Technical Data Sheet

5mm Phototransistor T-1

PT334-6B

Features

- Fast response time
- High photo sensitivity
- Pb free
- This product itself will remain within RoHS compliant version.

Descriptions

- PT334-6B is a high speed and high sensitive NPN silicon NPN epitaxial planar phototransistor molded in a standard 5 mm package. Due to is black epoxy the device is sensitive to visible and near Infrared radiation.

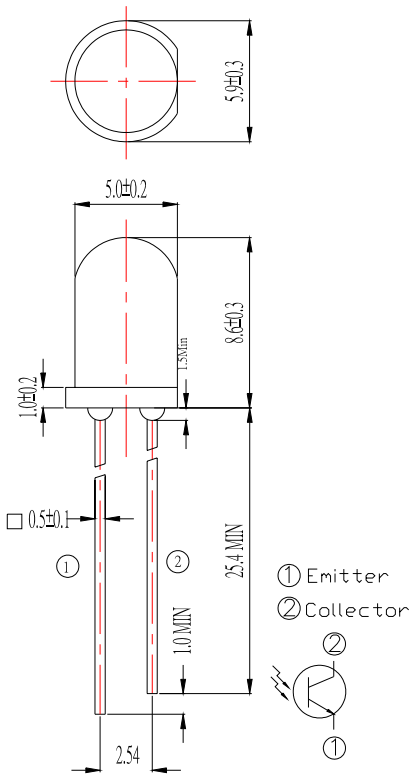
Applications

- Infrared applied system
- Camera
- Cockroach catcher

Device Selection Guide

LED Part No.	Chip Material	Lens Color
PT334-6B	Silicon	Black

Package Dimensions



Notes: 1.All dimensions are in millimeters
2.Tolerances unless dimensions ±0.25mm

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Collector-Voltage	V_{ECO}	5	V
Collector Current	I_C	20	mA
Operating Temperature	Topr	-25 ~ +85℃	℃
Storage Temperature	Tstg	-40 ~ +85℃	℃
Lead Soldering Temperature	Tsol	260	℃
Power Dissipation at (or below) 25℃ Free Air Temperature	Pc	75	mW

Notes: *1:Soldering time≦5 seconds.

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Collector – Emitter Breakdown Voltage	BV_{CEO}	I_C=100 μA Ee=0mW/cm^2	30	---	---	V
Emitter-Collector Breakdown Voltage	BV_{ECO}	I_E=100 μA Ee=0mW/cm^2	5	---	---	V
Collector-Emitter Saturation Voltage	$V_{CE)(sat)}$	I_C=2mA Ee=1mW/cm^2	---	---	0.4	V
Rise Time	t_r	V_{CE}=5V I_C=1mA RL=1000Ω	---	15	---	μS
Fall Time	t_f		---	15	---	
Collector Dark Current	I_{CEO}	Ee=0mW/cm^2 V_{CE}=20V	---	---	100	nA
On State Collector Current	$I_{C(on)}$	Ee=1mW/cm^2 V_{CE}=5V	0.7	2.0	---	mA
Wavelength of Peak Sensitivity	λ p	---	---	940	---	nm
Rang of Spectral Bandwidth	λ 0.5	---	---	840-1200	---	nm

Rankings

Parameter	Symbol	Min	Max	Unit	Test Condition
G	$I_{C(ON)}$	0.70	1.90	mA	V_{CE}=5V Ee=1mW/cm²
H		1.14	2.60		
J		1.77	3.61		
K		2.67	5.07		
L		4.18	7.07		

