

The RPM-22PB is a silicon phototransistor in a side-facing package. High sensitivity with  $\phi 1.5$  lens.

### ●Applications

- Optical control equipment
- Receiver for sensors

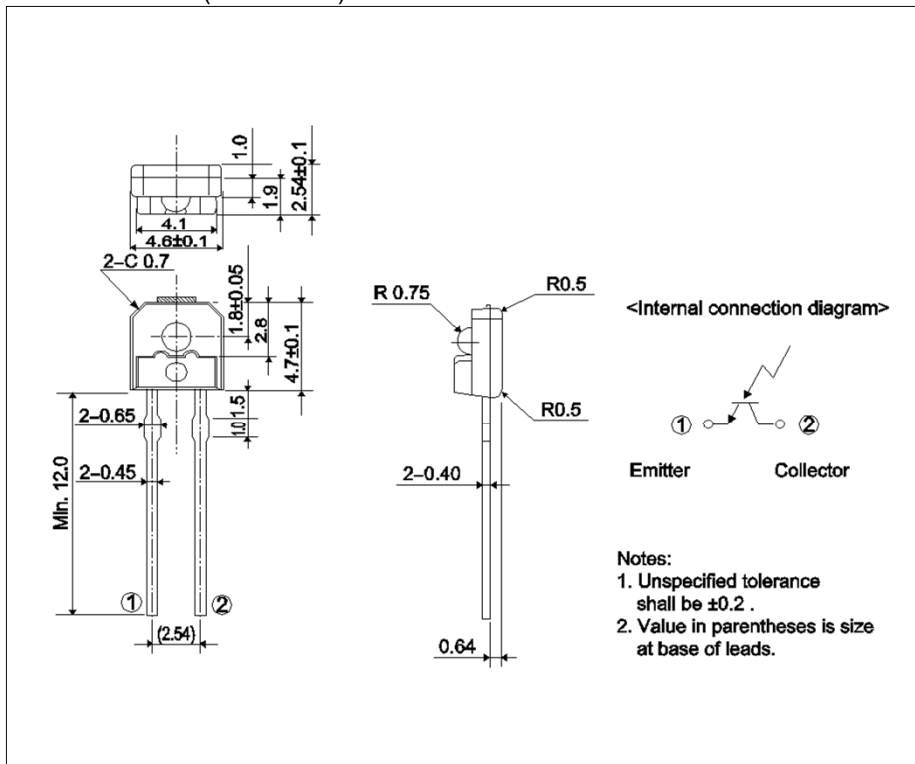
### ●Features

- 1) High sensitivity.
- 2) Molded in plastic with a visible light filter.  
(filters out light 750 nm or less)
- 3) Side-facing detector.

### ●Outline



### ●Dimensions (Unit : mm)



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

Parameter	Symbol	Value	Unit
Collector-emitter voltage	$V_{\text{CEO}}$	32	V
Emitter-collector voltage	$V_{\text{ECO}}$	5	V
Collector current	$I_{\text{C}}$	30	mA
Collector power dissipation	$P_{\text{C}}$	100	mW
Operating temperature	$T_{\text{opr}}$	-25 to +85	$^\circ\text{C}$
Storage temperature	$T_{\text{stg}}$	-30 to +100	$^\circ\text{C}$

**●Electrical and optical characteristics (T<sub>a</sub> = 25°C)**

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
Light current	I <sub>C</sub>	V <sub>CE</sub> = 5V, E = 500Lx	0.48	-	1.94	mA
Dark current	I <sub>CEO</sub>	V <sub>CE</sub> = 10V (Black box)	-	-	0.5	μA
Peak sensitivity wavelength	λ <sub>p</sub>	-	-	800	-	nm
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 0.1mA, E = 500Lx	-	-	0.4	V
Half-angle	θ <sub>1/2</sub>	-	-	±32	-	deg
Response time	tr·tf	V <sub>CE</sub> = 5V, I <sub>C</sub> = 1mA, R <sub>L</sub> = 100Ω	-	10	-	μs

