PD410PI

High Speed Photodiode

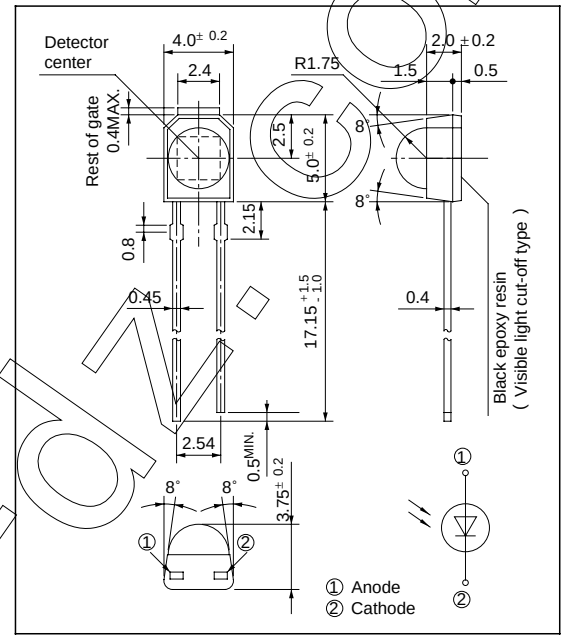
■ Features

1. Peak sensitivity wavelength matching with infrared LED(λ p= 1 000nm)
2. Built-in visible light cut-off filter

■ Applications

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

■ 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 5 seconds at the position of 2.15mm from the bottom face of resin package

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

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Shortcircuit current	I_{SC}	E_V= 100 lx	2.5	3.0	4.5	μA
Short-circuit current temperature coefficient	β_T	E_V= 100 lx	-	0.2	-	%/˚C
Dark current	I_d	V_R= 10V, E_V= 0	-	0.5	10	nA
Dark current temperature coefficient	α_T	V_R= 10V, E_V= 0	-	3.5	5.0	times/10˚C
Terminal capacitance	C_t	V_R= 3V, f= 1MHz	-	20	35	pF
Peak sensitivity wavelength	λ_p	-	-	1000	-	nm
Peak spectral sensitivity	K	λ = 1000nm	-	1	-	A/W
Half intensity angle	Δθ	-	-	± 45	-	°
Response time	t_r , t_f	R_L= 1kΩ , V_R= 10V	-	200	-	ns

