

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.

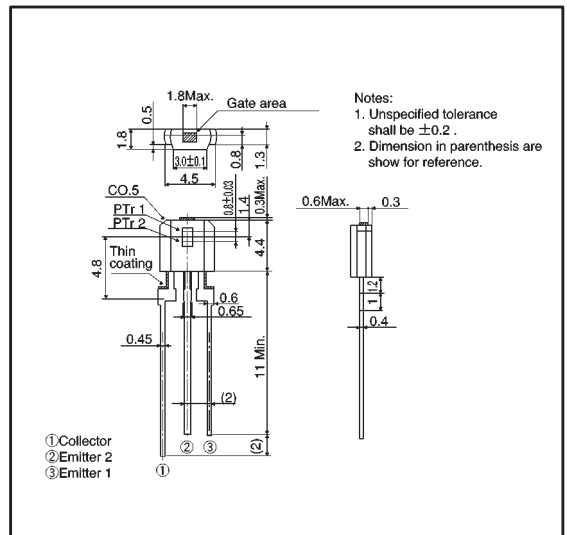
●Applications

Optical control equipment

●Features

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

●External dimensions (Units: mm)



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

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	I_{C1}, I_{C2}	25	—	100	μA	$V_{CE}=5V, E=500Lx$
Dark current	I_{CE0}	—	—	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	$I_C=25 \mu A, E=500Lx$
Dispersion for sensitivity	I_{C1} / I_{C2}	0.8	1.0	1.2	—	—
Response time	$t_r \cdot t_f$	—	10	—	μs	$V_{CE}=5V, I_C=1mA, R_L=100 \Omega$

●Electrical and optical characteristic curves

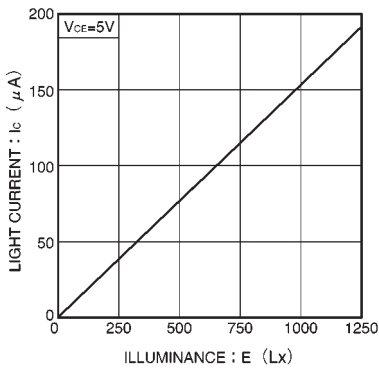


Fig.1 Collector current vs. emitting strength

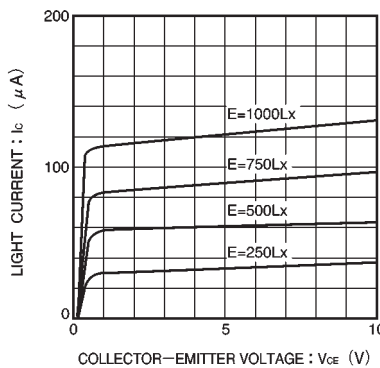


Fig.2 Output characteristics

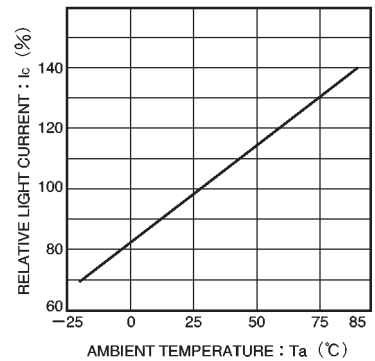


Fig.3 Relative output vs. ambient temperature

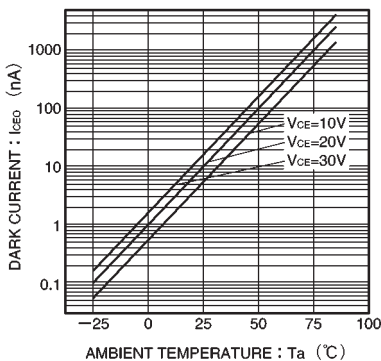


Fig.4 Dark current vs. ambient temperature

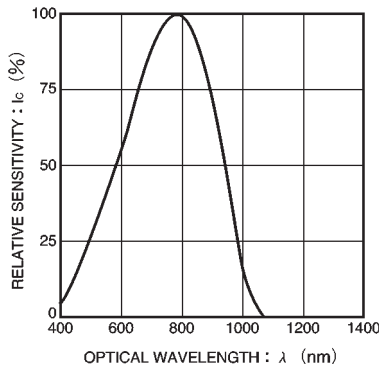


Fig.5 Spectral sensitivity

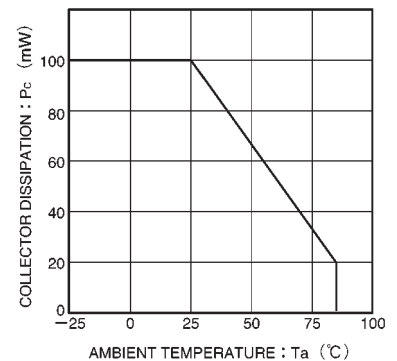


Fig.6 Collector dissipation vs. ambient temperature

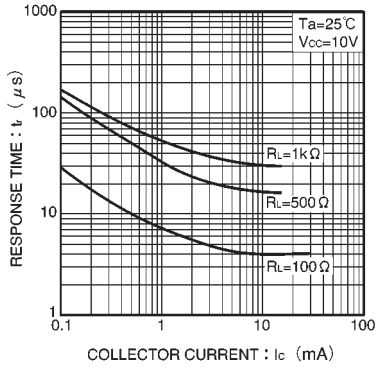


Fig.7 Response time vs. collector current

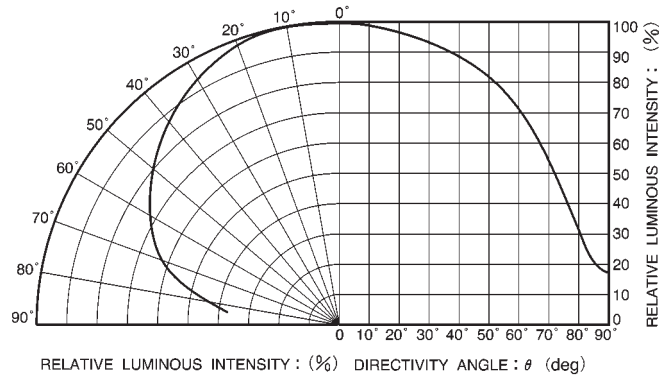


Fig.8 Directional pattern