**●Classified table of rank**

Item	Light current : I <sub>C</sub>	Unit
L	0.48 to 0.78	mA
M	0.64 to 1.06	mA
N	0.86 to 1.43	mA
P	1.17 to 1.94	mA

●Electrical and optical characteristics curves

Fig.1 Collector Current vs. Emitter Strength

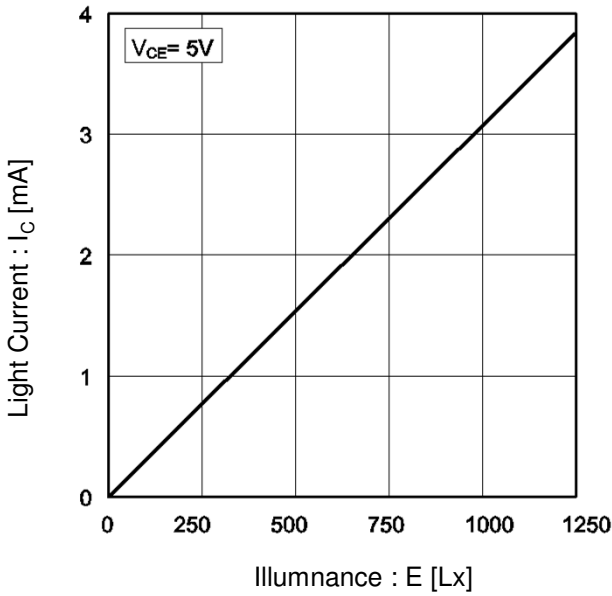


Fig.2 Output Characteristics

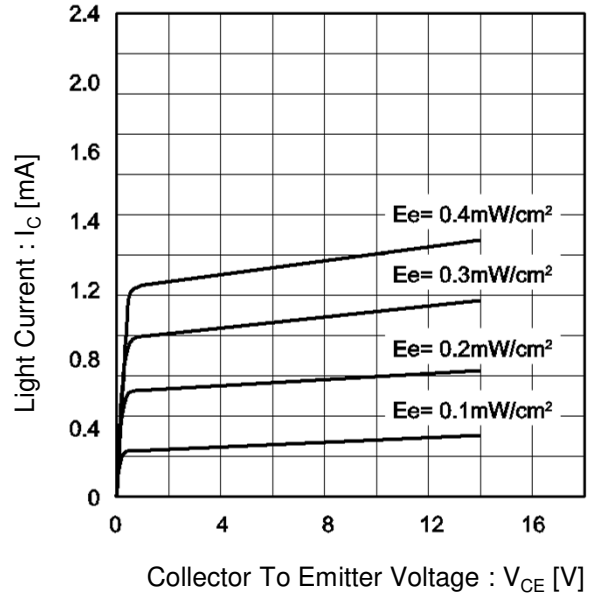


Fig.3 Relative Output vs. Ambient Temperature

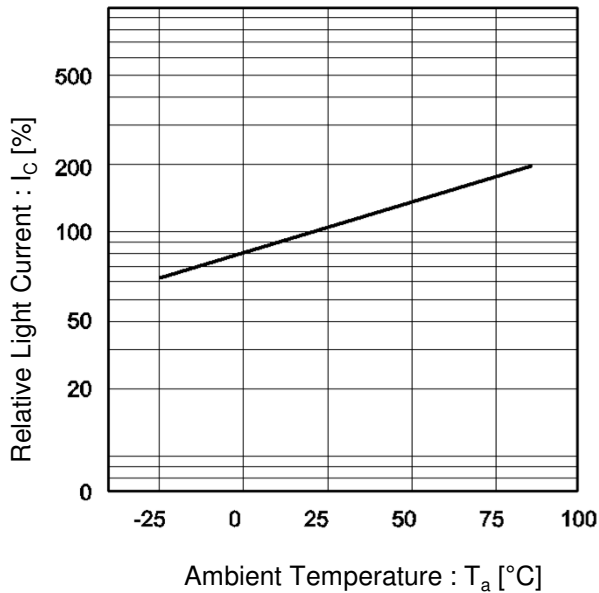
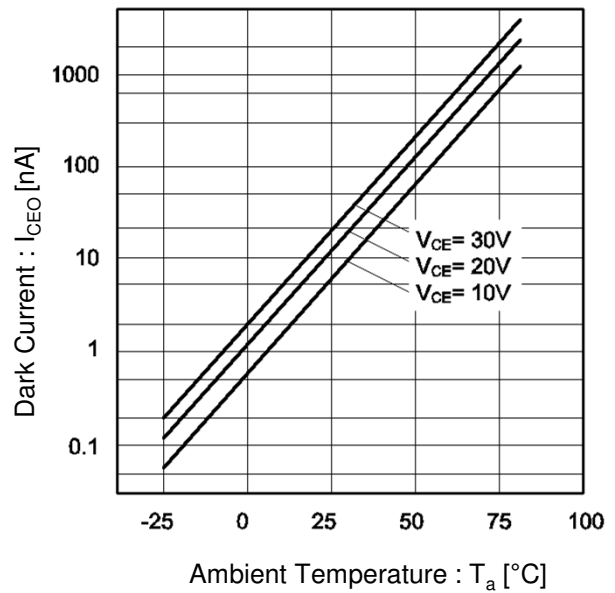


