

### 5mm Phototransistor EAPLP05RDQA0



#### Features

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

#### Description

- EAPLP05RDQA0 is a high speed and high sensitive NPN silicon NPN epitaxial planar phototransistor molded in a standard 5 mm package. Due to its black epoxy the device is sensitive to visible and near Infrared radiation.

#### Applications

- Infrared applied system
- Camera
- Cockroach catcher

## Device Selection Guide

| Chip Materials | Lens Color |
|----------------|------------|
| Silicon        | Black      |

## Absolute Maximum Ratings (Ta=25°C)

| Parameter                                                       | Symbol    | Rating    | Unit |
|-----------------------------------------------------------------|-----------|-----------|------|
| 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                                      | $T_{sol}$ | 260°C     | °C   |
| Power Dissipation at<br>(or below)<br>25°C Free Air Temperature | $P_c$     | 75        | mW   |

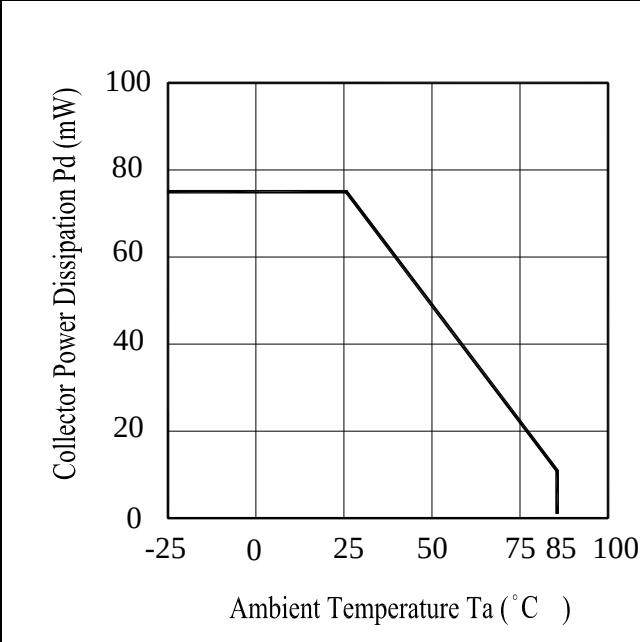
**Notes:** \*1:Soldering time  $\leq$  5 seconds.

### Electro-Optical Characteristics (Ta=25°C)

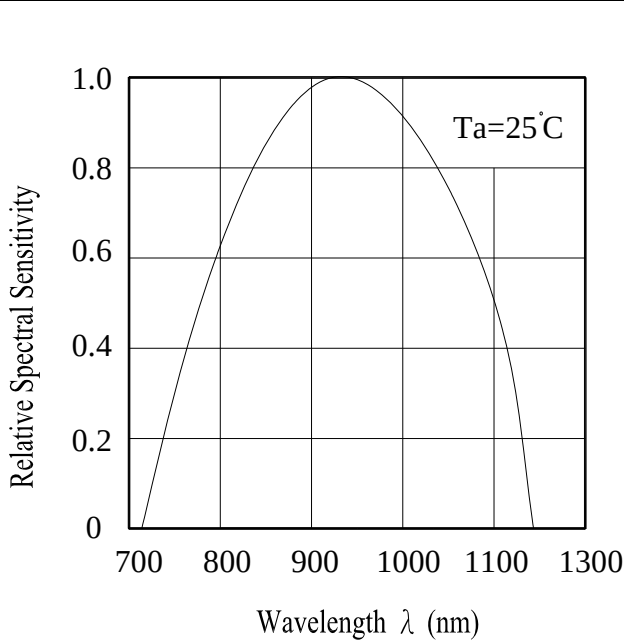
| Parameter                             | Symbol          | Min.  | Typ.  | Max.  | Unit    | Condition                                          |
|---------------------------------------|-----------------|-------|-------|-------|---------|----------------------------------------------------|
| Collector – Emitter Breakdown Voltage | $BV_{CEO}$      | 30    | ----- | ----- | V       | $I_C=100\mu A$<br>$E_e=0mW/cm^2$                   |
| Emitter-Collector Breakdown Voltage   | $BV_{ECO}$      | 5     | ----- | ----- | V       | $I_E=100\mu A$<br>$E_e=0mW/cm^2$                   |
| Collector-Emitter Saturation Voltage  | $V_{CE(sat)}$   | ----- | ----- | 0.4   | V       | $I_C=2mA$<br>$E_e=1mW/cm^2$                        |
| Rise Time                             | $t_r$           | ----- | 15    | ----- | $\mu S$ | $V_{CE}=5V$<br>$I_C=1mA$<br>$RL=1000\Omega$        |
| Fall Time                             | $t_f$           | ----- | 15    | ----- |         |                                                    |
| Collector Dark Current                | $I_{CEO}$       | ----- | ----- | 100   | nA      | $E_e=0mW/cm^2$<br>$V_{CE}=20V$                     |
| On State Collector Current            | $I_{C(on)}$     | 1.77  | 4.0   | ----- | mA      | $E_e=1mW/cm^2$<br>$V_{CE}=5V$<br>$\lambda_p=940nm$ |
| Rang Of Spectral Bandwidth            | $\lambda_{0.5}$ | 760   | ----- | 1100  | nm      | ----                                               |
| Wavelength of Peak Sensitivity        | $\lambda_p$     | ----- | 940   | ----- | nm      | ----                                               |

