

The RPM-20PB is a phototransistor in a side-facing package. High sensitivity with  $\phi 1.85$  lens.

### ●Applications

- Optical control equipment
- Receiver for sensors

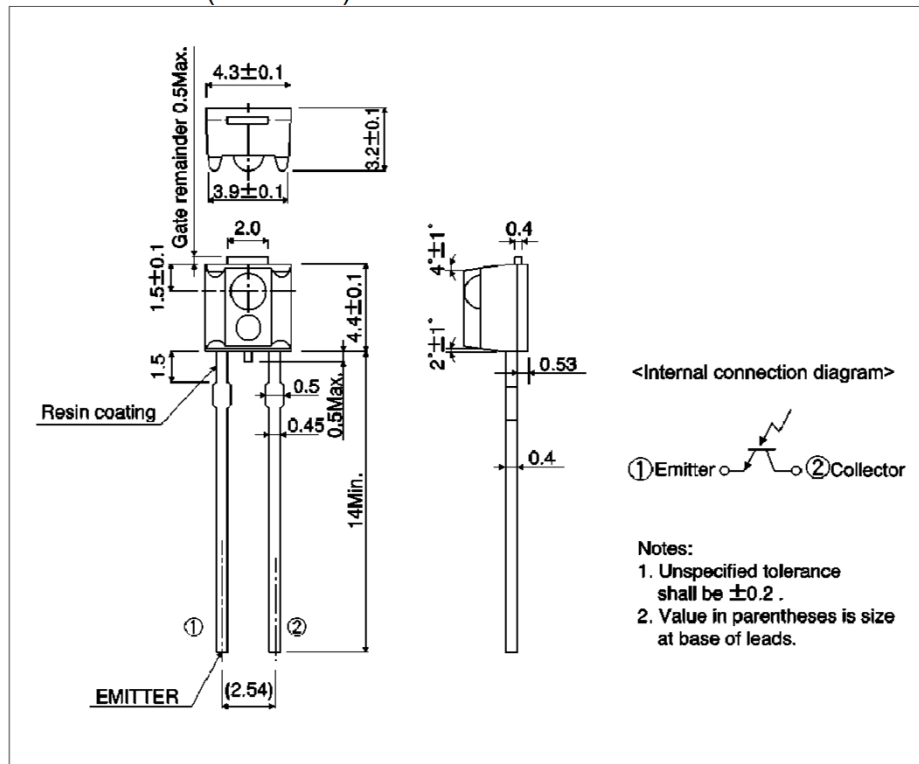
### ●Features

- 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<sub>a</sub> = 25°C)

Parameter	Symbol	Value	Unit
Collector-emitter voltage	V <sub>CEO</sub>	32	V
Emitter-collector voltage	V <sub>ECO</sub>	5	V
Collector current	I <sub>C</sub>	30	mA
Collector power dissipation	P <sub>C</sub>	100	mW
Operating temperature	T <sub>opr</sub>	-25 to +85	°C
Storage temperature	T <sub>stg</sub>	-30 to +100	°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	0.5	-	-	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 saturationvoltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =0.1mA, E=500Lx	-	-	0.4	V
Half-angle	θ <sub>1/2</sub>	-	-	±14	-	deg
Response time	tr·tf	V <sub>CC</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
K	0.5 to 1.6	mA
L	1.0 to 2.2	mA
M	1.4 to 3.0	mA
N	2.0 to 4.4	mA
P	2.8 to 6.0	mA