Fig.4 Dark Current vs. Ambient Temperature



●Electrical and optical characteristics curves

Fig.5 Spectral Sensitivity

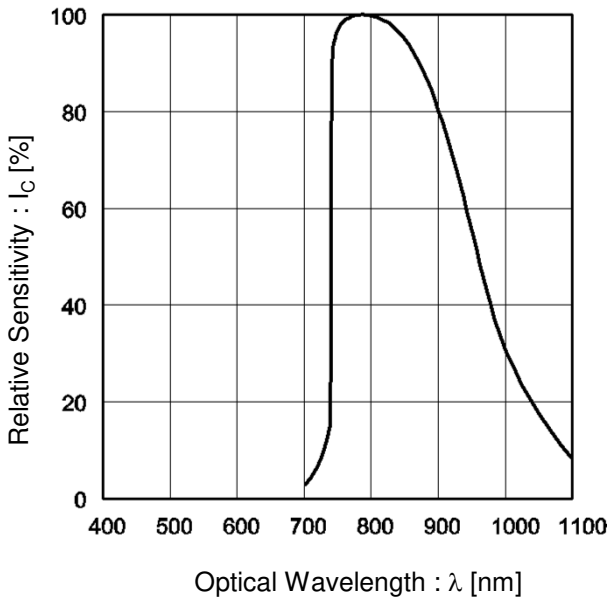


Fig.6 Collector Power Dissipation vs. Ambient Temperature

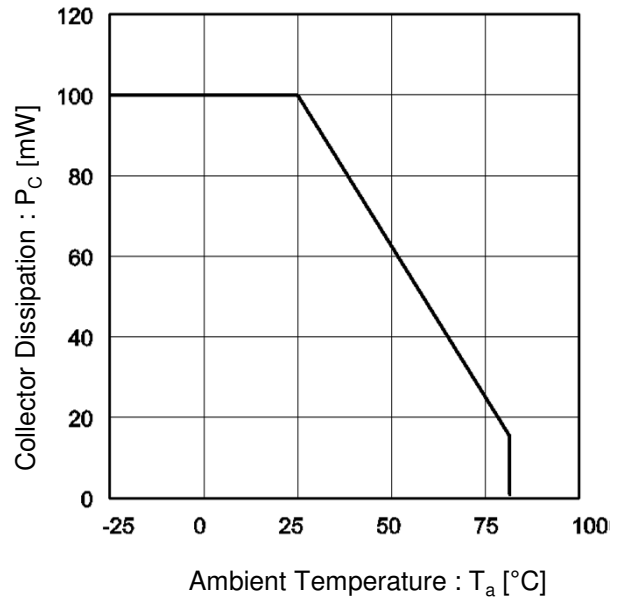
