

# Phototransistor, side view type

## RPM-20PB

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

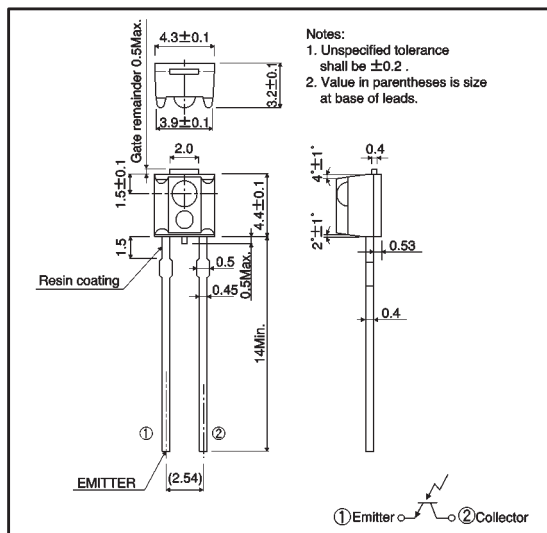
### ●Applications

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.

### ●External dimensions (Unit: mm)



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

Parameter	Symbol	Limits	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	$T_{opr}$	$-25 \sim +85$	$^\circ\text{C}$
Storage temperature	$T_{stg}$	$-30 \sim +100$	$^\circ\text{C}$

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Light current	$I_c$	0.5	—	—	mA	$V_{CE}=5V$ , $E=500Lx$
Dark current	$I_{CEO}$	—	—	0.5	$\mu A$	$V_{CE}=10V$ (Black box)
Peak sensitivity wavelength	$\lambda_P$	—	800	—	nm	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	0.4	V	$I_c=0.1mA$ , $E=500Lx$
Half-angle	$\theta_{1/2}$	—	$\pm 14$	—	deg	—
Response time	$t_r \cdot t_f$	—	10	—	$\mu s$	$V_{CE}=5V$ , $I_c=1mA$ , $R_L=100\Omega$

●Electrical and optical characteristic curves

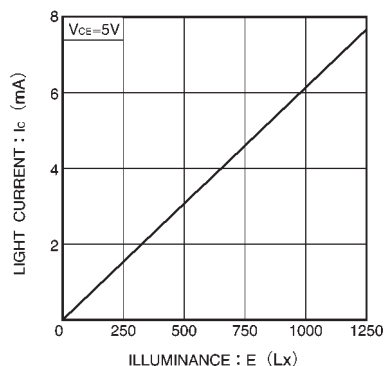


Fig.1 Collector current vs. emitting strength

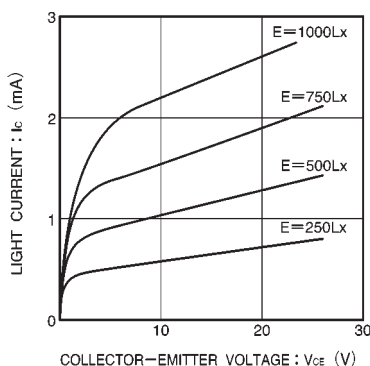


Fig.2 Output characteristics

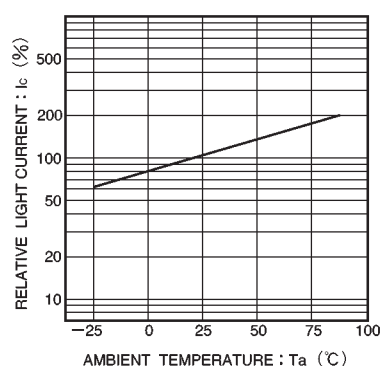


Fig.3 Relative output vs. ambient temperature

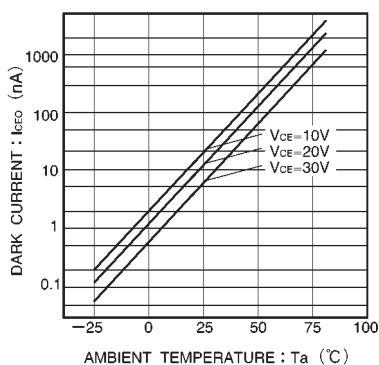


Fig.4 Dark current vs. ambient temperature

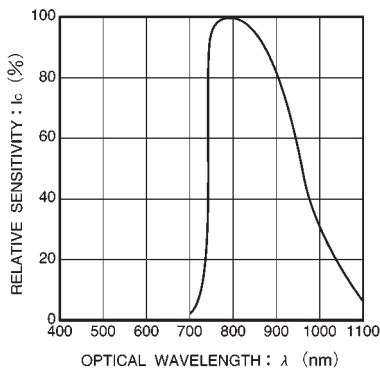


Fig.5 Spectral sensitivity

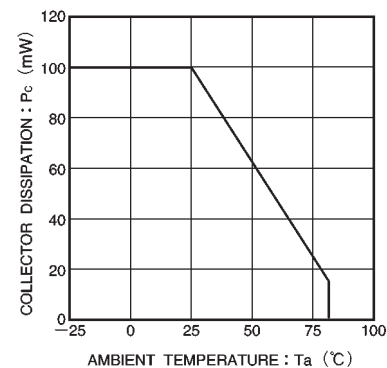


Fig.6 Collector power dissipation vs. ambient temperature

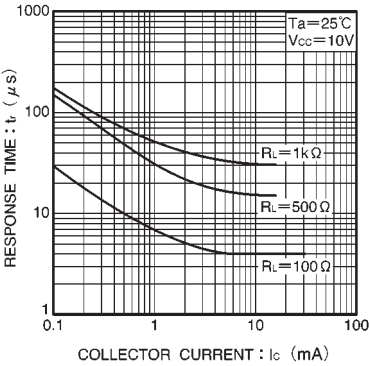


Fig.7 Response time vs. collector current

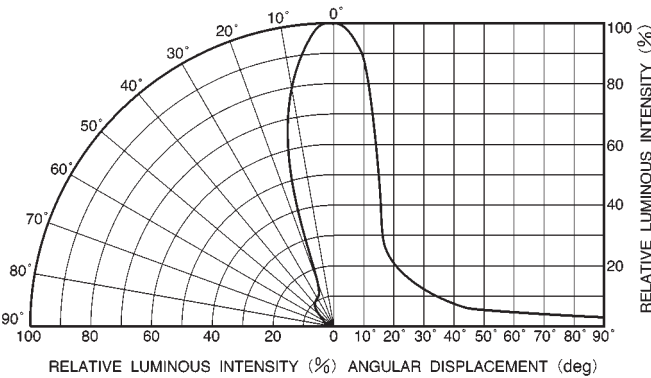


Fig.8 Directional pattern

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