PD413PI

High Speed Type Photodiode

■ Features

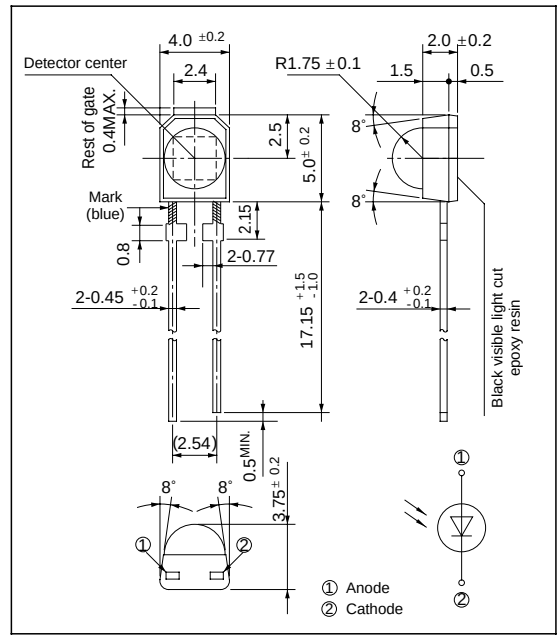
1. Built-in visible light cut-off filter
   (Sensitivity wavelength range : 750 to 1070 nm)
2. Half intensity angle : Δθ : ± 45˚

■ Applications

1. Portable information terminal equipment
2. Personal computers
3. Printers

■ 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
*1Soldering temperature	T_{sol}	260	˚C

*1 For 5 seconds at the position of 2.15 mm from bottom face of resin package

■ Electro-optical Characteristics

(Ta=25 ˚C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Shortcircuit current	I_{SC}	E_V*2= 100 lx	4.5	5.4	8.1	μA
Dark current	I_d	V_R= 10V, E_V= 0	-	-	10	nA
Forward voltage	V_F	I_F= 1mA	-	-	1	V
Terminal capacitance	C_t	V_R= 3V, f= 1MHz	-	20	35	pF
Peak sensitivity wavelength	λ_p	-	-	960	-	nm
Half intensity angle	Δθ		-	± 45	-	˚
Response time	t_r , t_f	R_L= 1kΩ, V_R= 10V	-	200	-	ns

