

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

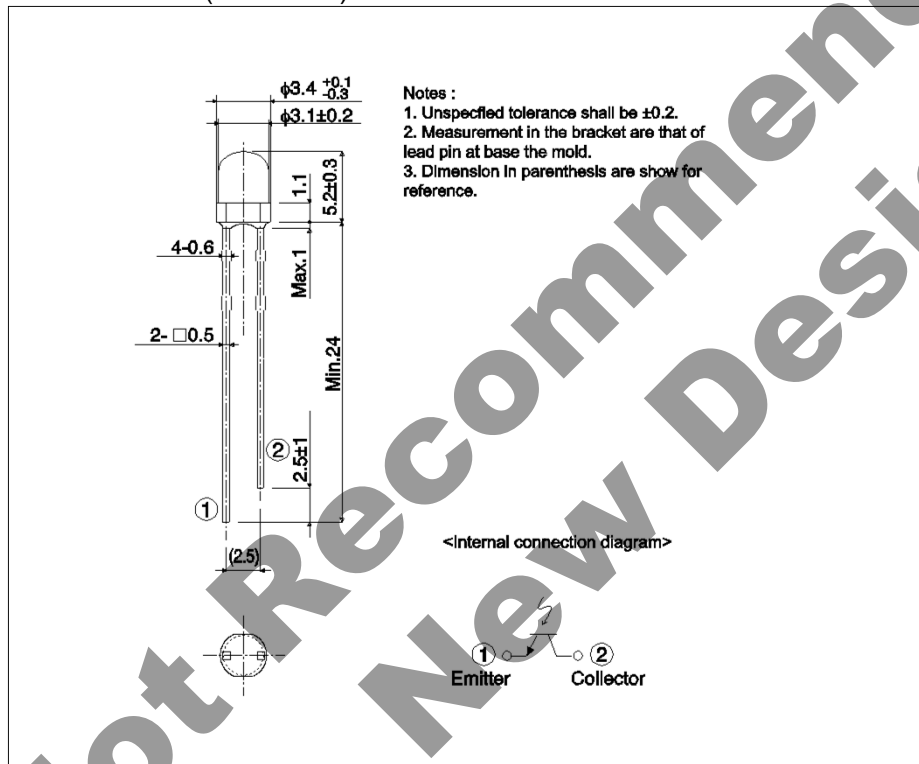
### ●Features

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

### ●Outline



### ●Dimensions (Unit : mm)



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

