Phototransistor, top view type

RPT-37PB3F Datasheet

The RPT-37PB3F is a silicon planar phototransistor. Since it is molded in plastic with a visible light filter, there is almost no effect from stray light. It is particularly suited for use with a ROHM SIR-34ST3F infrared light emitting diode. It is possible to distinguish the polarity by the shape of ramp type.

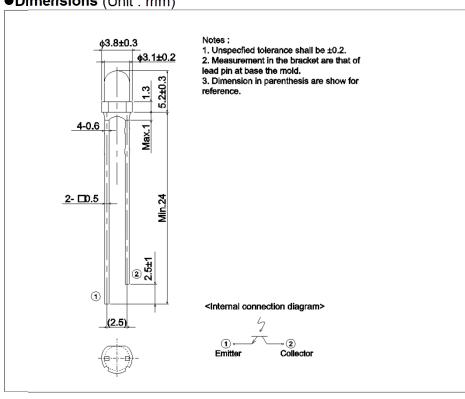
Applications

- · Optical control equipment
- Receiver for sensors

Features

- 1) High sensitivity.
- 2) Almost no effect from stray light.

● **Dimensions** (Unit: mm)



Outline



◆Absolute maximum ratings (T_a = 25°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	150	mW	
Operating temperature	T_{opr}	-25 to +85	°C	
Storage temperature	T _{stg}	-30 to +85	°C	

•Electrical and optical characteristics ($T_a = 25$ °C)

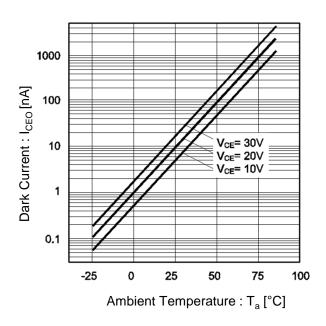
Parameter	Symbol	Conditions	Values			l locid
			Min.	Тур.	Max.	Unit
Light current	I _C	V _{CE} =5V, E=500Lx	2.0	-	-	mA
Dark current	I _{CEO}	V _{CE} =10V (Black box)	-	-	0.5	μΑ
Peak sensitivity wavelength	λ_{p}	-	-	800	-	nm
Collector-emitter saturationvoltage	V _{CE(sat)}	I _C =1mA, E=500Lx	-	-	0.4	V
Half-angle	θ _{1/2}	-	-	±36	-	deg
Response time	tr-tf	V_{CC} =5V, I_{C} =1mA, R_{L} =100 Ω	-	10	-	μs

● Classified table of rank

Item	Light current : I _C	Unit
L	2.0 to 5.0	mA
М	3.0 to 8.0	mA
N	5.5 to 13.0	mA

•Electrical and optical characteristics curves

Fig.1 Dark Current vs. Ambient Temperature Fig.2 Relative Output vs. Ambient Temperature



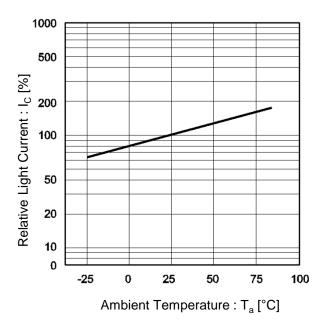


Fig.3 Light Current vs. Emitter Strength

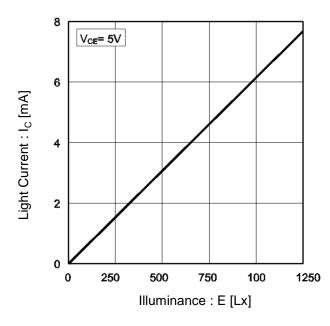
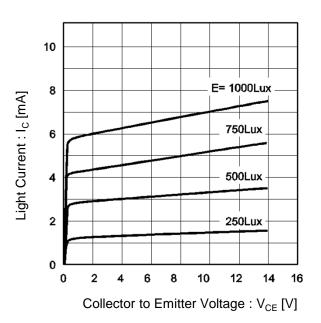


Fig.4 Output Characteristics



•Electrical and optical characteristics curves

Fig.5 Spectral Sensitivity

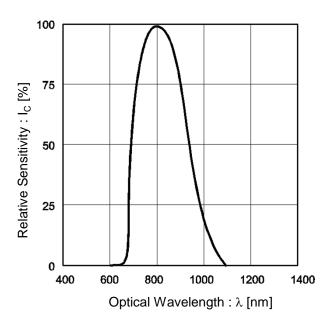


Fig.6 Collector Power Dissipation vs. Ambient Temperature

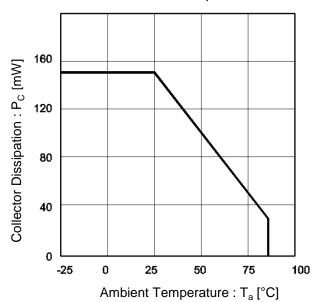
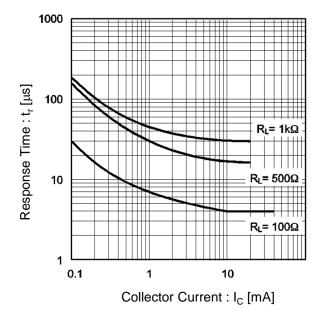
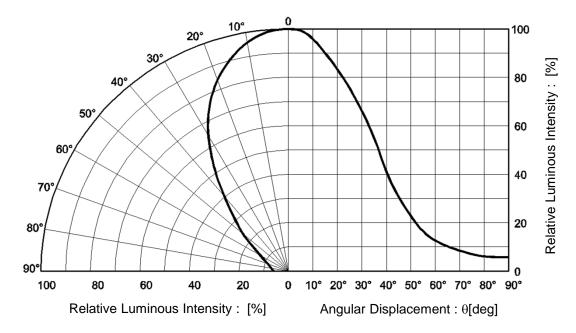


Fig.7 Response time vs.Collector Current



•Electrical and optical characteristics curves

Fig.8 Directional Pattern



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