

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

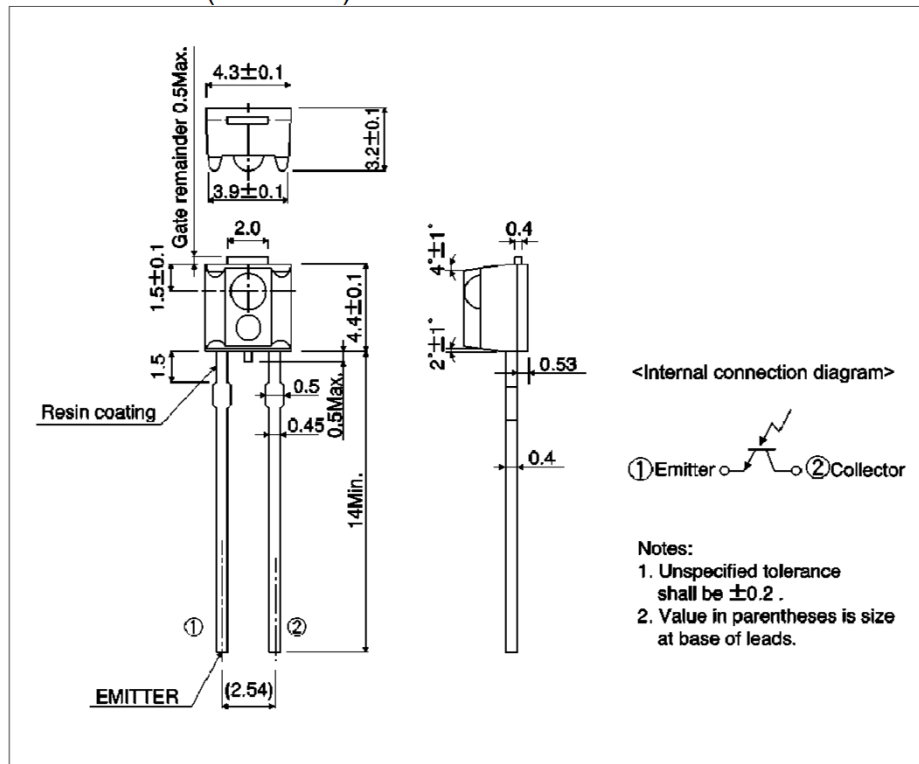
●Features

- 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 ($T_a = 25^\circ\text{C}$)

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}	100	mW
Operating temperature	T_{opr}	-25 to +85	$^\circ\text{C}$
Storage temperature	T_{stg}	-30 to +100	$^\circ\text{C}$

●Electrical and optical characteristics (T_a = 25°C)

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
Light current	I _C	V _{CE} =5V, E=500Lx	0.5	-	-	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 =0.1mA, E=500Lx	-	-	0.4	V
Half-angle	θ _{1/2}	-	-	±14	-	deg
Response time	tr·tf	V _{CC} =5V, I _C =1mA, R _L =100Ω	-	10	-	μs

