

3mm Silicon Phototransistor

PT8294-6B

Features

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

Descriptions

- PT8294-6B is a high speed and high sensitive NPN silicon phototransistor molded in a standard $\phi 3$ mm package. Due to its black epoxy the device is sensitive to visible and near infrared radiation..

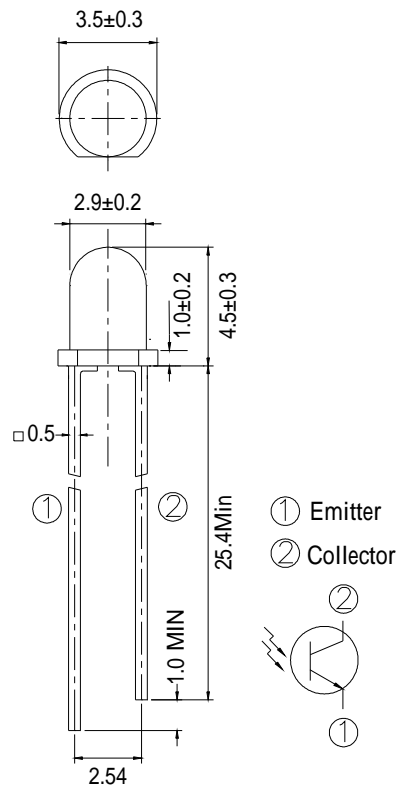
Applications

- Camera
- Infrared applied system

Device Selection Guide

| LED Part No. | Chip | Lens Color |
|--------------|----------|------------|
| | Material | |
| PT | Silicon | Black |

Package Dimensions



- Notes:**
- 1.All dimensions are in millimeters
 - 2.Tolerances unless dimensions $\pm 0.25\text{mm}$

Absolute Maximum Ratings (Ta=25°C)

| 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 | T_{opr} | -25 ~ +85 | °C |
| Storage Temperature | T_{stg} | -40 ~ +100 | °C |
| Lead Soldering Temperature*1 | T_{sol} | 260 | °C |
| Power Dissipation at (or below) 25 Free Air Temperature | P_c | 75 | mW |

Notes: *1:Soldering time 5 seconds.

Electro-Optical Characteristics (Ta=25°C)

| Parameter | Symbol | Condition | Min | Typ | Max | Unit |
|---------------------------------------|---------------|--------------------------------------|-----|----------|-----|---------|
| Collector – Emitter Breakdown Voltage | BV_{CEO} | $I_C=100 \mu A$ $E_e=0mW/cm^2$ | 30 | --- | --- | V |
| Emitter-Collector Breakdown Voltage | BV_{ECO} | $I_E=100 \mu A$ $E_e=0mW/cm^2$ | 5 | --- | --- | V |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=2mA$ $E_e=1mW/cm^2$ | --- | --- | 0.4 | V |
| Rise Time | t_r | $V_{CE}=5V$ $I_C=mA$ $RL=1000$ | --- | 15 | --- | μS |
| Fall Time | t_f | | --- | 15 | --- | |
| Collector Dark Current | I_{CEO} | $E_e=0mW/cm^2$ $V_{CE}=20V$ | --- | --- | 100 | nA |
| On State Collector Current | $I_{C(on)}$ | $E_e=1mW/cm^2$ $V_{CE}=5V$ | 0.7 | 1.8 | --- | mA |
| Wavelength of Peak Sensitivity | p | --- | --- | 940 | --- | nm |
| Rang of Spectral Bandwidth | 0.5 | --- | --- | 760-1100 | --- | nm |

Rankings

| Parameter | Symbol | Min | Max | Unit | Test Condition |
|-----------|-------------|------|------|------|-------------------------------|
| G | $I_{C(ON)}$ | 0.70 | 1.90 | mA | $V_{CE}=5V$ $E_e=1mW/cm^2$ |
| H | | 1.14 | 2.60 | | |
| J | | 1.77 | 3.61 | | |
| K | | 2.67 | 5.07 | | |

