

The RPT-37PB3F is a silicon planar phototransistor. Since it is molded in plastic with a visible light filter, there is almost no effect from stray light. It is particularly suited for use with a ROHM SIR-34ST3F infrared light emitting diode. It is possible to distinguish the polarity by the shape of ramp type.

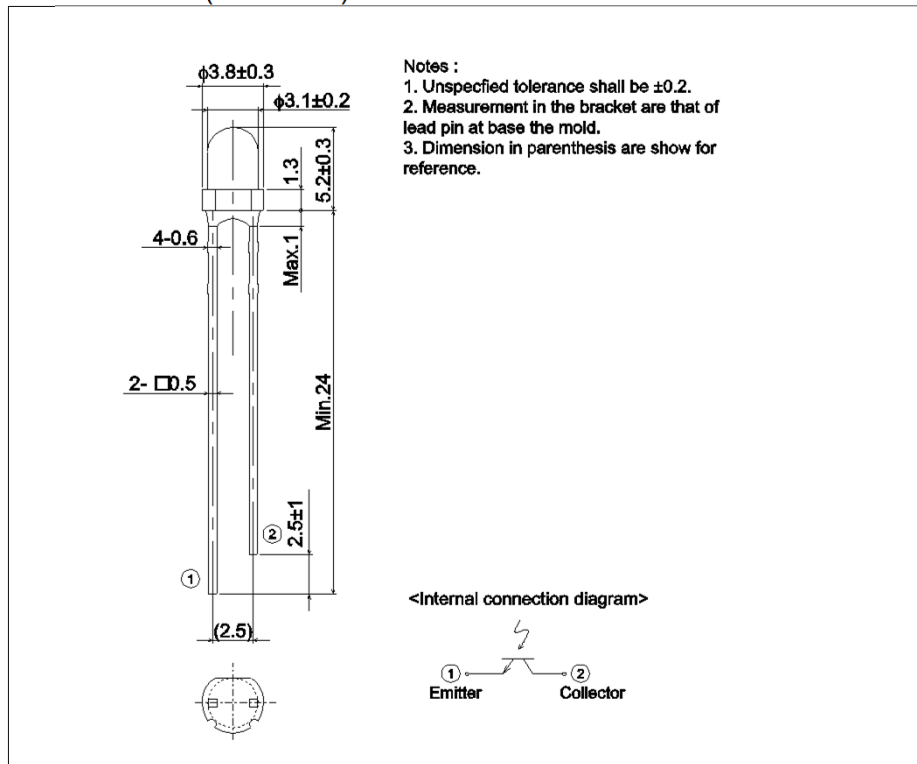
●Applications

- Optical control equipment
- Receiver for sensors

●Features

- 1) High sensitivity.
- 2) Almost no effect from stray light.

●Dimensions (Unit : mm)



●Outline



●Absolute maximum ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector-emitter voltage	V_{CEO}	32	V
Emitter-collector voltage	V_{ECO}	5	V
Collector current	I_C	30	mA
Collector power dissipation	P_C	150	mW
Operating temperature	T_{opr}	-25 to +85	$^\circ\text{C}$
Storage temperature	T_{stg}	-30 to +85	$^\circ\text{C}$

●Electrical and optical characteristics ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
Light current	I_C	$V_{CE} = 5\text{V}$, $E = 500\text{Lx}$	2.0	-	-	mA
Dark current	I_{CEO}	$V_{CE} = 10\text{V}$ (Black box)	-	-	0.5	μA
Peak sensitivity wavelength	λ_p	-	-	800	-	nm
Collector-emitter saturation voltage	$V_{CE(\text{sat})}$	$I_C = 1\text{mA}$, $E = 500\text{Lx}$	-	-	0.4	V
Half-angle	$\theta_{1/2}$	-	-	± 36	-	deg
Response time	$tr \cdot tf$	$V_{CC} = 5\text{V}$, $I_C = 1\text{mA}$, $R_L = 100\Omega$	-	10	-	μs