Typical Electro-Optical Characteristics Curves

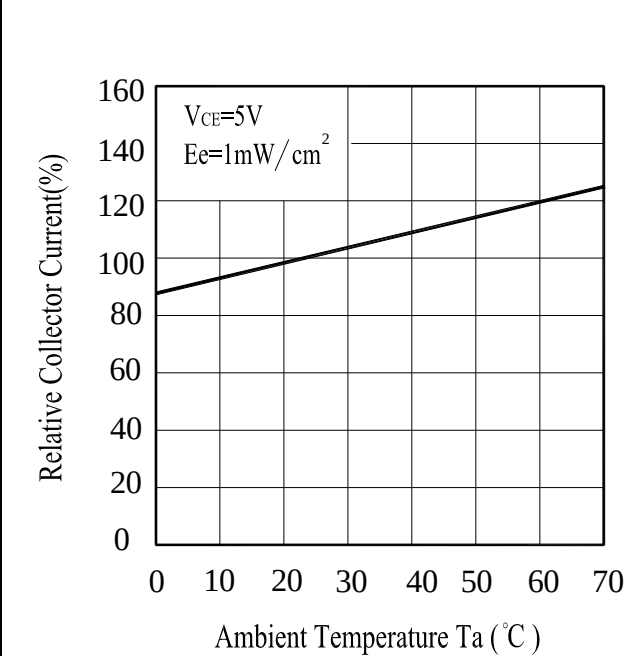
Collector Power Dissipation vs. Ambient Temperature



