

### Side Face Silicon Phototransistor EAPLP04RRLA1

#### Features

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

#### Description

- EAPLP04RRLA1 is a high speed and high sensitive dual phototransistor molded in a black plastic package with plat side view.
- The device is spectrally matched with IR emitters.

#### Applications

- Mouse
- Optoelectronic Switch
- Photo Interrupter

## Device Selection Guide

Chip Materials	Lens Color
Si	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	°C
Storage Temperature	$T_{stg}$	-40 ~ +85°C	°C
Lead Soldering Temperature(*1)	$T_{sol}$	260	°C
Power Dissipation at (or below) 25°C Free Air Temperature	$P_D$	75	mW

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

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

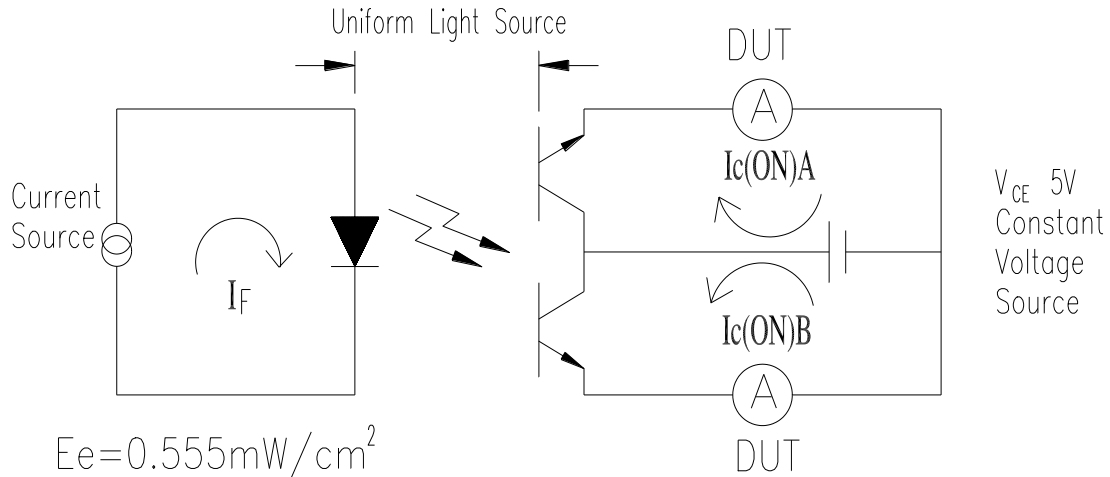
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Collector – Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=100\mu A$ $E_e=0mW/cm^2$	30	---	---	V
Emitter-Collector Breakdown Voltage	$BV_{ECO}$	$I_E=100\mu A$ $E_e=0mW/cm^2$	5	---	---	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=2mA$ $E_e=1mW/cm^2$	---	---	0.4	V
Rise Time	$t_r$	$V_{CE}=5V$ $I_C=1mA$ $R_L=1000\Omega$	---	15	---	$\mu S$
Fall Time	$t_f$		---	15	---	
Collector Dark Current	$I_{CEO}$	$E_e=0mW/cm^2$ $V_{CE}=20V$	---	---	100	nA
On State Collector Current	$I_{C(on)}$	$V_{CE}=5V$ , $E_e=0.555mW/cm^2$	129	---	1085	$\mu A$
Wavelength of Peak Sensitivity	$\lambda_p$	---	---	940	---	nm
Rang of Spectral Bandwidth	$\lambda_{0.5}$	---	760	---	1100	nm

**Test Method For On State Collector Current :**

Condition :  $E_e=0.555\text{mW}/\text{cm}^2$  ,  $V_{CE}=5\text{V}$

Test Item : Collector Current [ $I_{C(ON)}$ ]