●Electrical and optical characteristics curves

Fig.1 Dark Current vs. Ambient Temperature

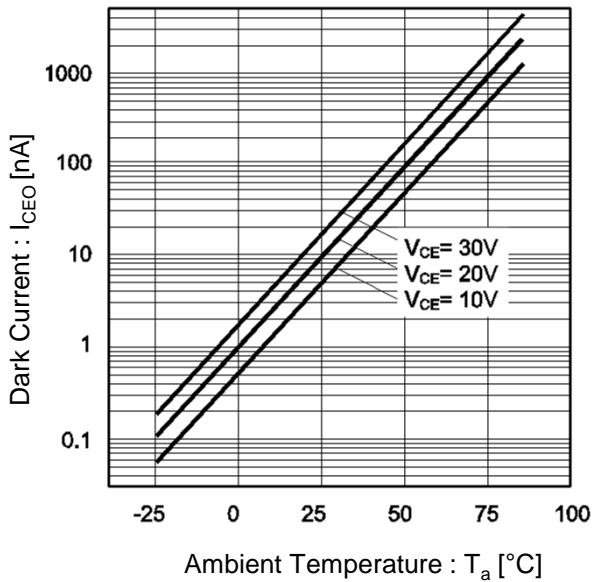


Fig.2 Relative Output vs. Ambient Temperature

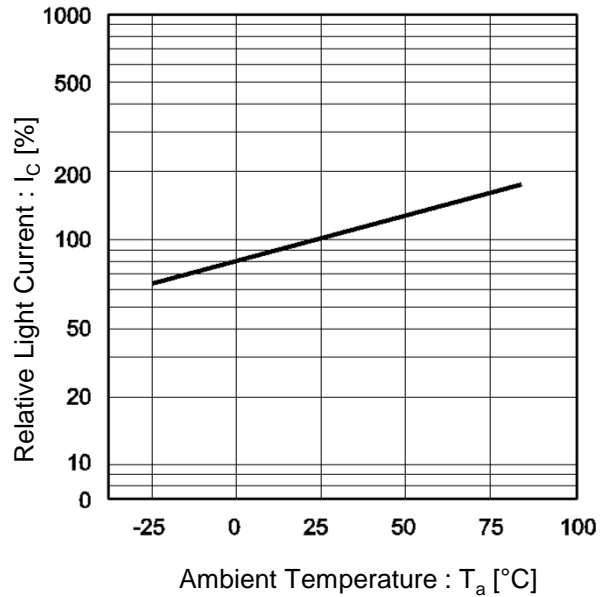


Fig.3 Light Current vs. Emitter Strength

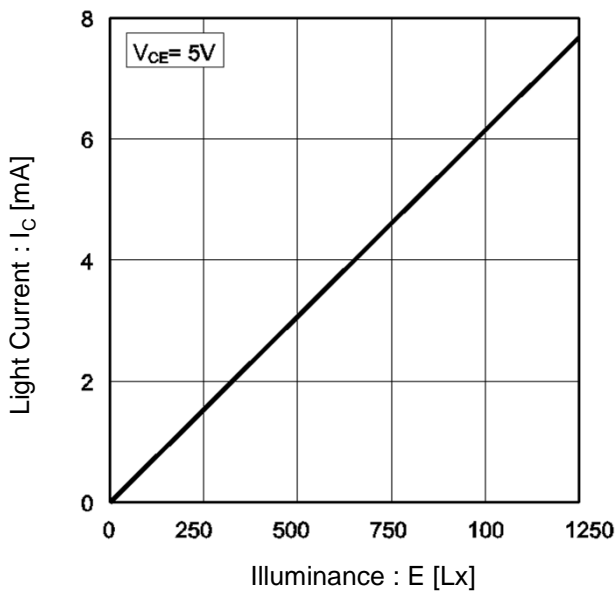
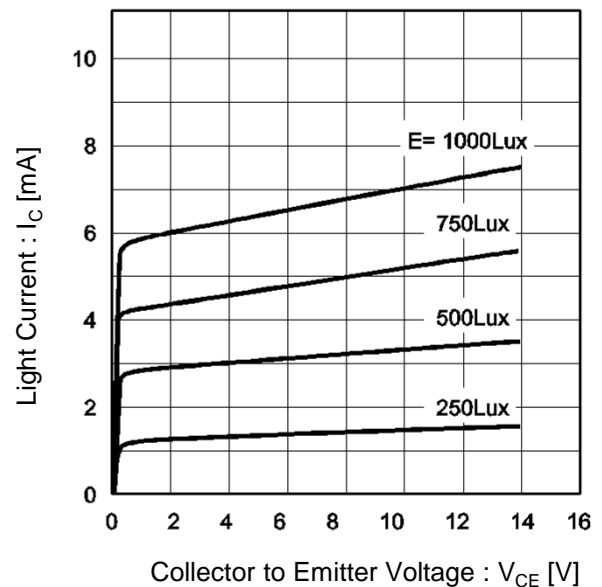


