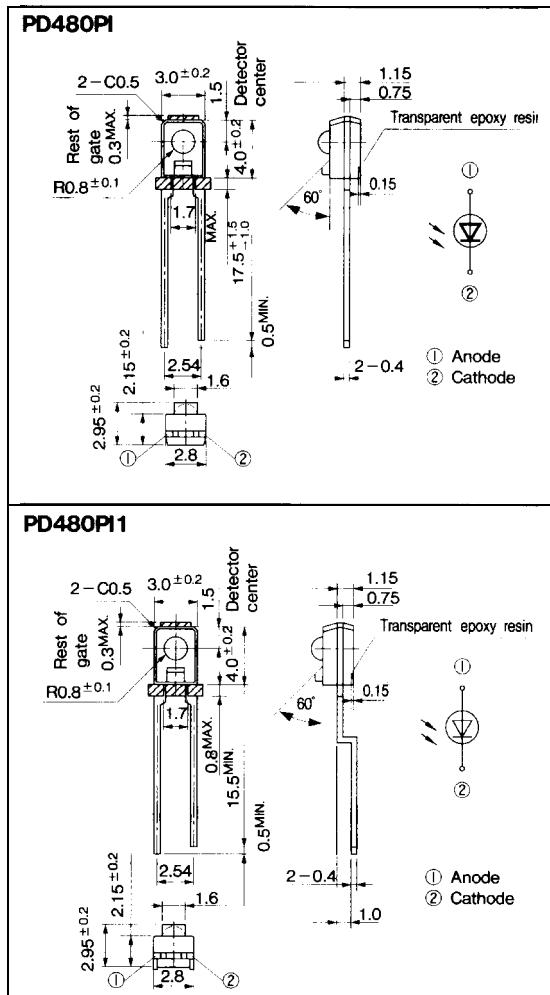


Fig. 1 Power Dissipation vs. Ambient Temperature

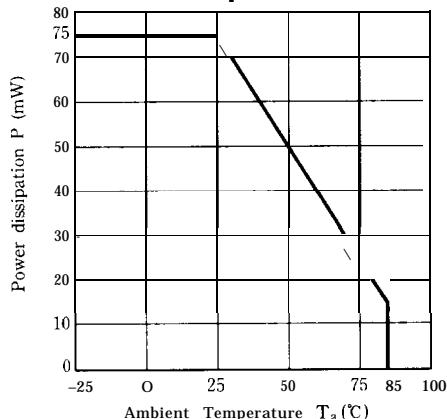


Fig. 3 Dark Current vs. Ambient Temperature

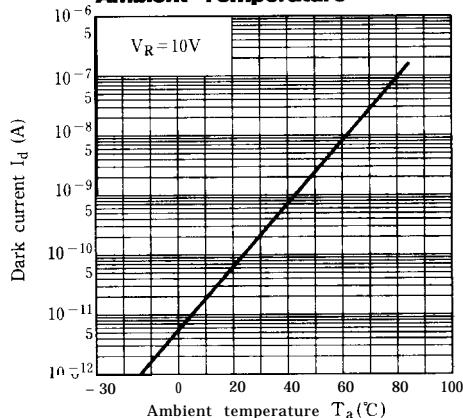


Fig. 5 Terminal Capacitance vs. Reverse Voltage

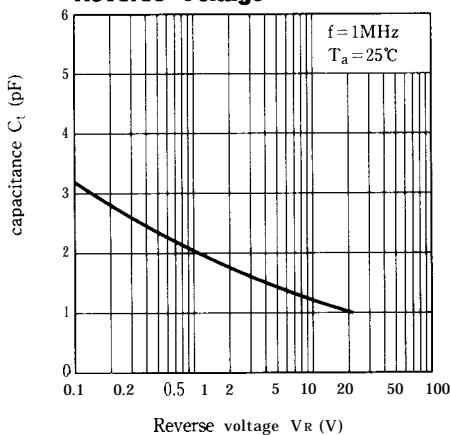


Fig. 2 Spectral Sensitivity

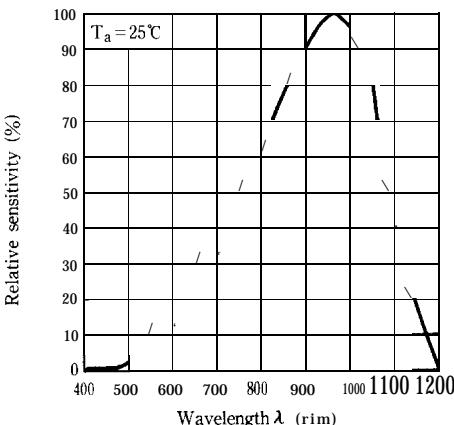


Fig. 4 Dark Current vs. Reverse Voltage

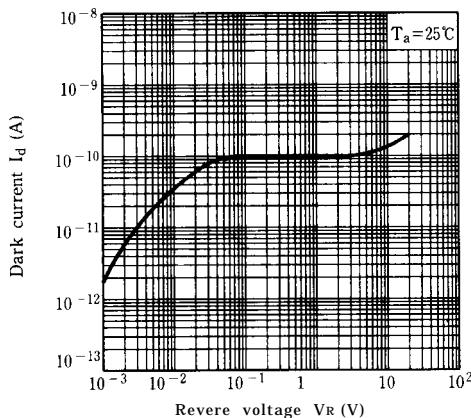