●Electrical and optical characteristics curves

Fig.1 Collector Current vs. Emitter Strength

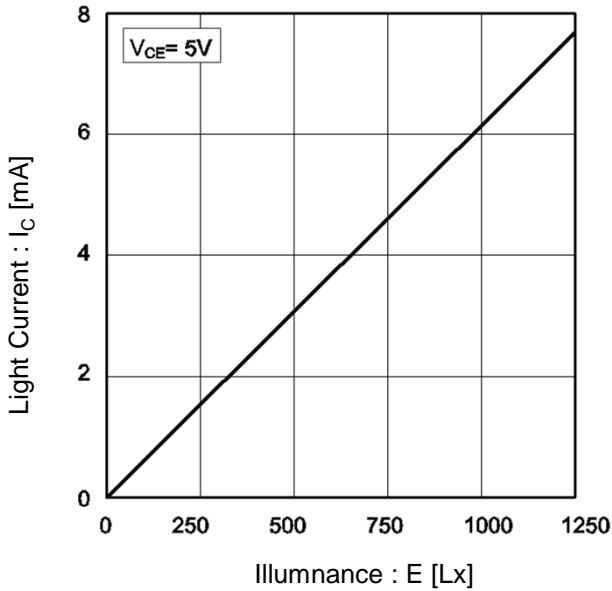


Fig.2 Output Characteristics

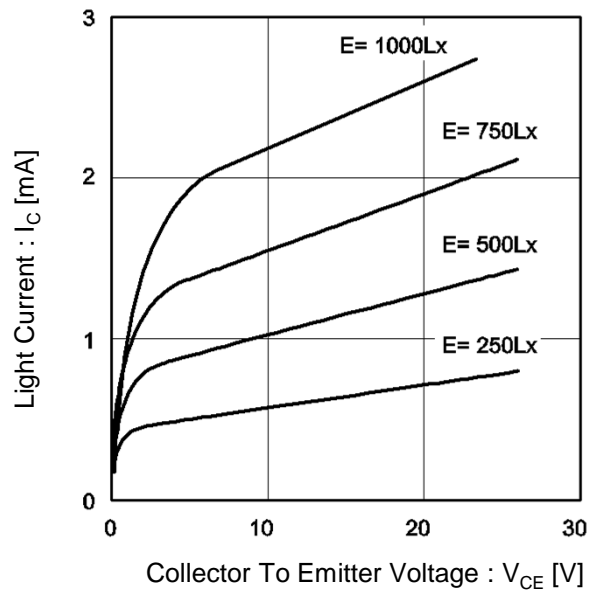


Fig.3 Relative Output vs. Ambient Temperature

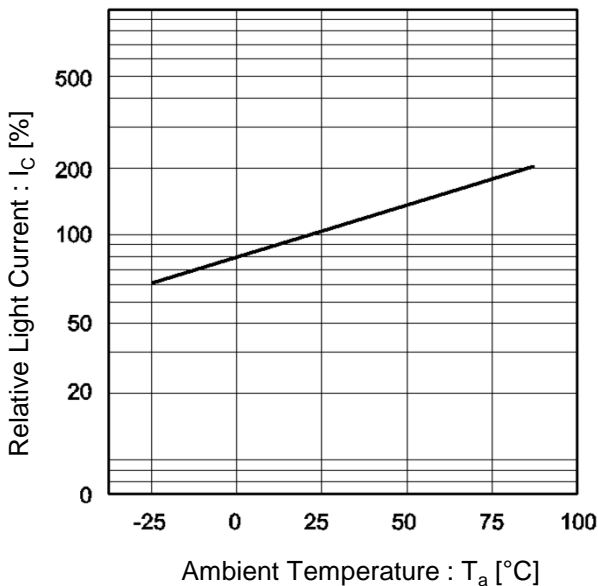
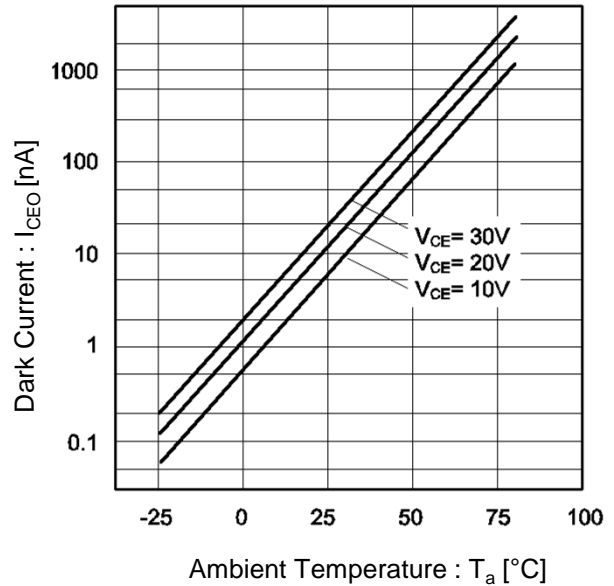