Fig.4 Output Characteristics



●Electrical and optical characteristics curves

Fig.5 Spectral Sensitivity

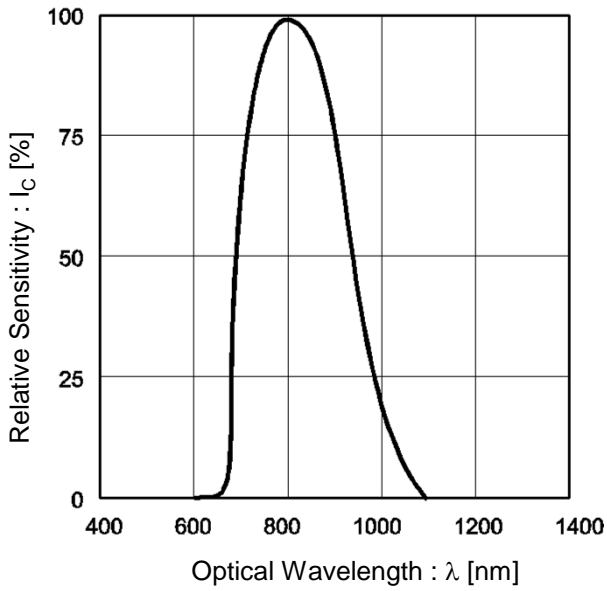


Fig.6 Collector Power Dissipation vs. Ambient Temperature

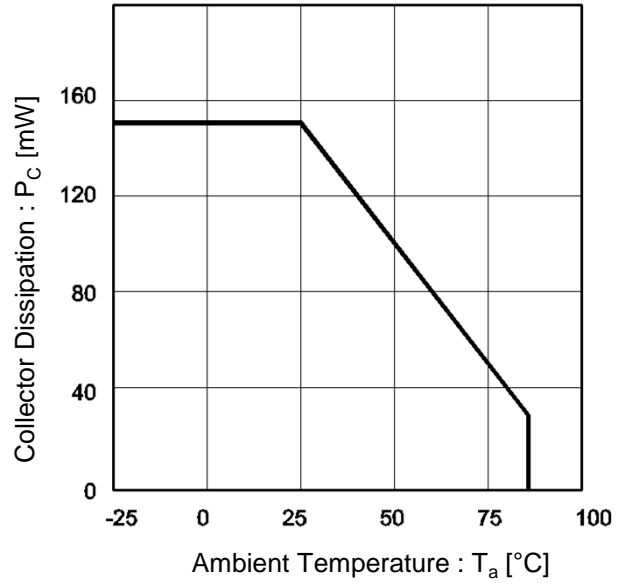
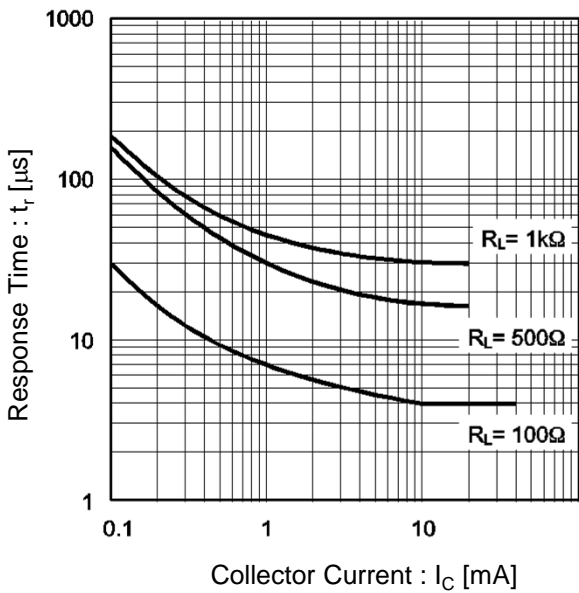
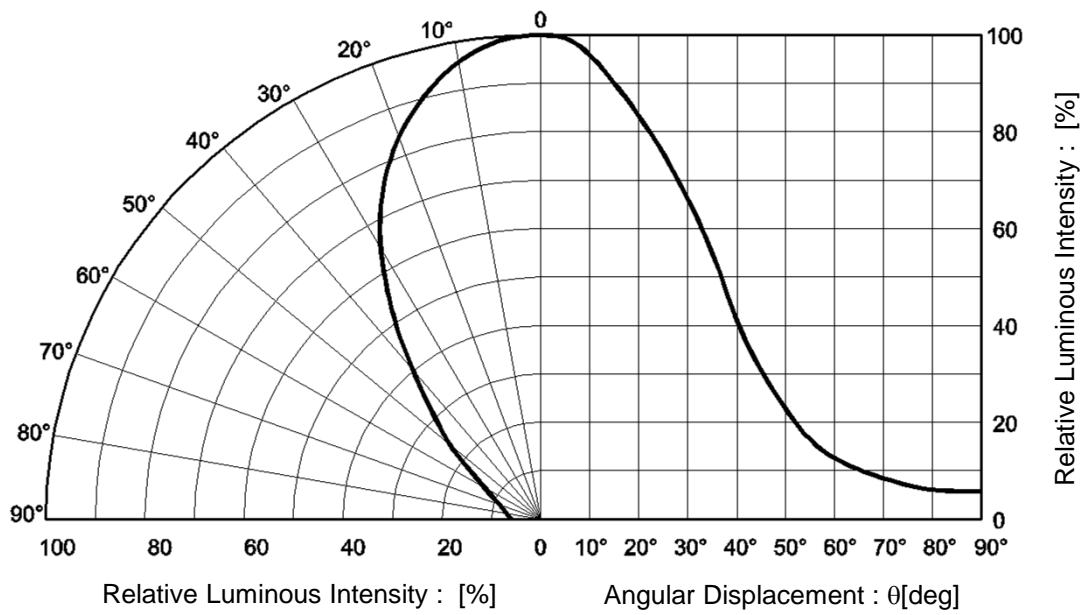


Fig.7 Response time vs. Collector Current



●Electrical and optical characteristics curves

Fig.8 Directional Pattern



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