Unit :  $\mu\text{A}$



**To Distinguish Intensity:**

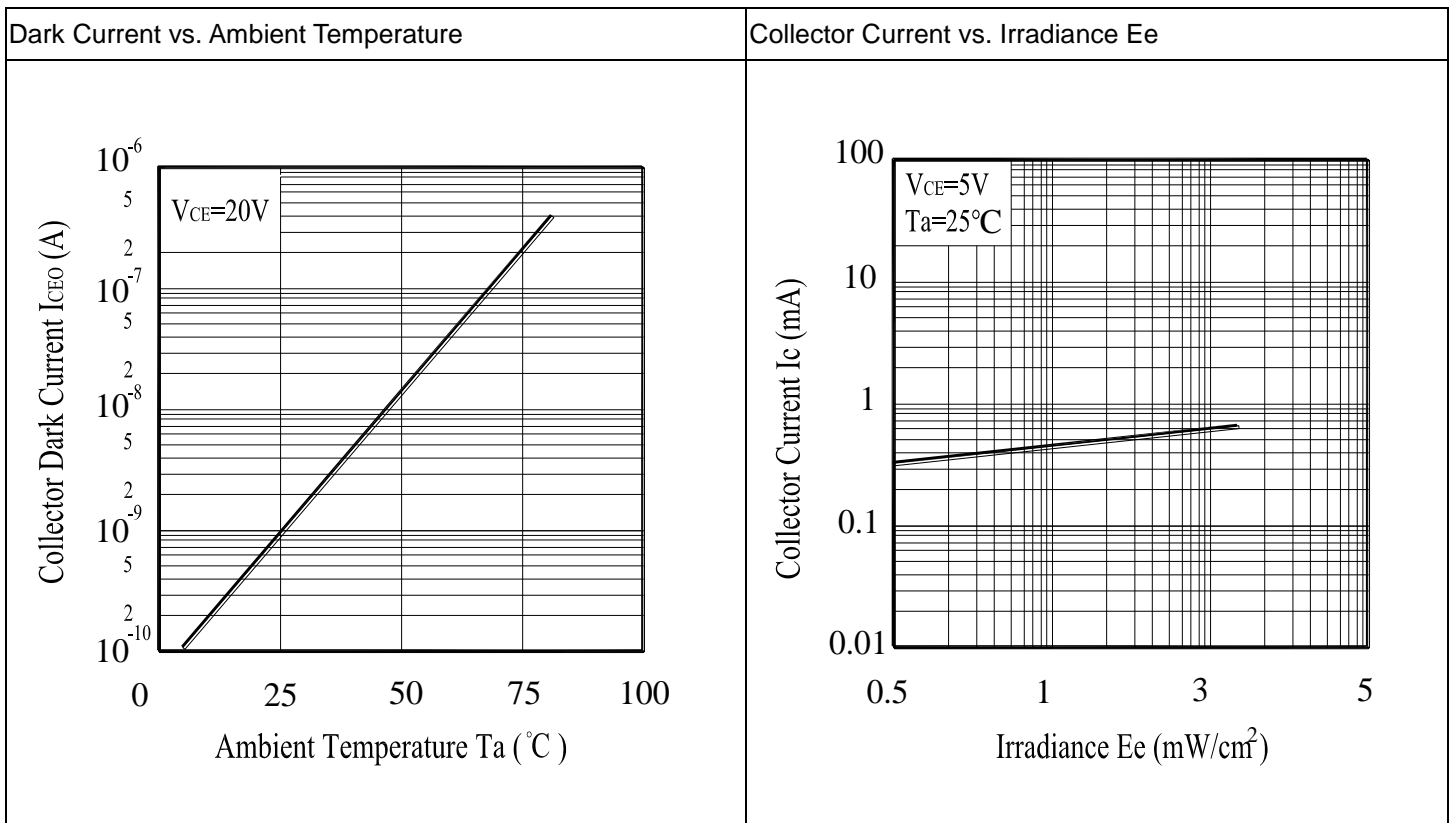