Typical Electro-Optical Characteristics Curves

Fig.1Collector Power Dissipation vs. Ambient Temperature

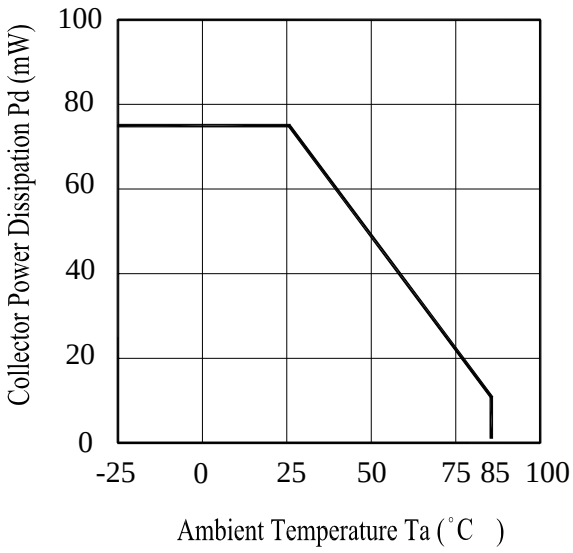


Fig.2 Spectral Sensitivity
Ta=25°C

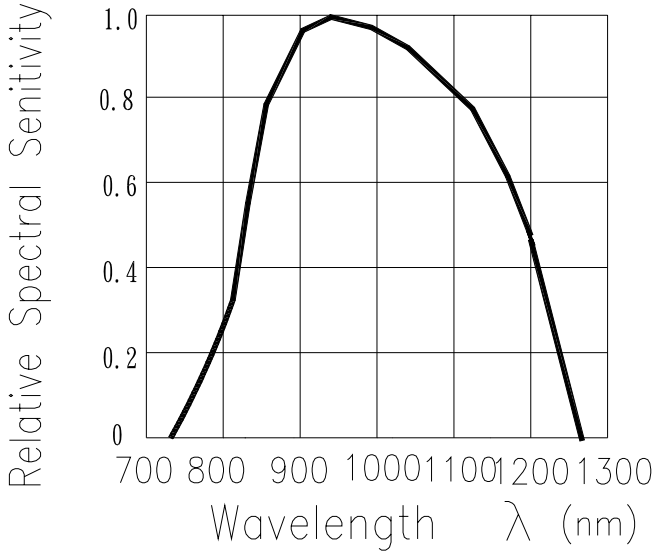


Fig.3 Relative Collector Current vs. Ambient Temperature

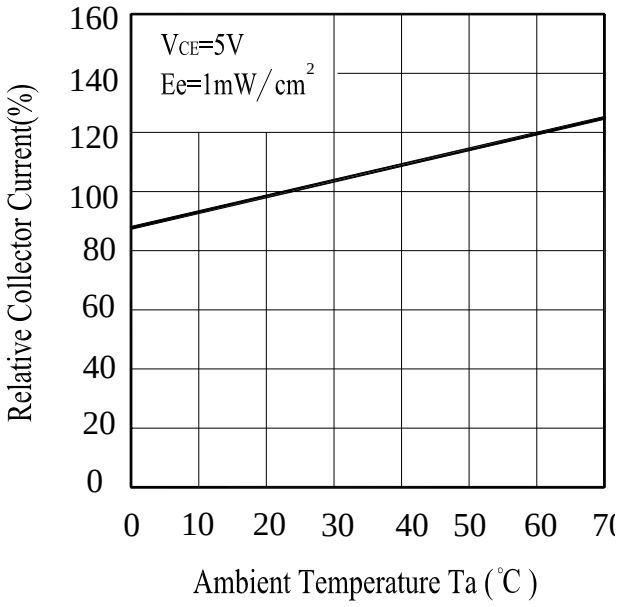
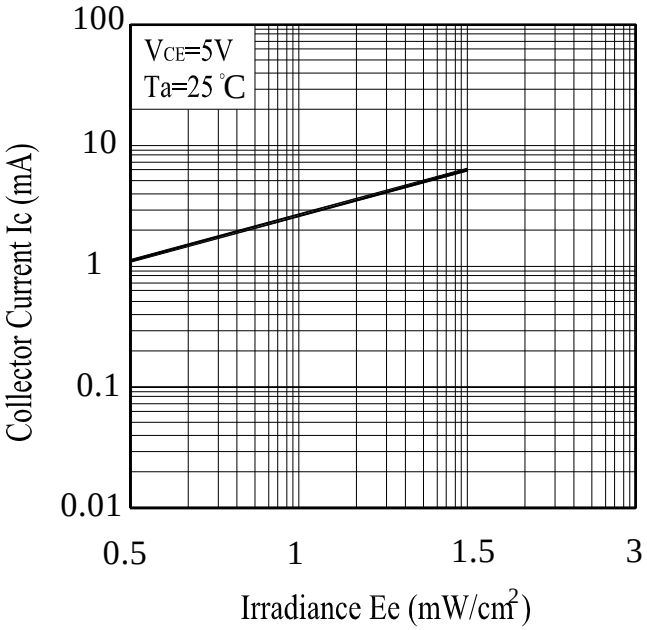