●Classified table of rank

Item	Light current : I _C	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

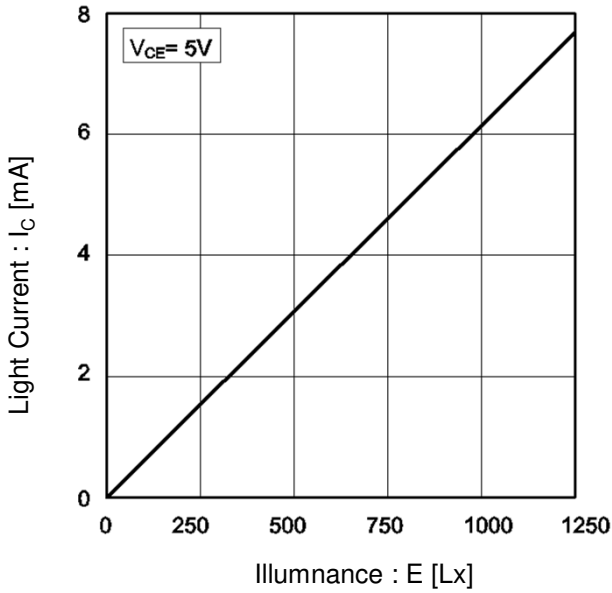


Fig.2 Output Characteristics

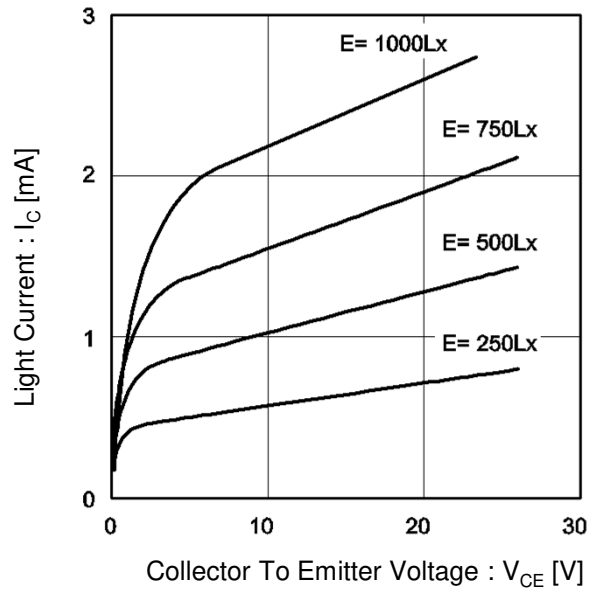


Fig.3 Relative Output vs. Ambient Temperature

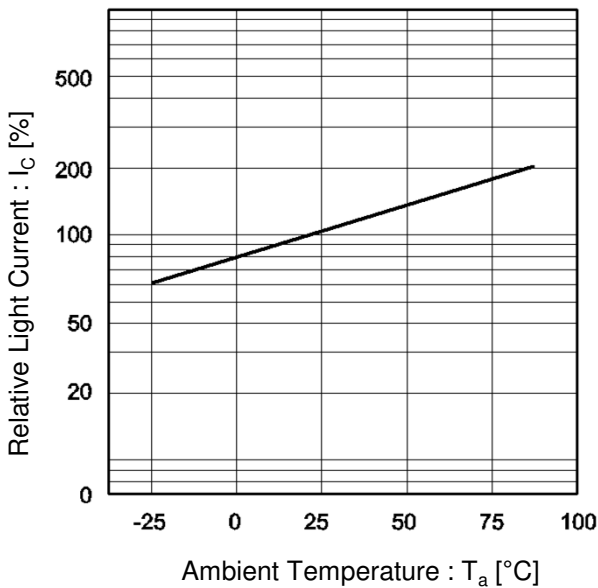
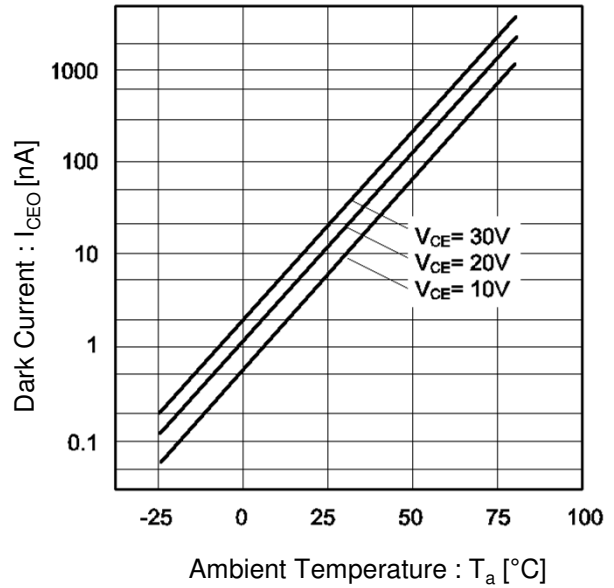