Fig. 6 Relative Output vs. Ambient Temperature

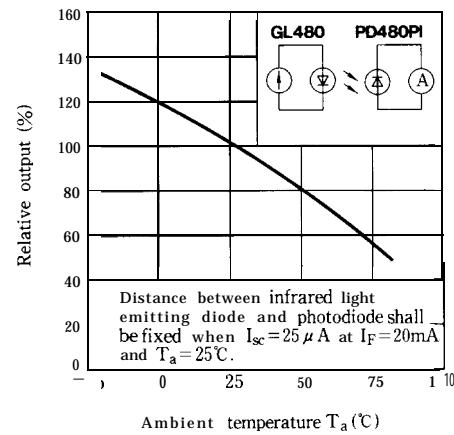
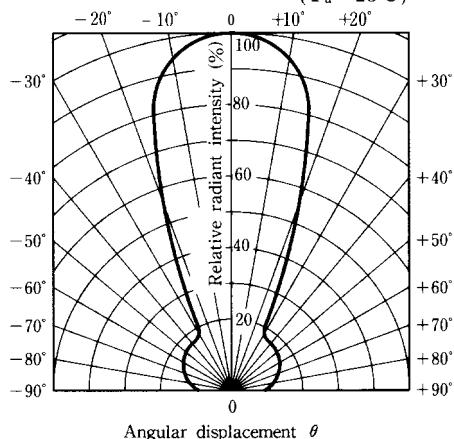
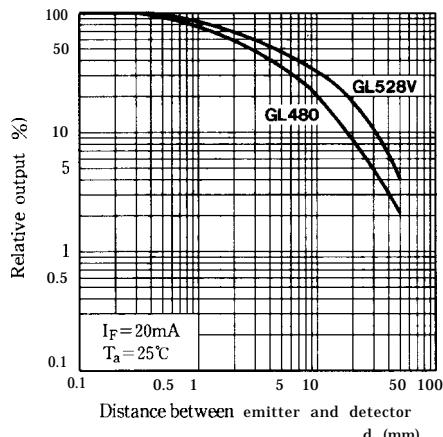
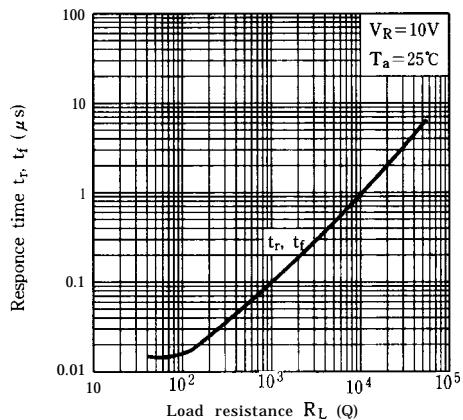
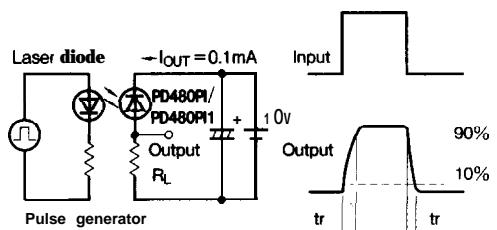


Fig. 7 Sensitivity Diagram ($T_a = 25^\circ\text{C}$)**Fig. 8 Relative Output vs. Distance****Fig. 9 Response Time vs. Load Resistance****Test Circuit for Response Time**

- Please refer to the chapter "Precautions for Use." (Page 78 to 93)