

# Phototransistor, side view type

## RPM-25PT

The RPM-25PT is a silicon planar phototransistor in a side-facing package with two-phase output. This device is particularly suited for use with a ROHM SIM-22ST infrared light emitting diode.

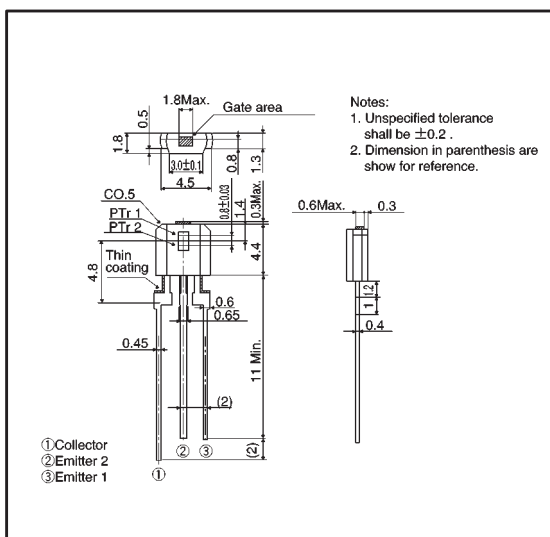
## ●Applications

### Optical control equipment

## ● Features

- 1) High sensitivity.
- 2) Two-phase output.
- 3) Side-facing detector.

● External dimensions (Units: mm)



●Absolute maximum ratings (Ta = 25°C)

| Parameter                   | Symbol    | Limits          | Unit               |
|-----------------------------|-----------|-----------------|--------------------|
| Collector-emitter voltage   | $V_{CEO}$ | 30              | V                  |
| Emitter-collector voltage   | $V_{ECO}$ | 4.5             | 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                        | Ic1,Ic2   | 25   | —    | 100  | μA   | VCE=5V, E=500Lx         |
| Dark current                         | ICEO      | —    | —    | 0.5  | μA   | VCE=10V(Black box)      |
| Peak sensitivity wavelength          | λP        | —    | 800  | —    | nm   | —                       |
| Collector-emitter saturation voltage | VCE(sat)  | —    | —    | 0.4  | V    | Ic=25 μA, E=500Lx       |
| Dispersion for sensitivity           | Ic1 / Ic2 | 0.8  | 1.0  | 1.2  | —    | —                       |
| Response time                        | tr・tf     | —    | 10   | —    | μs   | VCE=5V, Ic=1mA, RL=100Ω |

●Electrical and optical characteristic curves

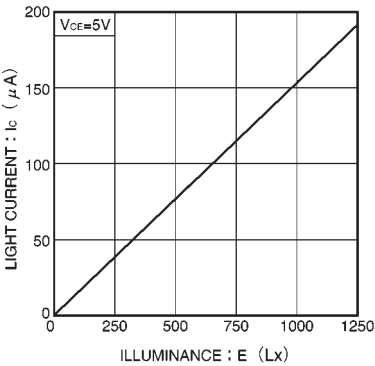


Fig.1 Collector current vs. emitting strength

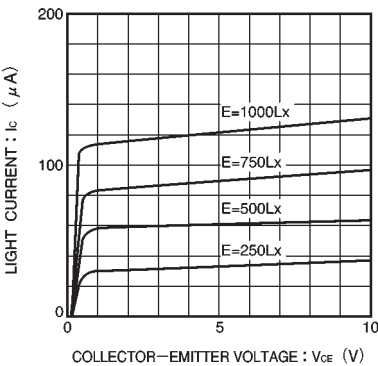


Fig.2 Output characteristics

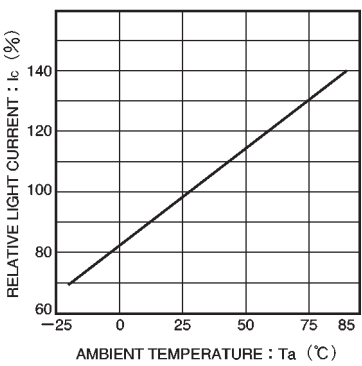


Fig.3 Relative output vs. ambient temperature

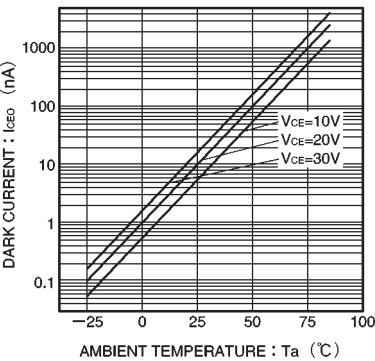


Fig.4 Dark current vs. ambient temperature

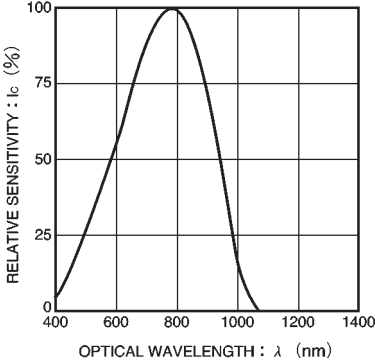


Fig.5 Spectral sensitivity

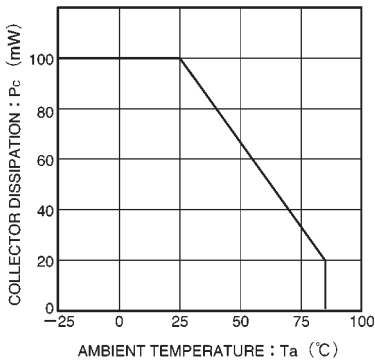


Fig.6 Collector dissipation vs. ambient temperature

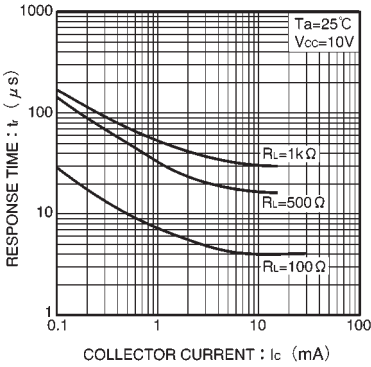


Fig.7 Response time vs. collector current

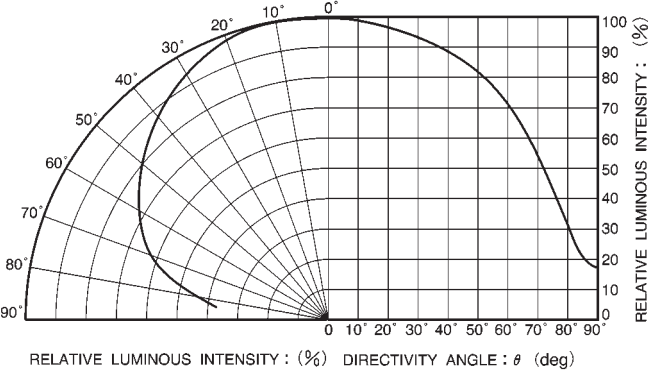


Fig.8 Directional pattern