

PD412PI

Compact Package Type Photodiode with Condensing Lens

■ Features

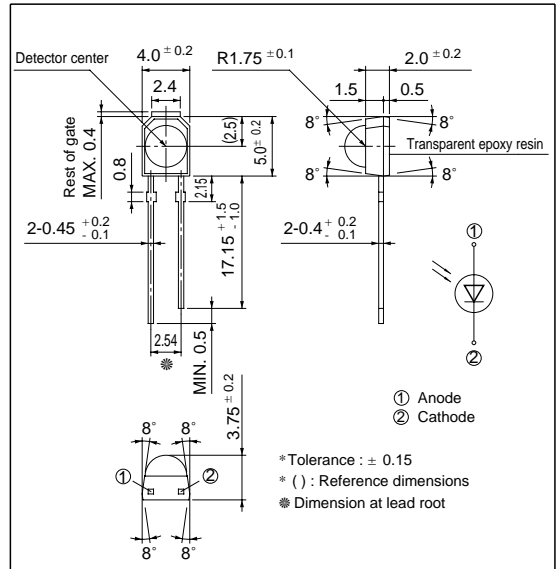
1. High sensitivity
(TYP. 0.5A/W at $\lambda_p = 780\text{nm}$)
2. High speed response

■ Applications

1. Optoelectronic switches
2. MD (mini disk) laser power monitors

■ Outline Dimensions

(Unit : mm)

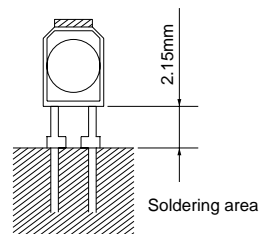


■ Absolute Maximum Ratings

(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

*1 For MAX. 5 seconds at the position of 2.15 mm from the resin edge



■ Electro-optical Characteristics

(Ta=25 °C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Shortcircuit current	I _{sc}	*2 E _v = 100 lx	3.5	4.7	6.3	μ A
Shortcircuit current temperature coefficient	β _T	*2 E _v = 100 lx	-	0.2	-	% /°C
Dark current	I _d	V _R = 10V, E _e = 0	-	0.5	10	nA
Dark current temperature coefficient	α _T	V _R = 10V, E _e = 0	-	3.5	5.0	times/10°C
Terminal capacitance	C _t	V _R = 3V, f= 1MHz	-	100	350	pF
Peak sensitivity wavelength	λ _p		-	800	-	nm
Peak spectral sensitivity	K	l = 780nm	-	0.5	-	A/W
Response time	Rise Time	R _L = 1kΩ V _R = 10V	-	250	-	ns
	Fall Time		-	250	-	
Half intensity angle	Δ θ		-	± 45	-	°

