

The RPT-38PB3F 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.

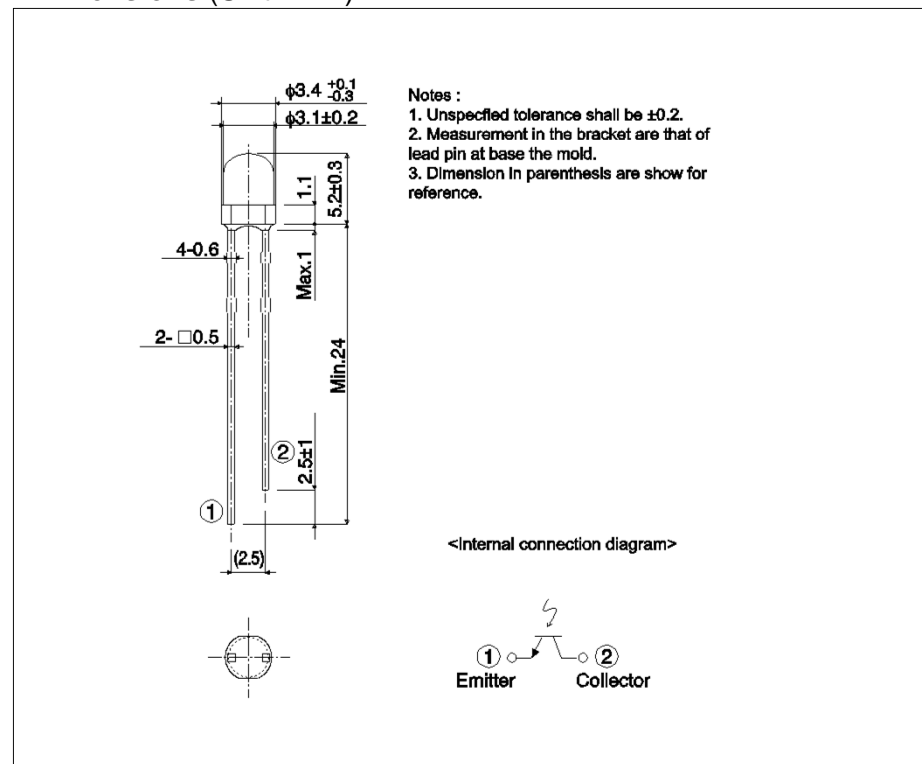
●Applications

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

●Classified table of rank

Item	Light current : I_C	Unit
L	2.0 to 5.0	mA
M	3.0 to 8.0	mA
N	5.5 to 13.0	mA
P	10.0 to 25.0	mA

●Electrical and optical characteristics curves

Fig.1 Dark Current vs. Ambient Temperature Fig.2 Relative Output vs. Ambient Temperature

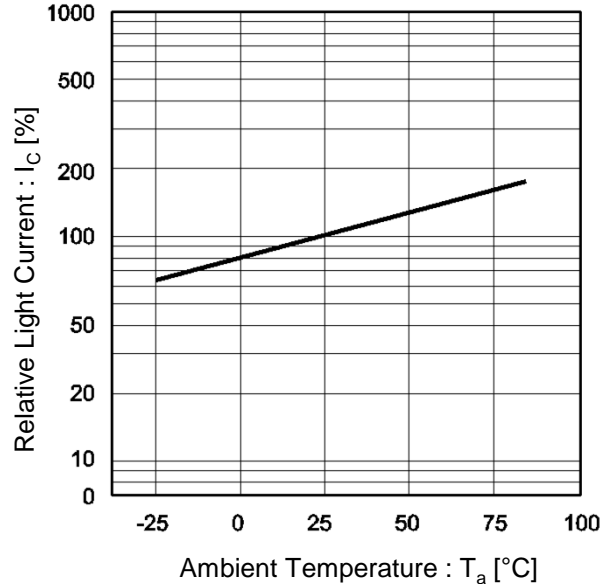
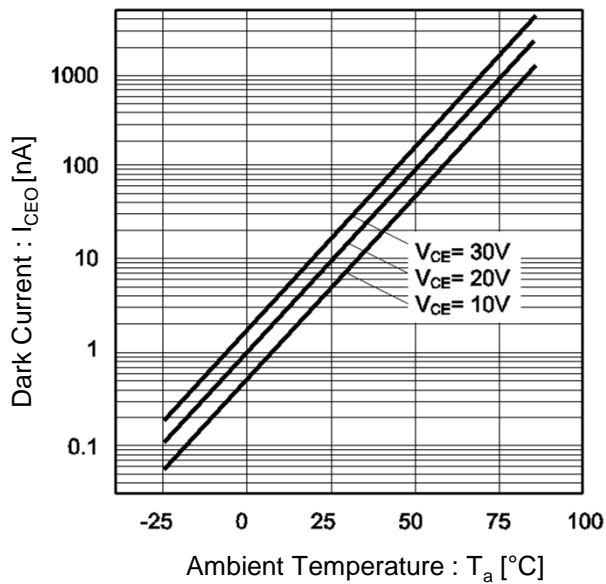