Fig.4 Dark Current vs. Ambient Temperature



●Electrical and optical characteristics curves

Fig.5 Spectral Sensitivity

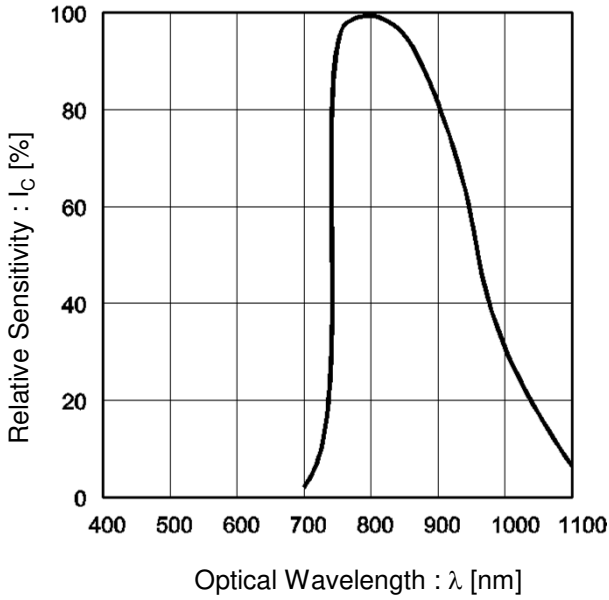


Fig.6 Collector Power Dissipation vs. Ambient Temperature

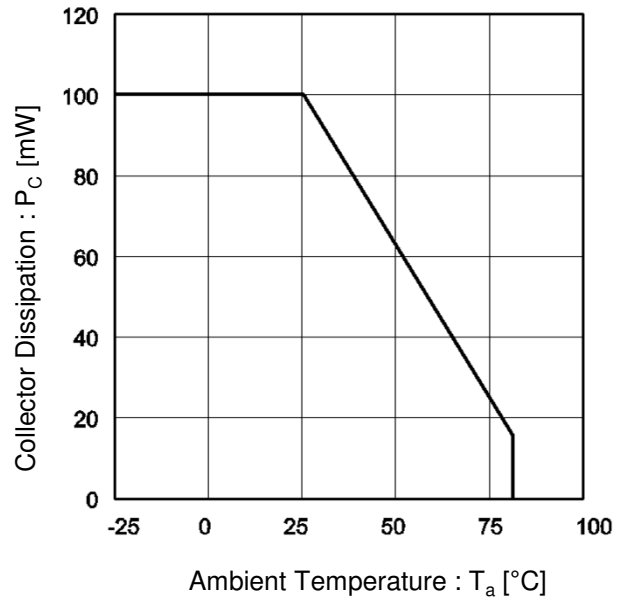
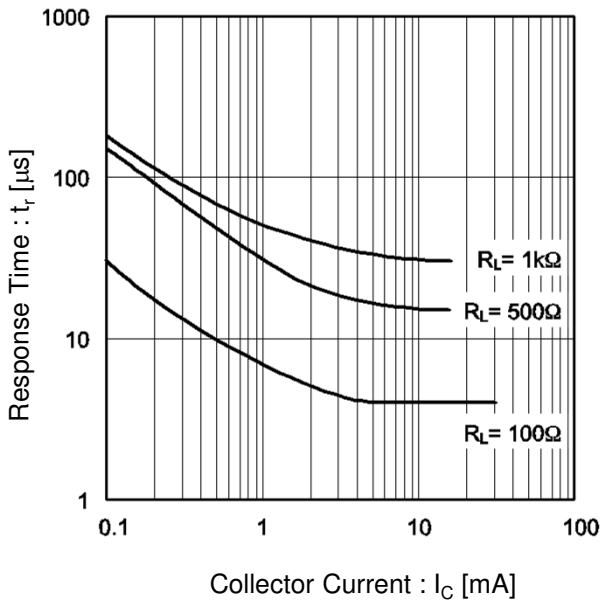
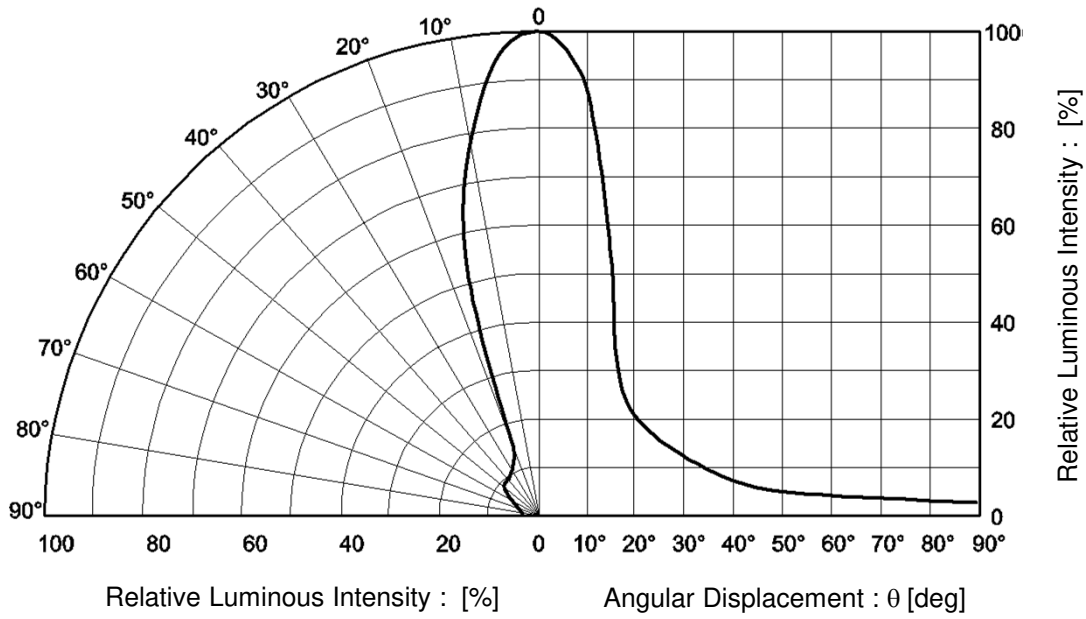


Fig.7 Response time vs. Collector Current



●Electrical and optical characteristics curves

Fig.8 Directional Pattern



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