Typical Electro-Optical Characteristics Curves

Fig.1 Collector Power Dissipation vs. Ambient Temperature

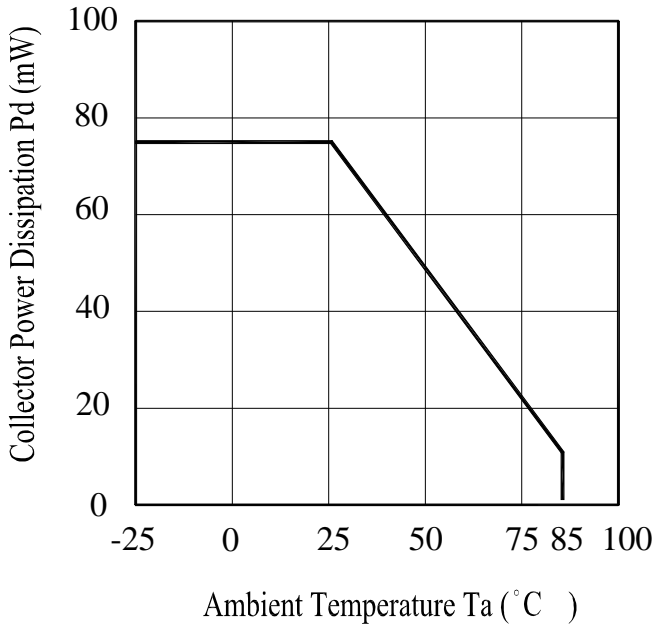


Fig.2 Spectral Sensitivity

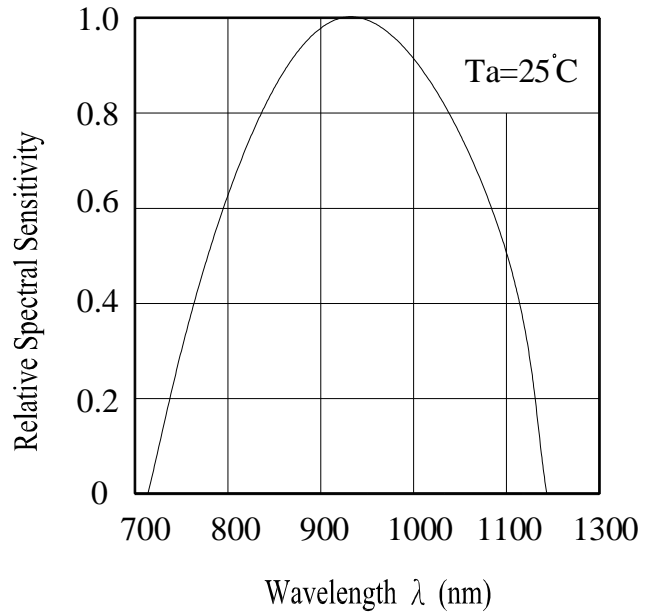


Fig.3 Relative Collector Current vs. Ambient Temperature

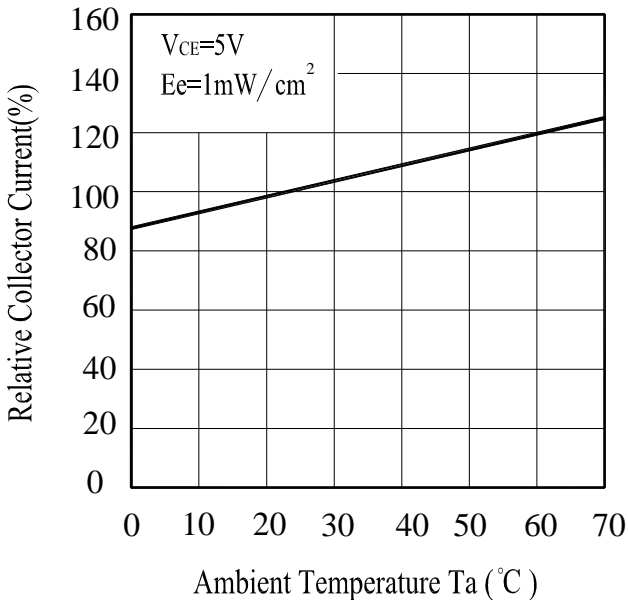
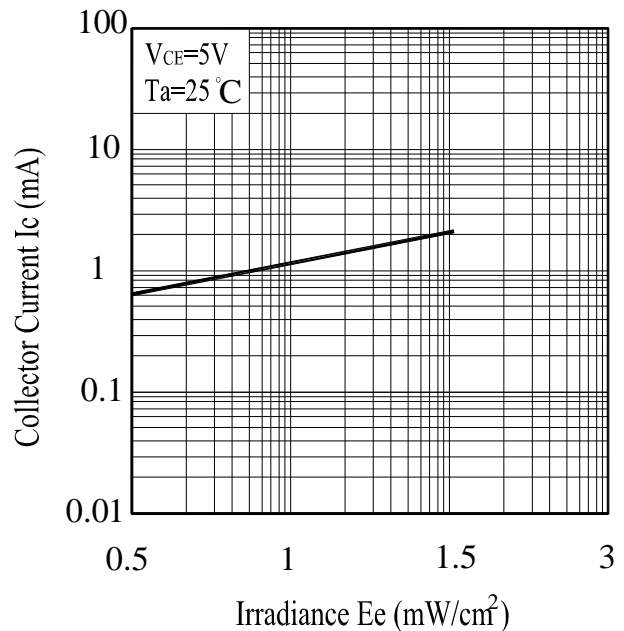