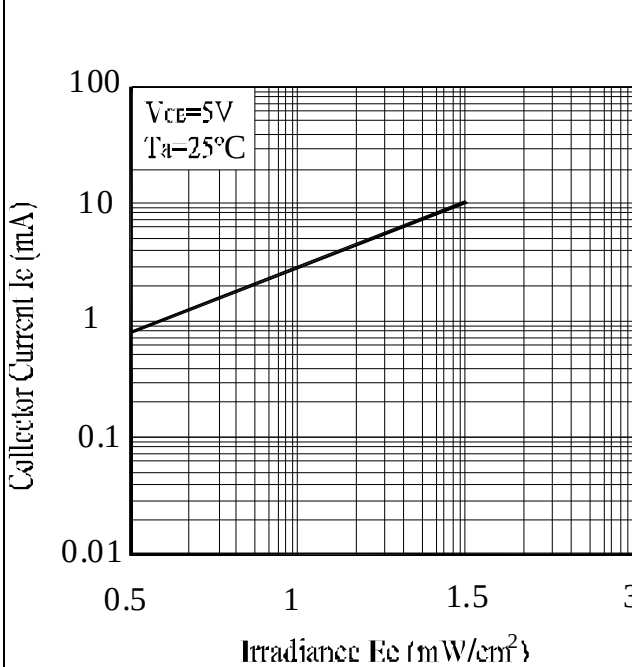
Spectral Sensitivity



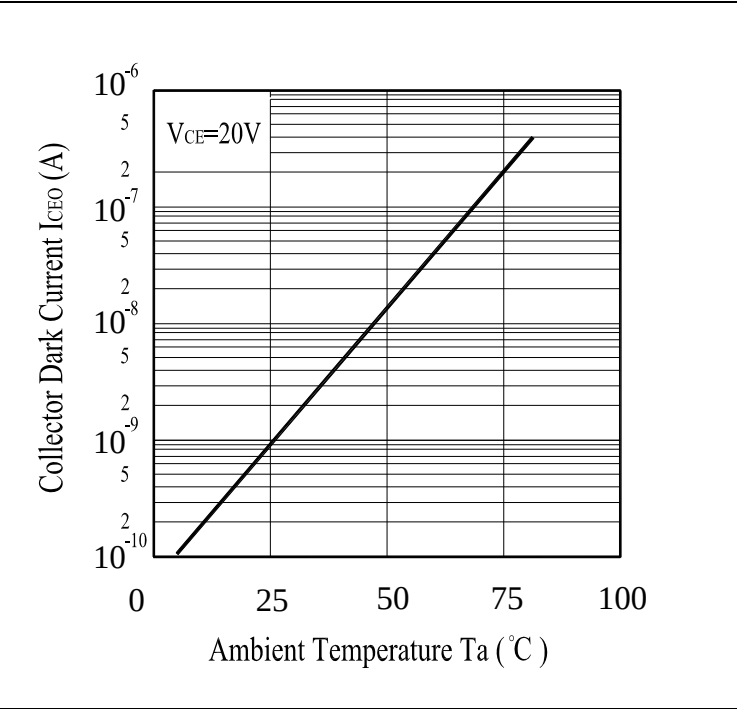
Relative Collector Current vs. Ambient Temperature