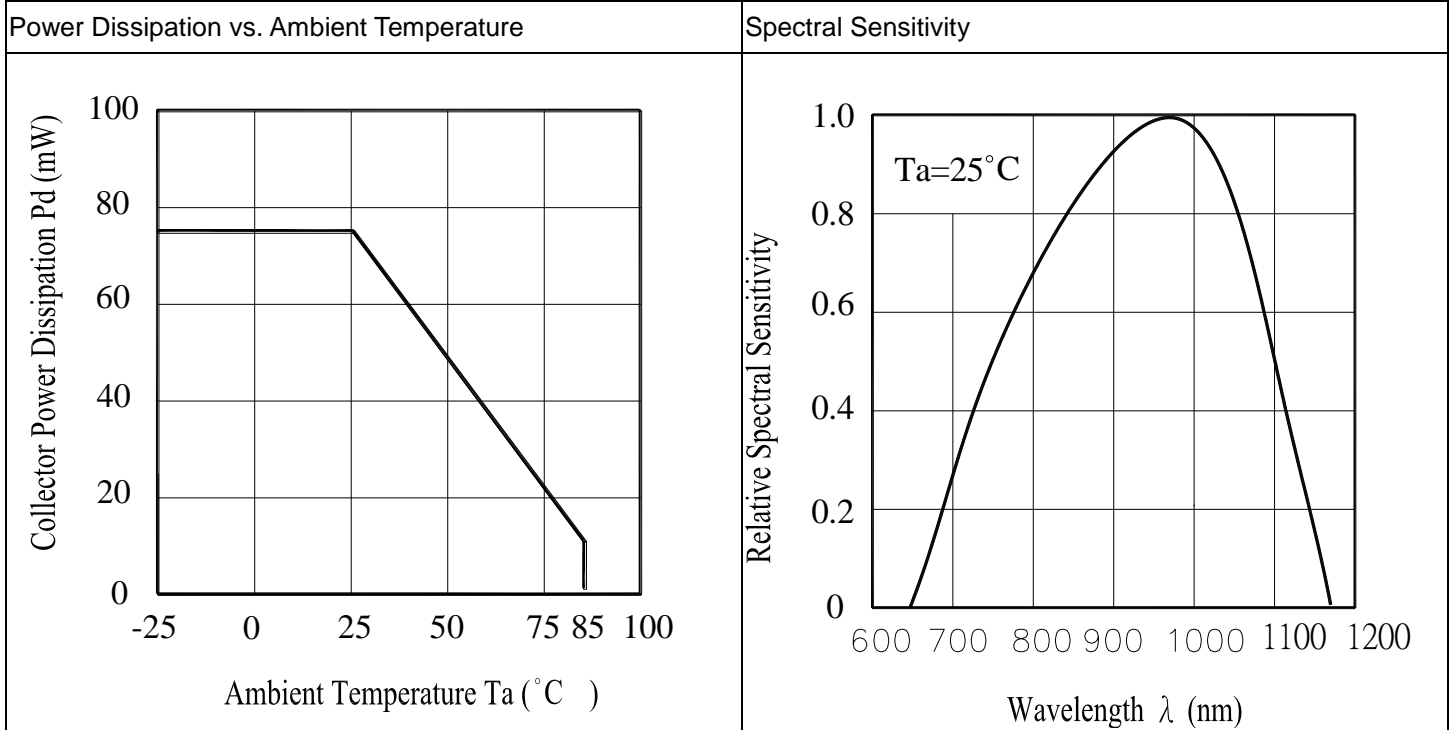
Condition:  $V_{CE}=5\text{V}$   $E_e=0.555\text{mW}/\text{cm}^2$