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

Fig. 1 Power Dissipation vs. Ambient Temperature

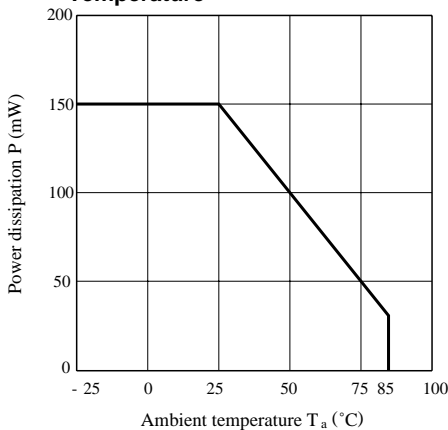


Fig. 2 Shortcircuit Current vs. Illuminance

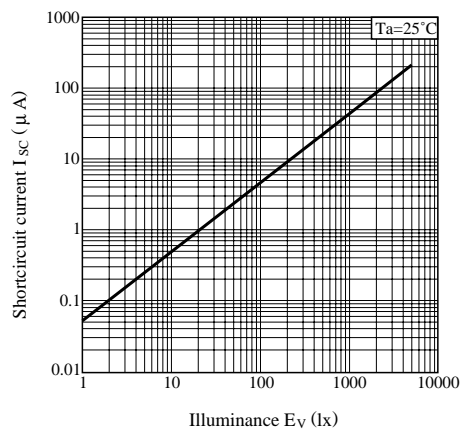


Fig. 3 Spectral Sensitivity

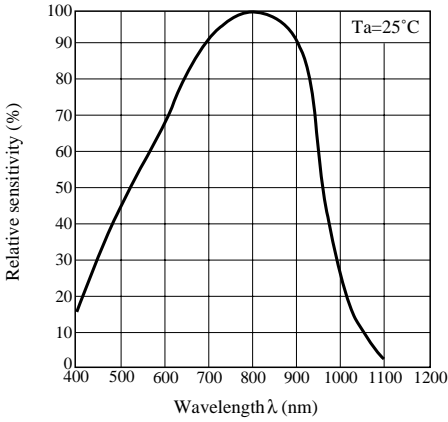


Fig. 4 Dark Current vs. Ambient Temperature

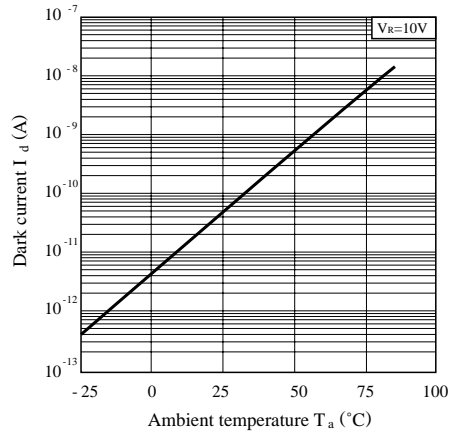


Fig. 5 Dark Current vs. Reverse Voltage

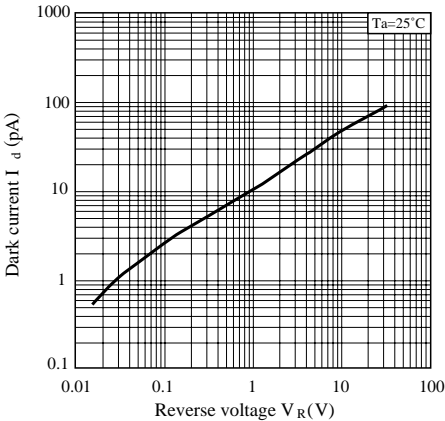


Fig. 6 Terminal Capacitance vs. Reverse Voltage

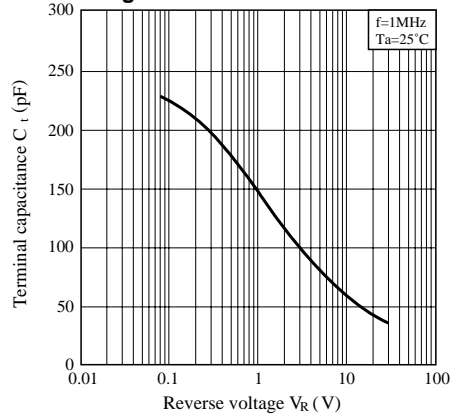


Fig. 7 Relative Output vs. Ambient Temperature

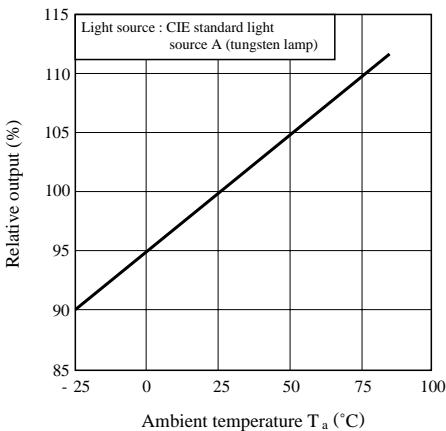


Fig. 8 Radiation Diagram ($T_a = 25^\circ\text{C}$)

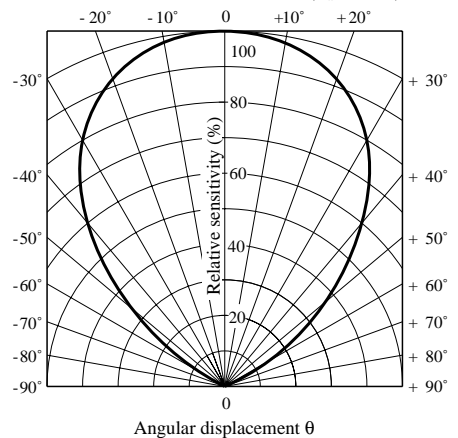


Fig. 9 Relative Output vs. Distance
(Detector : GL537/GL538)

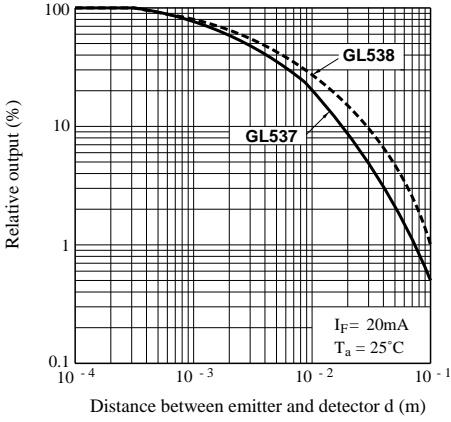
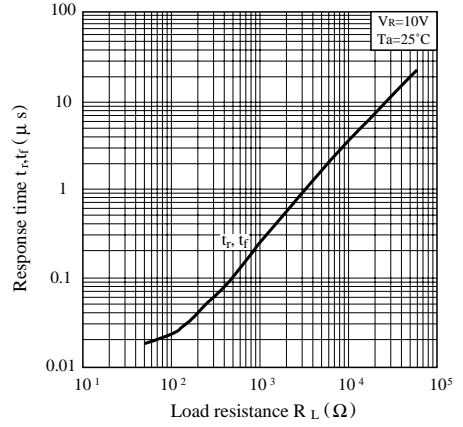
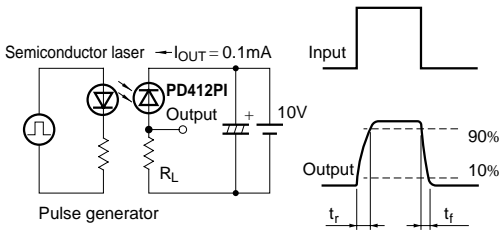


Fig. 10 Response Time vs. Load Resistance



Test Circuit for Response Time



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