Fig.3 Light Current vs. Emitter Strength

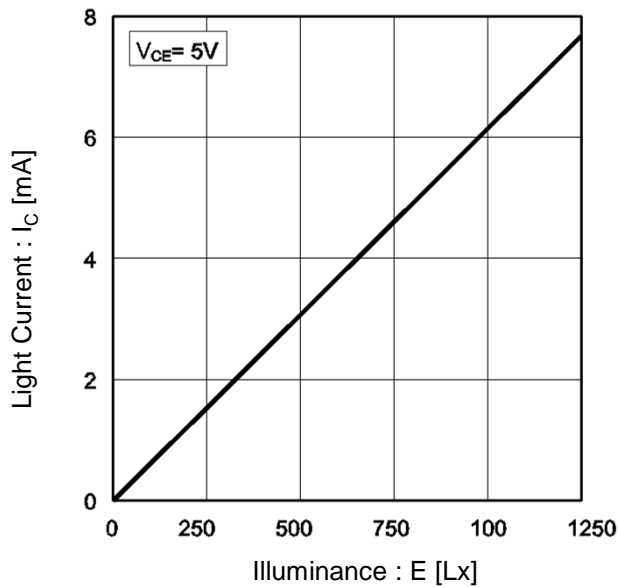
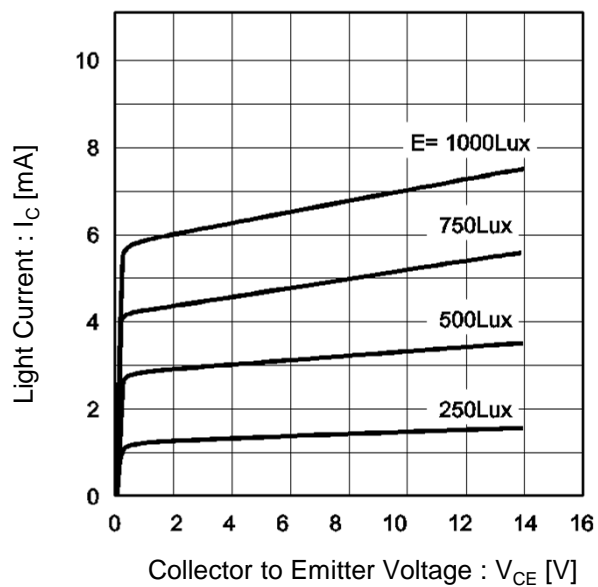