Fig.4 Dark Current vs. Ambient Temperature



●Electrical and optical characteristics curves

Fig.5 Spectral Sensitivity

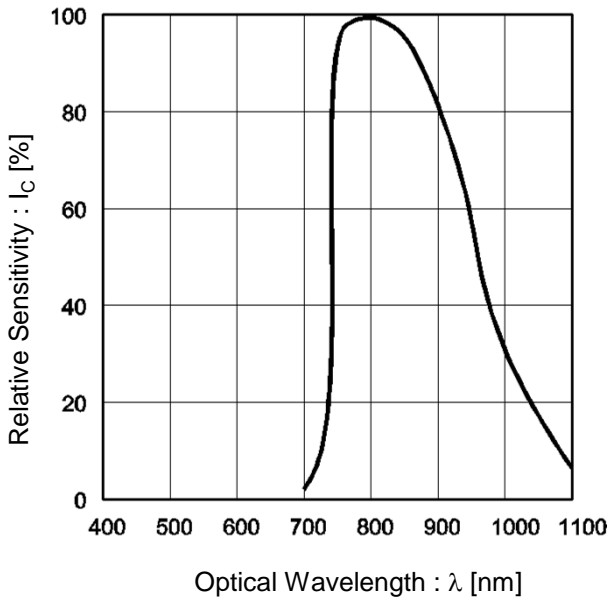


Fig.6 Collector Power Dissipation vs. Ambient Temperature

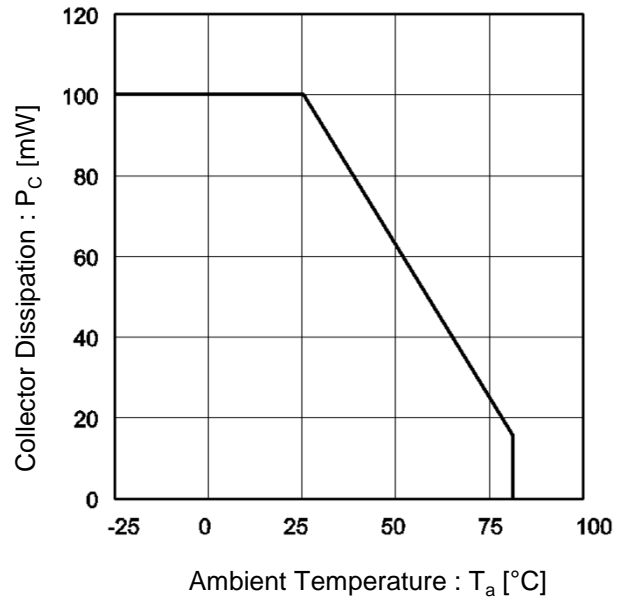
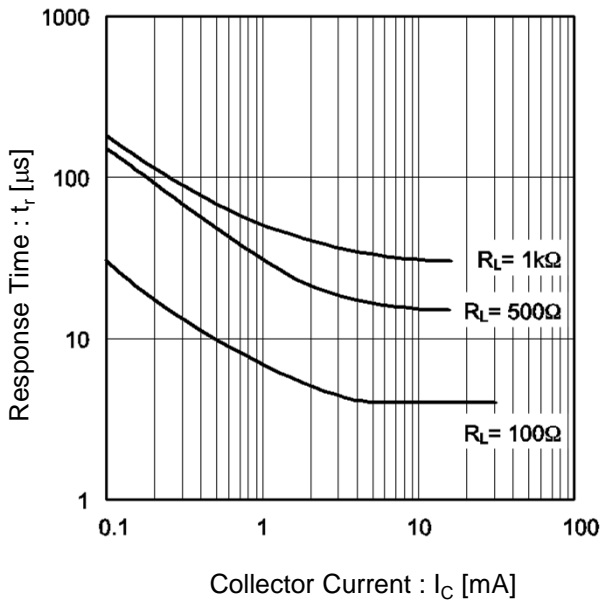
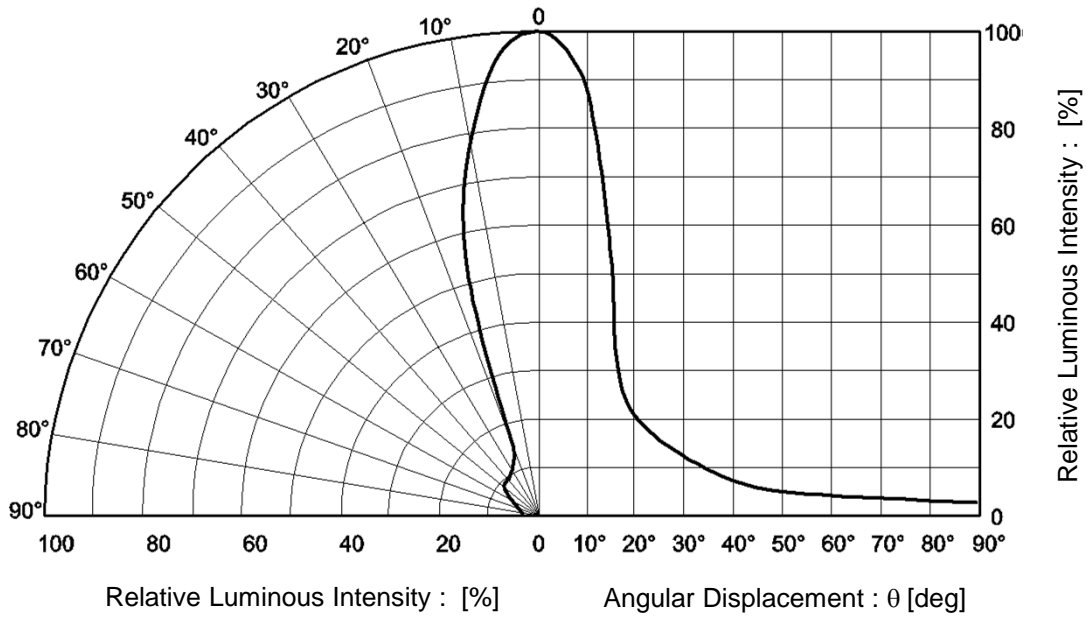


Fig.7 Response time vs. Collector Current



●Electrical and optical characteristics curves

Fig.8 Directional Pattern



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