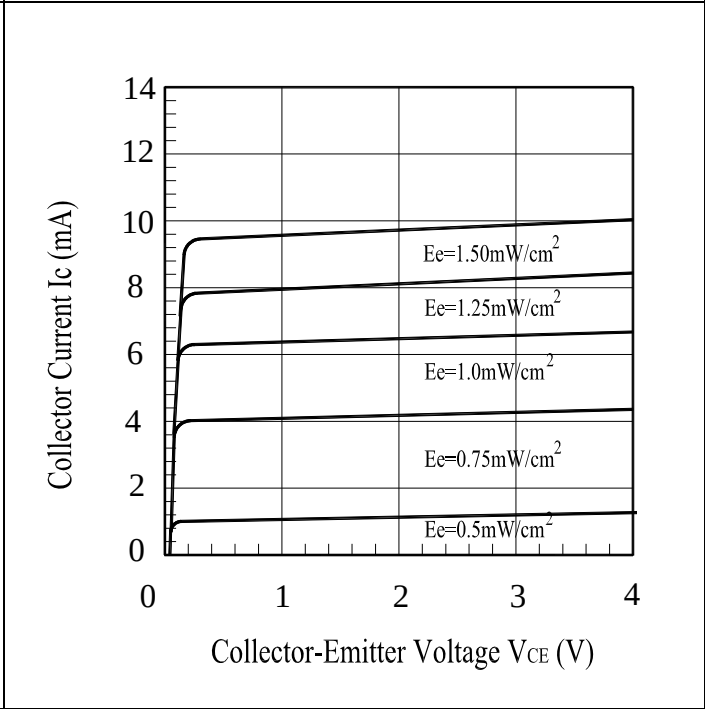
Collector Current vs. Irradiance



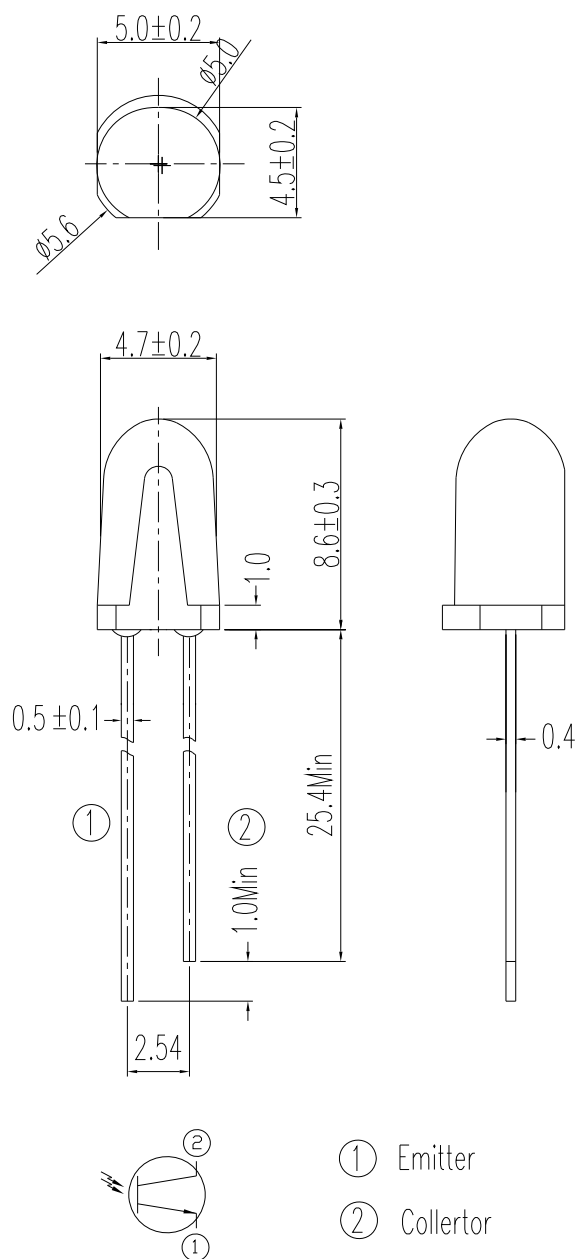
Collector Dark Current vs. Ambient Temperature



Collector Current vs. Collector-Emitter Voltage

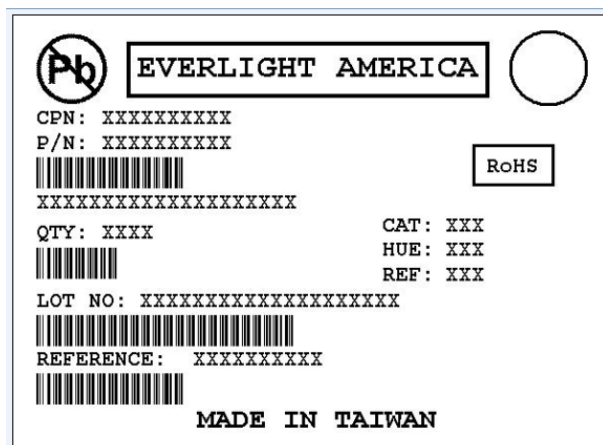


## Package Dimension



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

### Label Form Specification



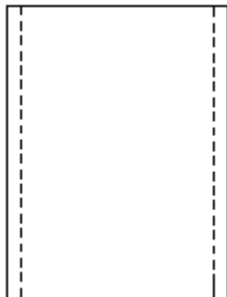
The label form includes the following fields and logos:

- EVERLIGHT AMERICA** logo at the top center.
- RoHS** logo at the top right.
- CPN:** XXXXXXXXXXXX
- P/N:** XXXXXXXXXXXX
- QTY:** XXXX
- LOT NO:** XXXXXXXXXXXXXXXXXXXX
- REFERENCE:** XXXXXXXXXXXX
- MADE IN TAIWAN** at the bottom.
- CAT:** XXX
- HUE:** XXX
- REF:** XXX

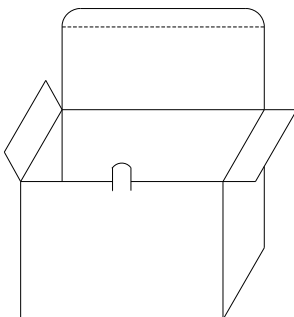
- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number
- Reference: Identify Label Number

### Packing Specification

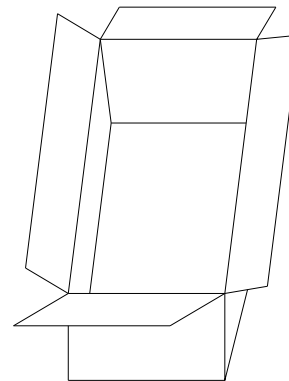
#### ■ Anti-electrostatic bag



#### ■ Inner Carton



#### ■ Outside Carton



#### ■ Packing Quantity

1. 500 PCS/1 Bag, 6 Bags/1 Inner Carton
2. 10 Inner Cartons/1 Outside Carton

### Notes

1. Above specification may be changed without notice. Everlight Americas 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 Americas 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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