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

Fig. 1 Power Dissipation vs. Ambient Temperature

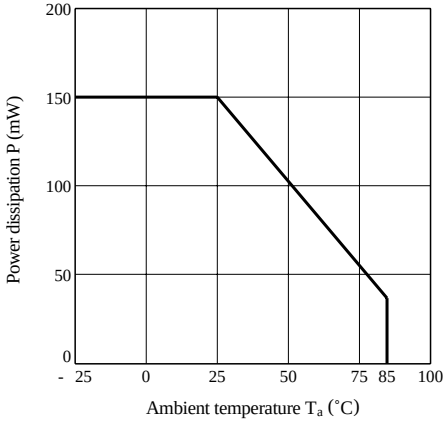


Fig. 2 Spectral Sensitivity

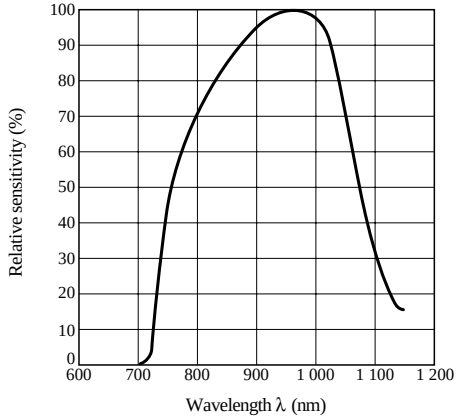


Fig. 3 Shortcircuit Current vs. Illuminance

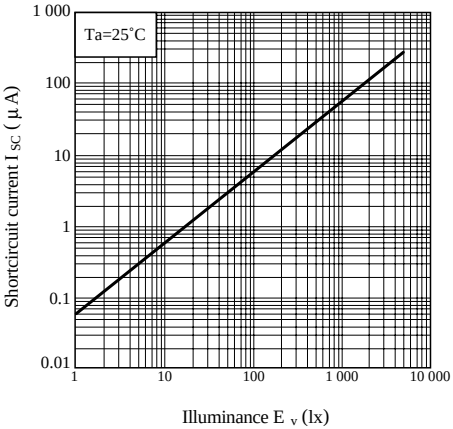


Fig. 4 Dark Current vs. Ambient Temperature

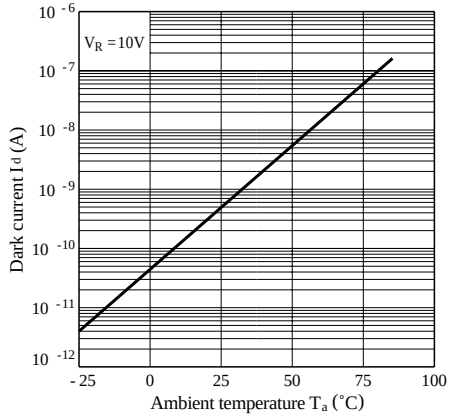


Fig. 5 Dark Current vs. Reverse Voltage

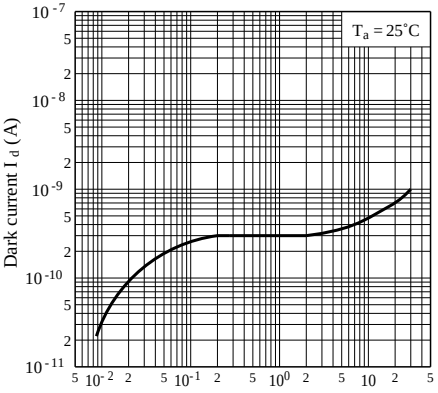


Fig. 6 Terminal Capacitance vs. Reverse Voltage

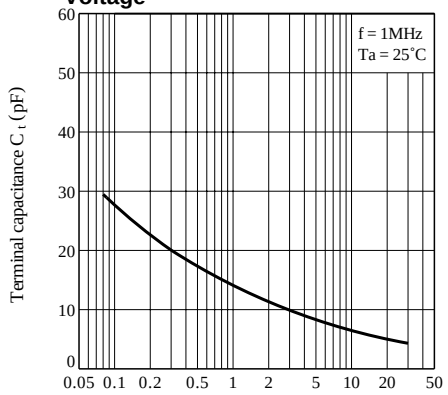


Fig. 7 Relative Output vs. Ambient Temperature (Detector : GL537/GL538)

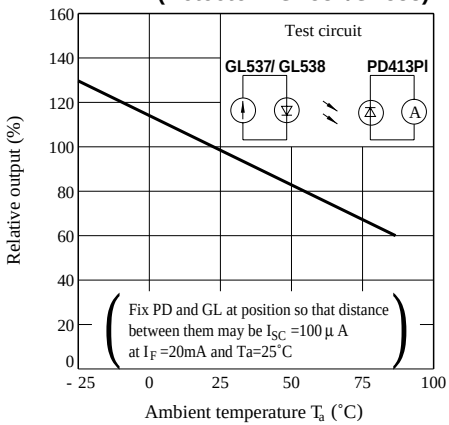


Fig. 8 Radiation Diagram (T_a = 25˚C)

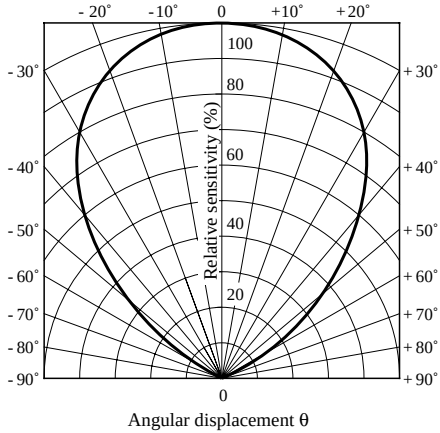


Fig. 9 Relative Output vs. Distance (Detector : GL537/GL538)

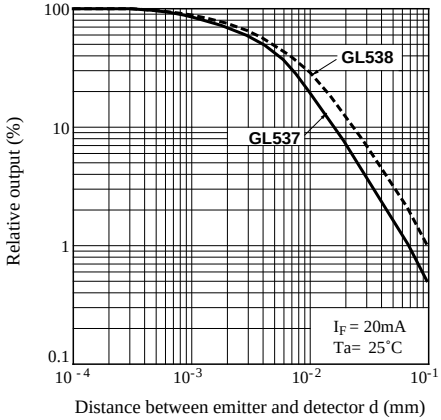
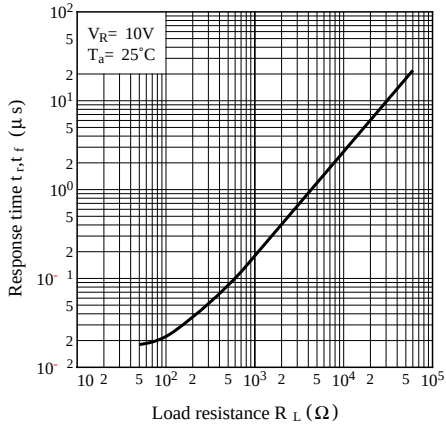
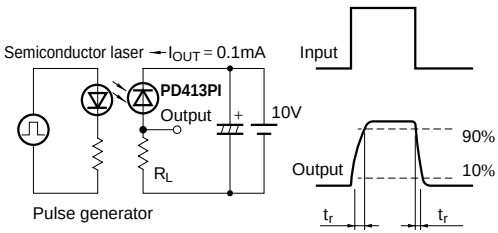


Fig. 10 Response Time vs. Load Resistance



Test Circuit for Response Time



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

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- Industrial control
- Audio visual equipment
- Consumer electronics

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- Alarm equipment
- Various safety devices, etc.

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