Fig.4 Output Characteristics



●Electrical and optical characteristics curves

Fig.5 Spectral Sensitivity

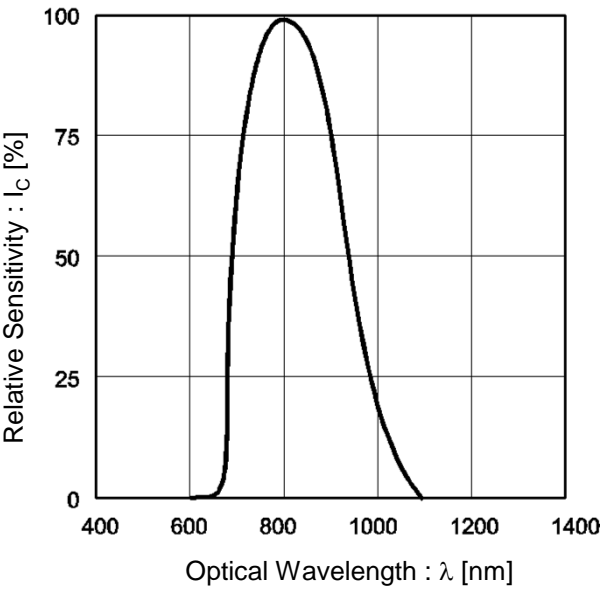


Fig.6 Collector Power Dissipation vs. Ambient Temperature

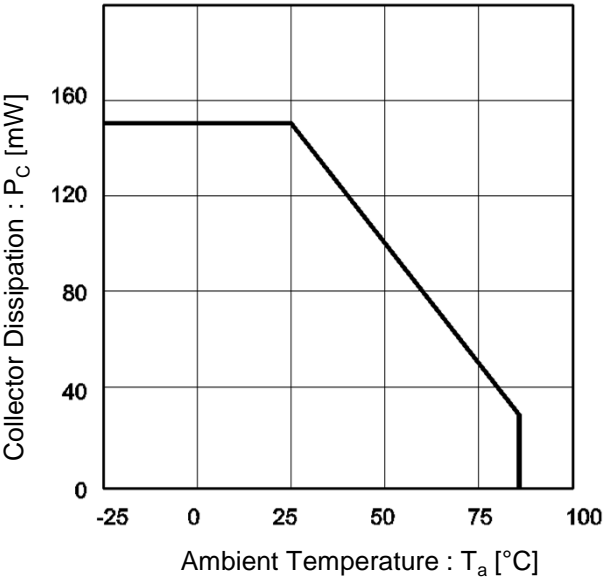
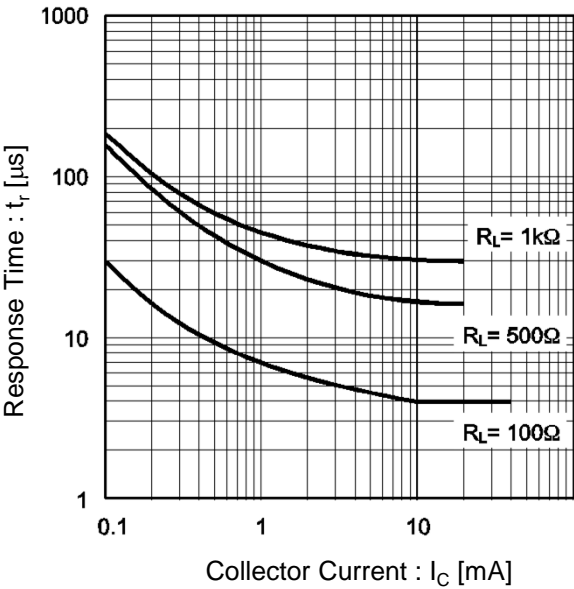
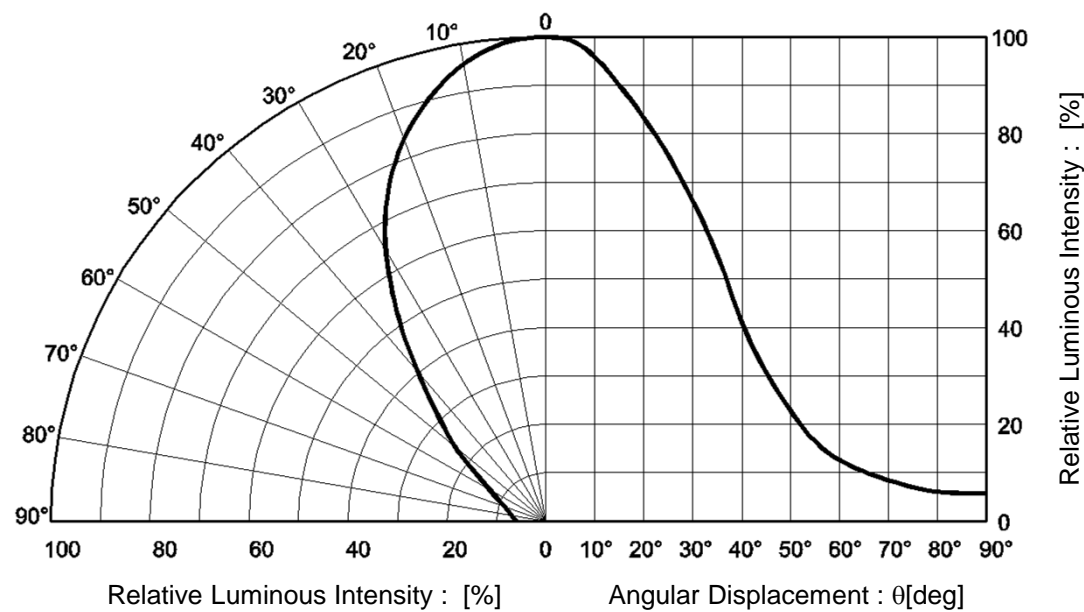


Fig.7 Response time vs. Collector Current



●Electrical and optical characteristics curves

Fig.8 Directional Pattern



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