Fig.4 Collector Current vs. Irradiance



Typical Electro-Optical Characteristics Curves

Fig.5 Collector Dark Current vs. Ambient Temperature

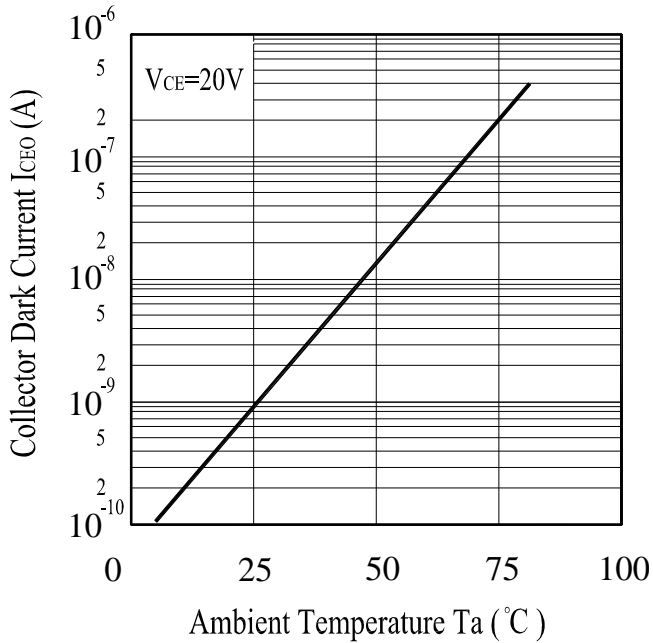
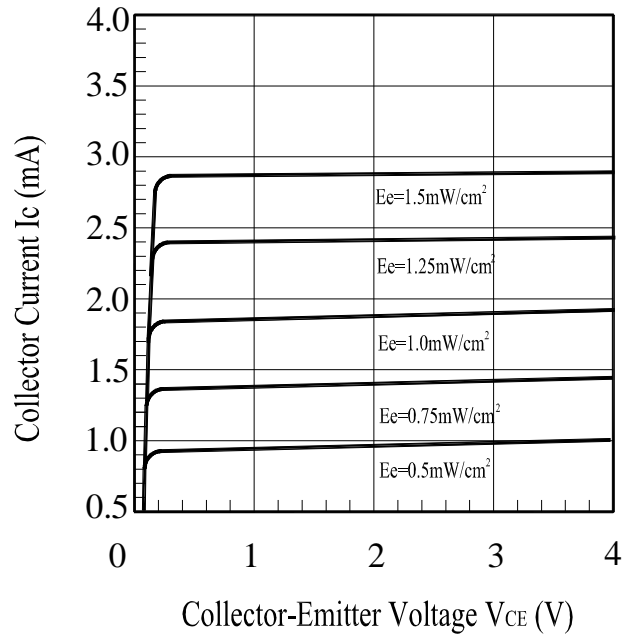


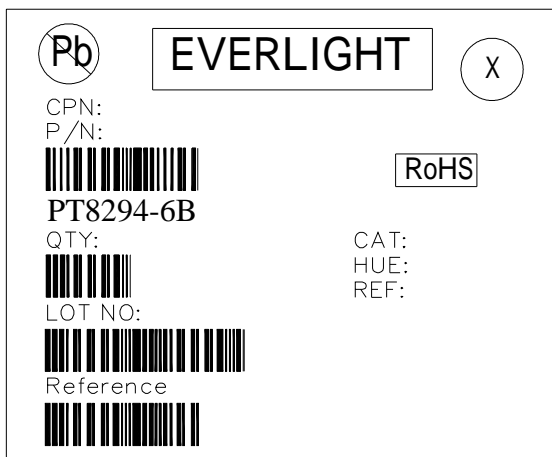
Fig.6 Collector Current vs. Collector-Emitter Voltage



Packing Quantity Specification

1. 1000Pcs/Bags , 4Bags/1Boxes
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

X: Month

Reference: Identify Label 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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EVERLIGHT ELECTRONICS CO., LTD.
Office: No 25, Lane 76, Sec 3, Chung Yang Rd,
Tucheng, Taipei 236, Taiwan, R.O.C

Tel: 886-2-2267-2000, 2267-9936
Fax: 886-2267-6244, 2267-6189, 2267-6306
<http://www.everlight.com>

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