Fig.4 Collector Current vs. Irradiance



Typical Electro-Optical Characteristics Curves

Fig.5 Collector Dark Current vs. Ambient Temperature

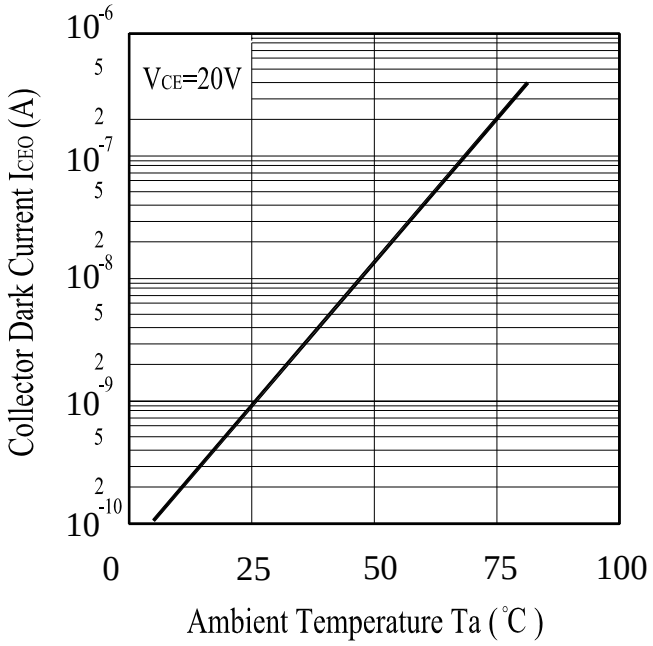
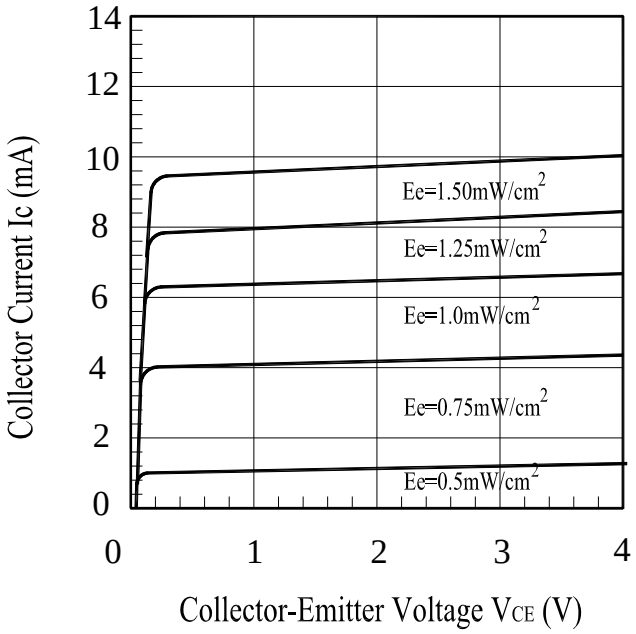


Fig.6 Collector Current vs. Collector-Emitter Voltage



Reliability Test Item And Condition

The reliability of products shall be satisfied with items listed below.

Confidence level：90%

LTPD：10%

NO.	Item	Test Conditions	Test Hours/ Cycles	Sample Sizes	Failure Judgement Criteria	Ac/Re
1	Solder Heat	TEMP.：260℃±5℃	10secs	22pcs	$I_{C(ON)} \leqq L \times 0.8$ L：the initial test value	0/1
2	Temperature Cycle	H：+100℃ 15mins ↕ 5mins L：-40℃ 15mins	300Cycles	22pcs		0/1
3	Thermal Shock	H：+100℃ 5mins ↕ 10secs L：-10℃ 5mins	300Cycles	22pcs		0/1
4	High Temperature Storage	TEMP.：+100℃	1000hrs	22pcs		0/1
5	Low Temperature Storage	TEMP.：-40℃	1000hrs	22pcs		0/1
6	DC Operating Life	V_{CE}=5V	1000hrs	22pcs		0/1
7	High Temperature/ High Humidity	85℃ / 85% R.H	1000hrs	22pcs		0/1

Packing Quantity Specification

1.500PCS/1Bag，6Bags/1Box

2.10Boxes/1Carton

Label Form Specification

CPN: Customer's Production Number

P/N : Production Number

QTY: Packing Quantity

CAT: Ranks

HUE: Peak Wavelength

REF: Reference

LOT No: Lot Number

Notes

1. Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification.
2. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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