Ranks

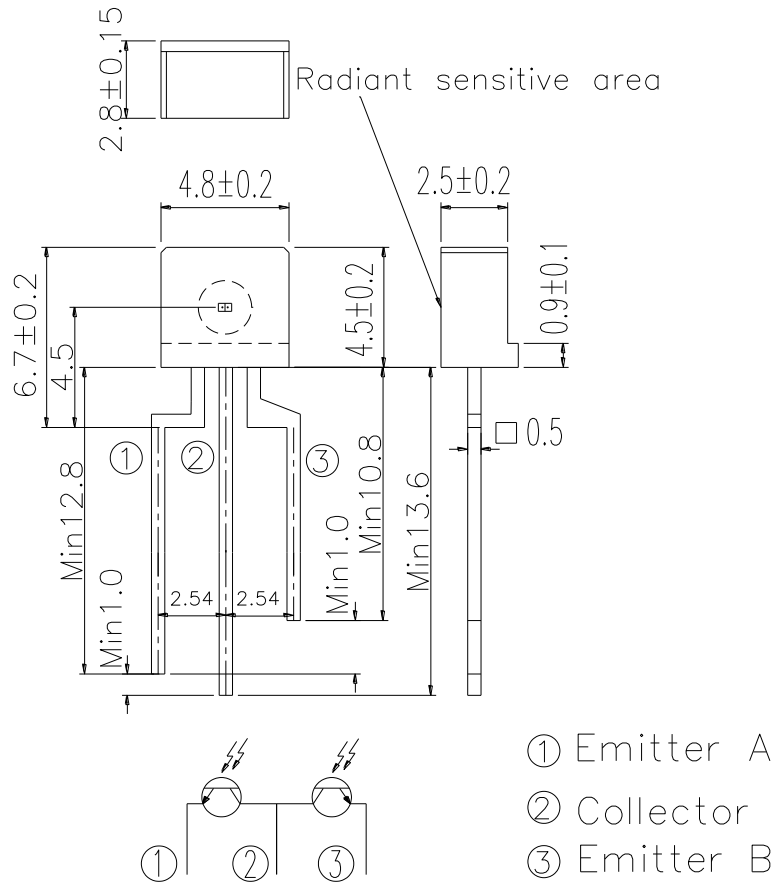
Color Code	Ranks	Symbol	Min	Typ	Max	Unit	Test Condition
Red	A1	$I_{C(ON)}$	129	---	226	$\mu\text{A}$	$E_e=0.555\text{mW}/\text{cm}^2$ $V_{CE}=5\text{V}$
Blue	A2	$I_{C(ON)}$	195	---	306	$\mu\text{A}$	$E_e=0.555\text{mW}/\text{cm}^2$ $V_{CE}=5\text{V}$
Yellow	A3	$I_{C(ON)}$	262	---	380	$\mu\text{A}$	$E_e=0.555\text{mW}/\text{cm}^2$ $V_{CE}=5\text{V}$
Silver	A4	$I_{C(ON)}$	330	---	461	$\mu\text{A}$	$E_e=0.555\text{mW}/\text{cm}^2$ $V_{CE}=5\text{V}$
Green	A5	$I_{C(ON)}$	398	---	544	$\mu\text{A}$	$E_e=0.555\text{mW}/\text{cm}^2$ $V_{CE}=5\text{V}$
Purple	A6	$I_{C(ON)}$	468	---	625	$\mu\text{A}$	$E_e=0.555\text{mW}/\text{cm}^2$ $V_{CE}=5\text{V}$
White	A7	$I_{C(ON)}$	536	---	703	$\mu\text{A}$	$E_e=0.555\text{mW}/\text{cm}^2$ $V_{CE}=5\text{V}$
Brown	A8	$I_{C(ON)}$	604	---	785	$\mu\text{A}$	$E_e=0.555\text{mW}/\text{cm}^2$ $V_{CE}=5\text{V}$
Orange	A9	$I_{C(ON)}$	673	---	862	$\mu\text{A}$	$E_e=0.555\text{mW}/\text{cm}^2$ $V_{CE}=5\text{V}$
Golden	A10	$I_{C(ON)}$	742	---	944	$\mu\text{A}$	$E_e=0.555\text{mW}/\text{cm}^2$ $V_{CE}=5\text{V}$
Pink	A11	$I_{C(ON)}$	812	---	1018	$\mu\text{A}$	$E_e=0.555\text{mW}/\text{cm}^2$ $V_{CE}=5\text{V}$
Red,Blue	A12	$I_{C(ON)}$	882	---	1085	$\mu\text{A}$	$E_e=0.555\text{mW}/\text{cm}^2$ $V_{CE}=5\text{V}$

\*  $I_{C(ON)} = [I_{C(ON)A} + I_{C(ON)B}] / 2$

**Typical Electro-Optical Characteristics Curves**



**Package Dimension**

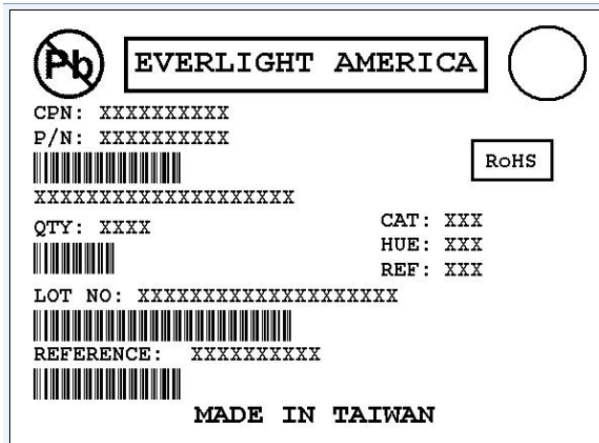


Note: Tolerances unless dimensions  $\pm 0.25\text{mm}$

### Packing Quantity Specification

1. 1000Pcs/1Bag , 6 Bags/1Box
2. 10Boxes/1Carton

### Label Form Specification



- 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
- X: Month
- Reference: Identify Label Number

### 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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