●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

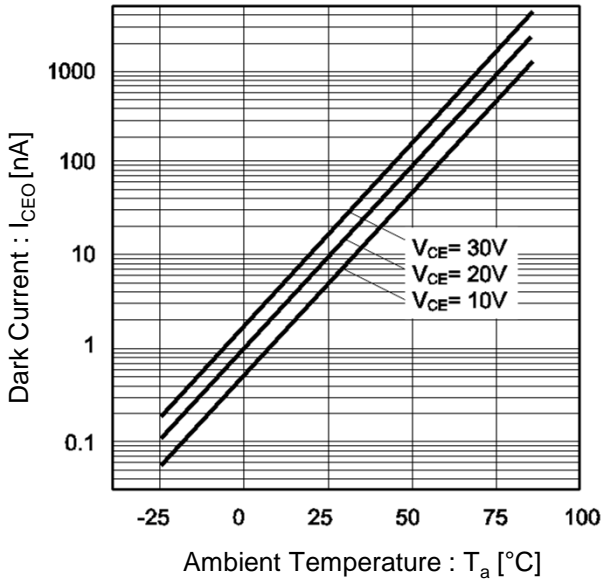


Fig.2 Relative Output vs. Ambient Temperature

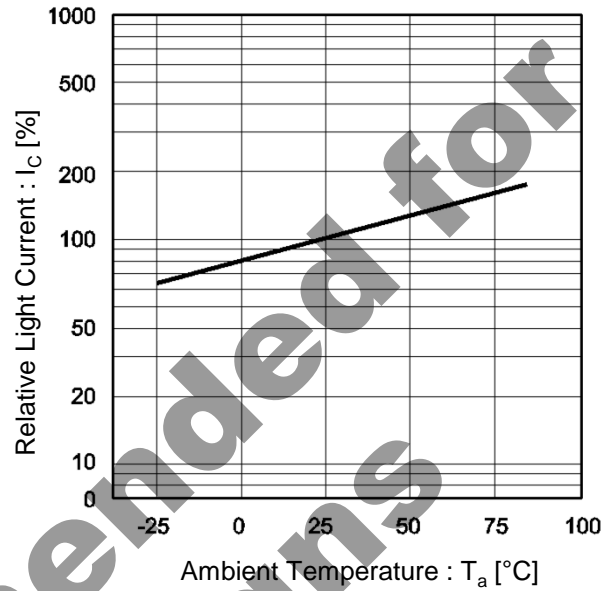


Fig.3 Light Current vs. Emitter Strength

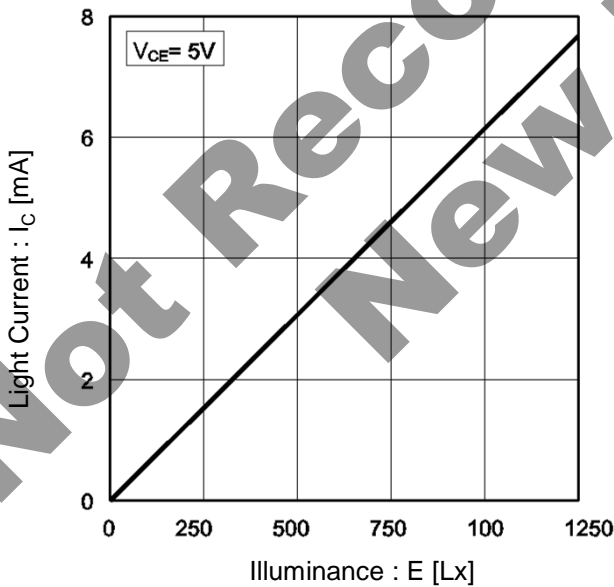
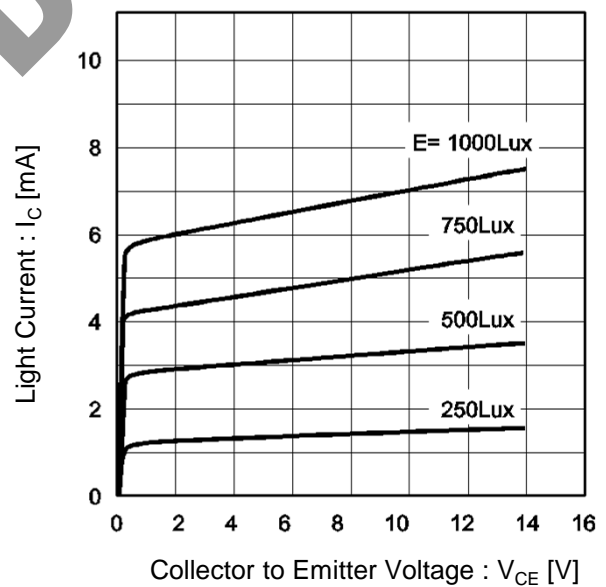


