

Phototransistor, side view type

RPM-22PB

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

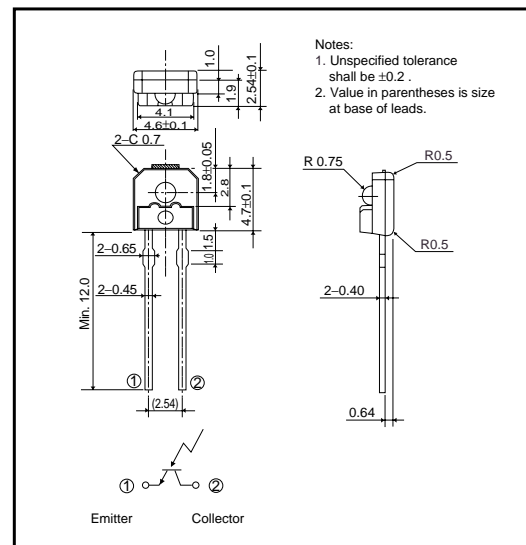
●Applications

Optical control equipment
Receiver for sensors

●Features

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

●External dimensions (Units : mm)



●Absolute maximum ratings (Ta=25°C)

| Parameter | Symbol | Limits | Unit |
|-----------------------------|-----------|----------|------|
| Collector-emitter voltage | V_{CE0} | 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~+85 | °C |
| Storage temperature | T_{stg} | -30~+100 | °C |

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

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|--------------------------------------|----------------|------|----------|------|---------|-------------------------------------|
| Light current | I_C | 0.48 | - | 1.94 | mA | $V_{CE}=5V, E=500Lx$ |
| Dark current | I_{CEO} | - | - | 0.5 | μA | $V_{CE}=10V$ (Black box) |
| Peak sensitivity wavelength | λ_P | - | 800 | - | nm | - |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | - | - | 0.4 | V | $I_C=0.1mA, E=500Lx$ |
| Half-angle | $\theta_{1/2}$ | - | ± 32 | - | deg | - |
| Response time | t_r-t_f | - | 10 | - | μs | $V_{CE}=5V, I_C=1mA, R_L=100\Omega$ |

Sensors

●Electrical and optical characteristic curves

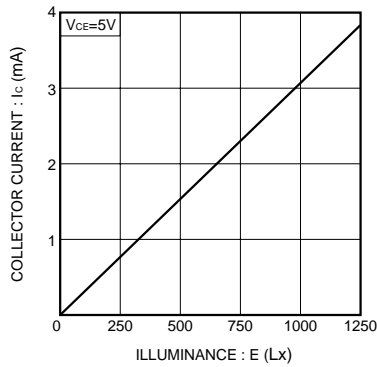


Fig.1 Collector current vs. emitting strength

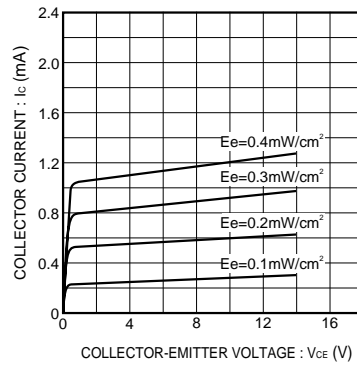


Fig.2 Output characteristics

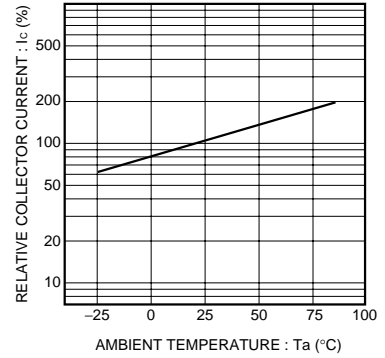


Fig.3 Relative output vs. ambient temperature

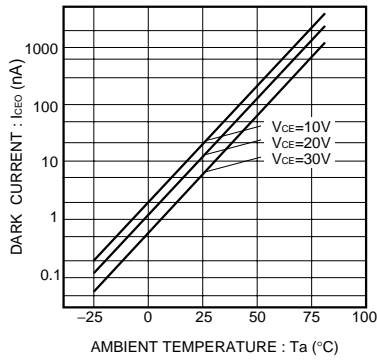


Fig.4 Dark current vs. ambient temperature

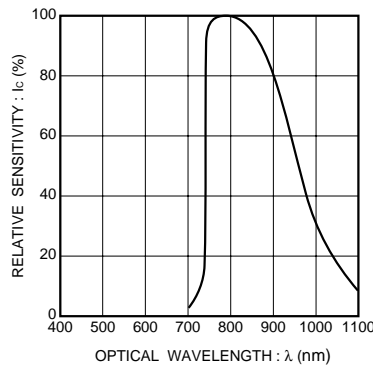


Fig.5 Spectral sensitivity

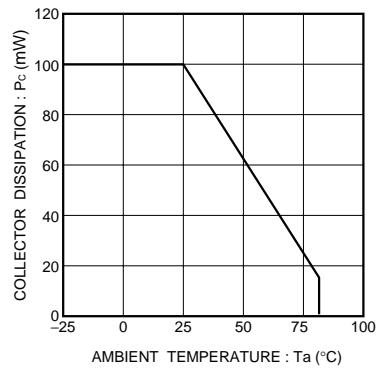


Fig.6 Collector dissipation vs. ambient temperature

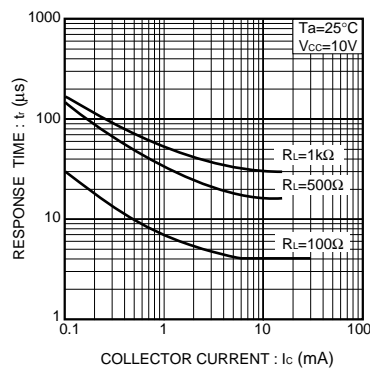


Fig.7 Response time vs. collector current

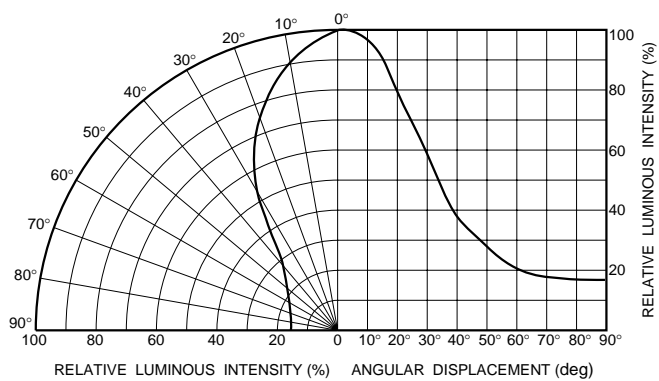


Fig.8 Directional pattern