Fig. 1 Power Dissipation vs. Ambient Temperature

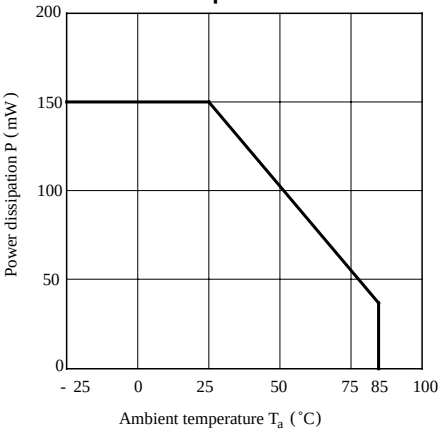


Fig. 2 Spectral Sensitivity

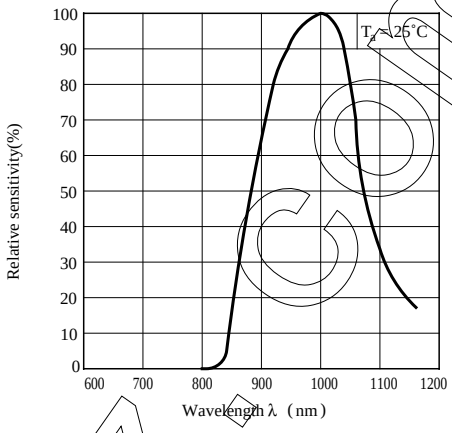


Fig. 3 Dark Current vs. Ambient Temperature

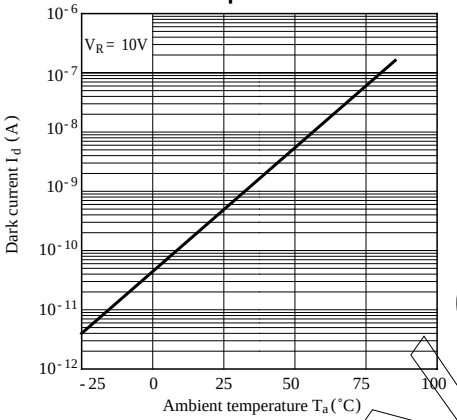


Fig. 4 Dark Current vs. Reverse Voltage

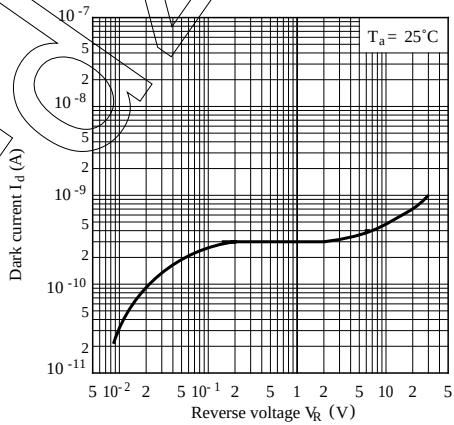


Fig. 5 Terminal Capacitance vs. Reverse Voltage

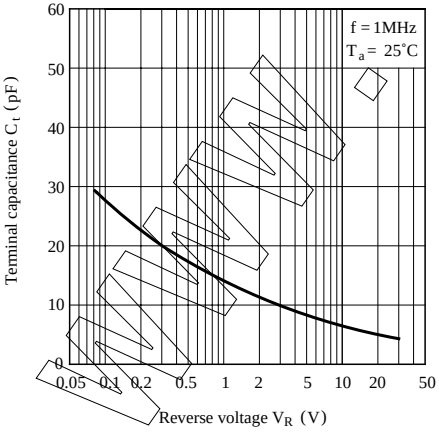


Fig. 6 Relative Output vs. Ambient Temperature

(Emitter : GL537 / GL538)
Detector : PD410PI)

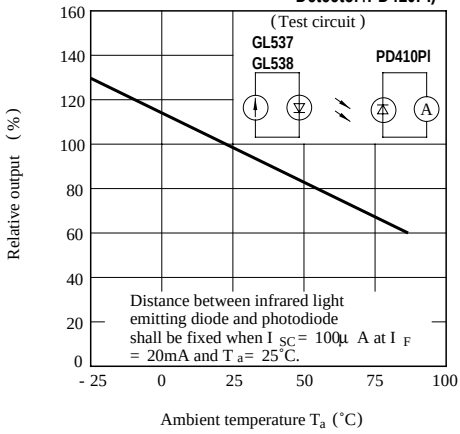


Fig. 7 Sensitivity Diagram (T_a = 25˚C)

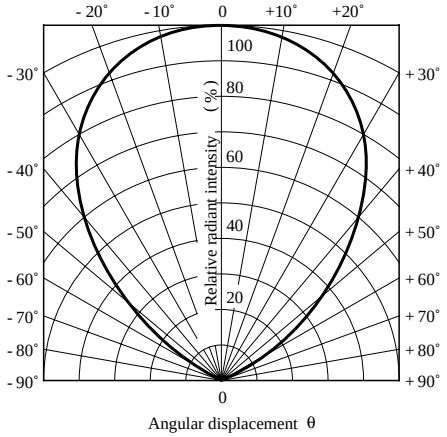


Fig. 8 Relative Output vs. Distance
(Emitter : GL537/ GL538, Detector : PD410PI)

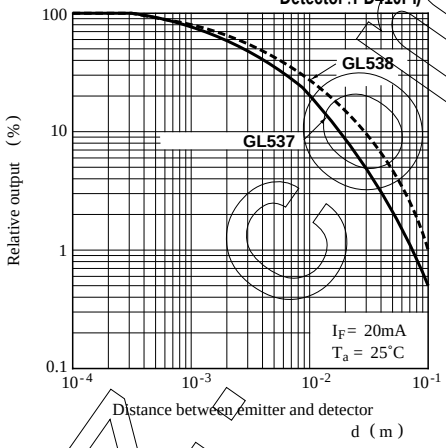
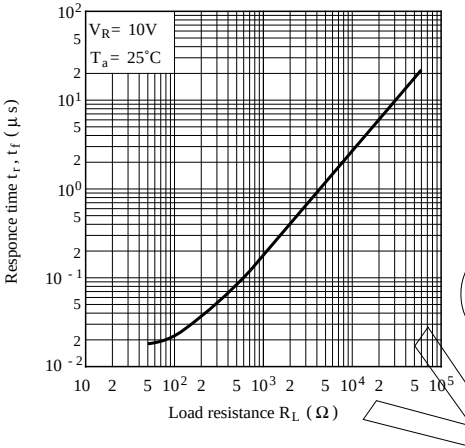
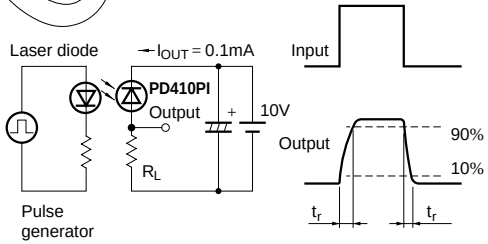


Fig. 9 Responce Time vs. Load Resistance



Test Circuit for Responce Time



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

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- Office automation equipment
- Telecommunication equipment [terminal]
- Test and measurement equipment
- Industrial control
- Audio visual equipment
- Consumer electronics

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- Traffic signals
- Gas leakage sensor breakers
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- Various safety devices, etc.

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