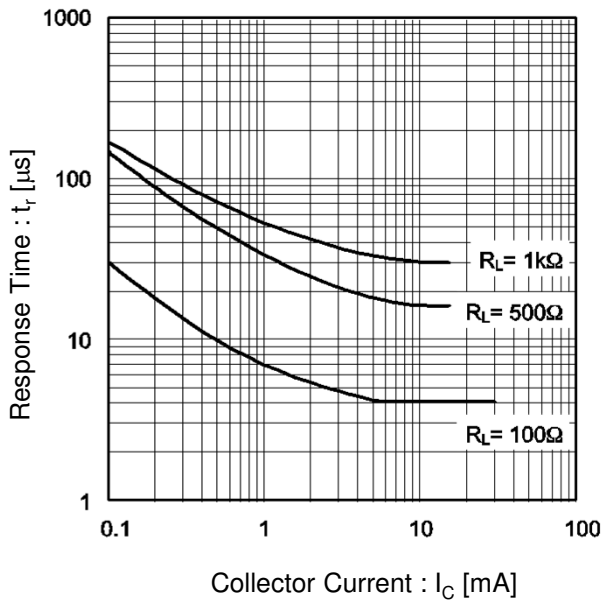
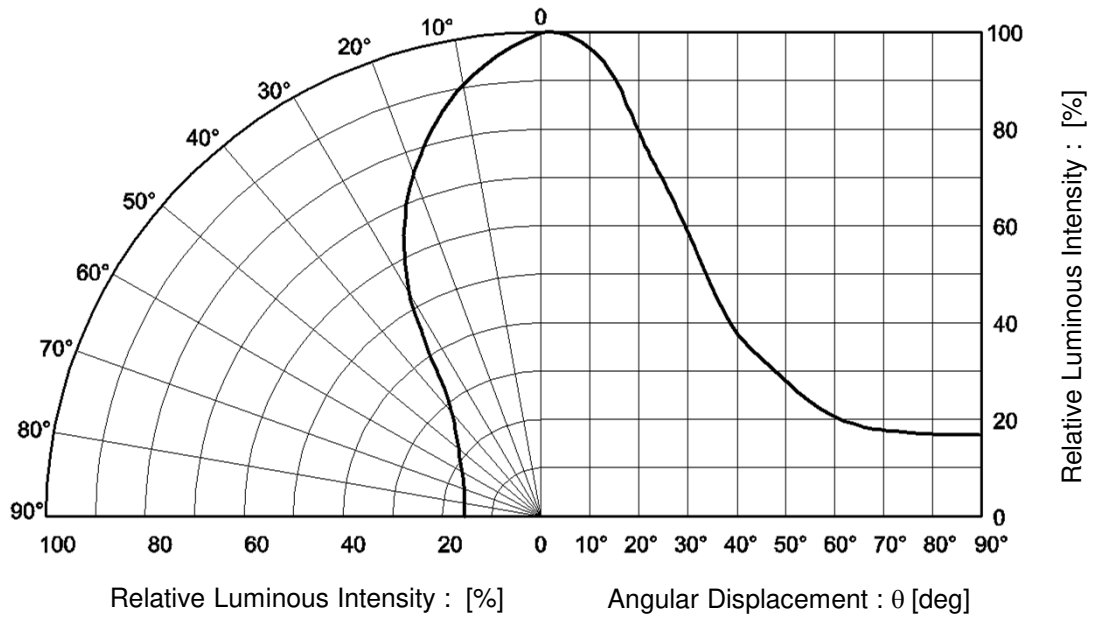


Fig.7 Response time vs. Collector Current



●Electrical and optical characteristics curves

Fig.8 Directional Pattern



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