Fig.4 Output Characteristics



●Electrical and optical characteristics curves

Fig.5 Spectral Sensitivity

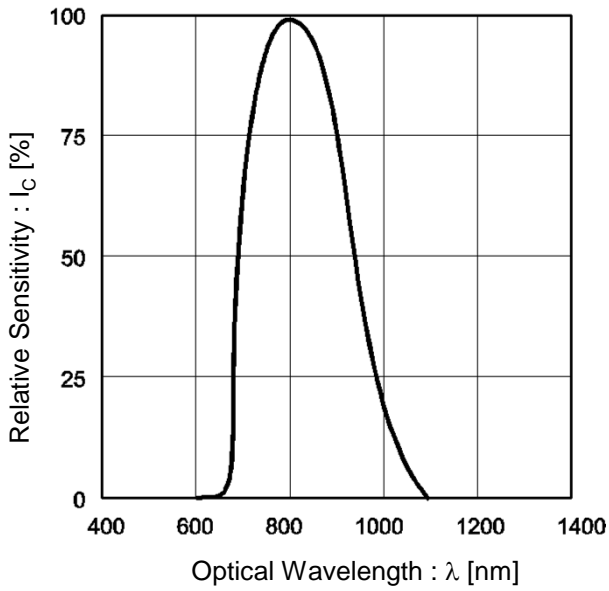


Fig.6 Collector Power Dissipation vs. Ambient Temperature

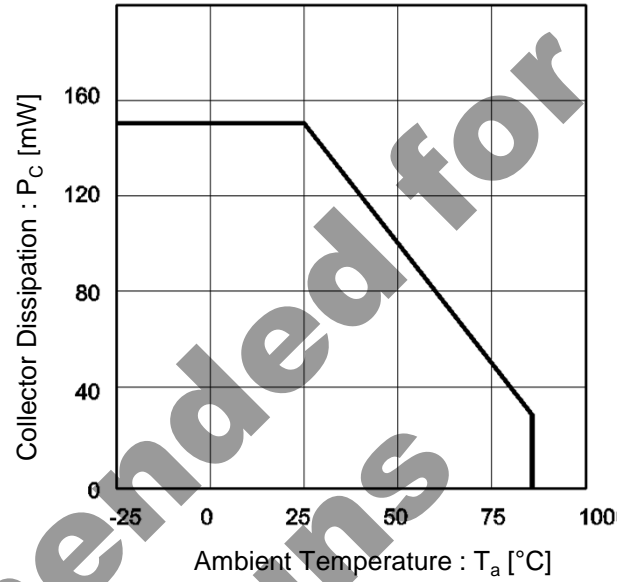
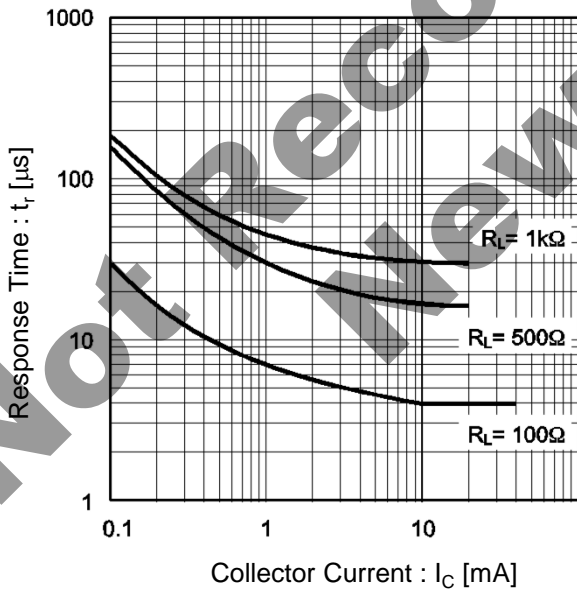
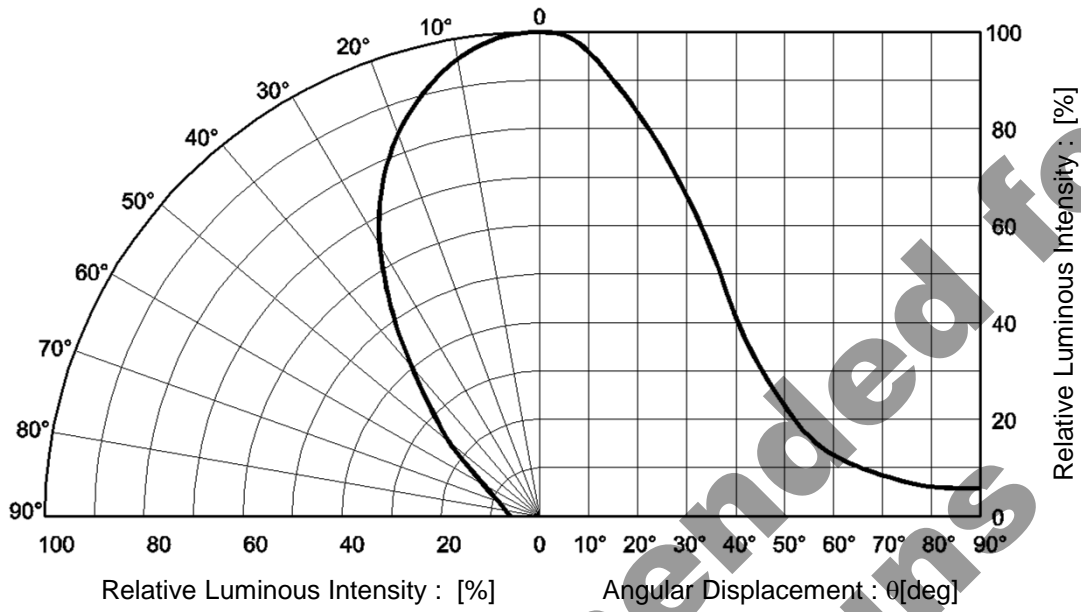


Fig.7 Response time vs. Collector Current



●Electrical and optical characteristics curves

Fig.8 Directional Pattern



Not Recommended for New Design

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