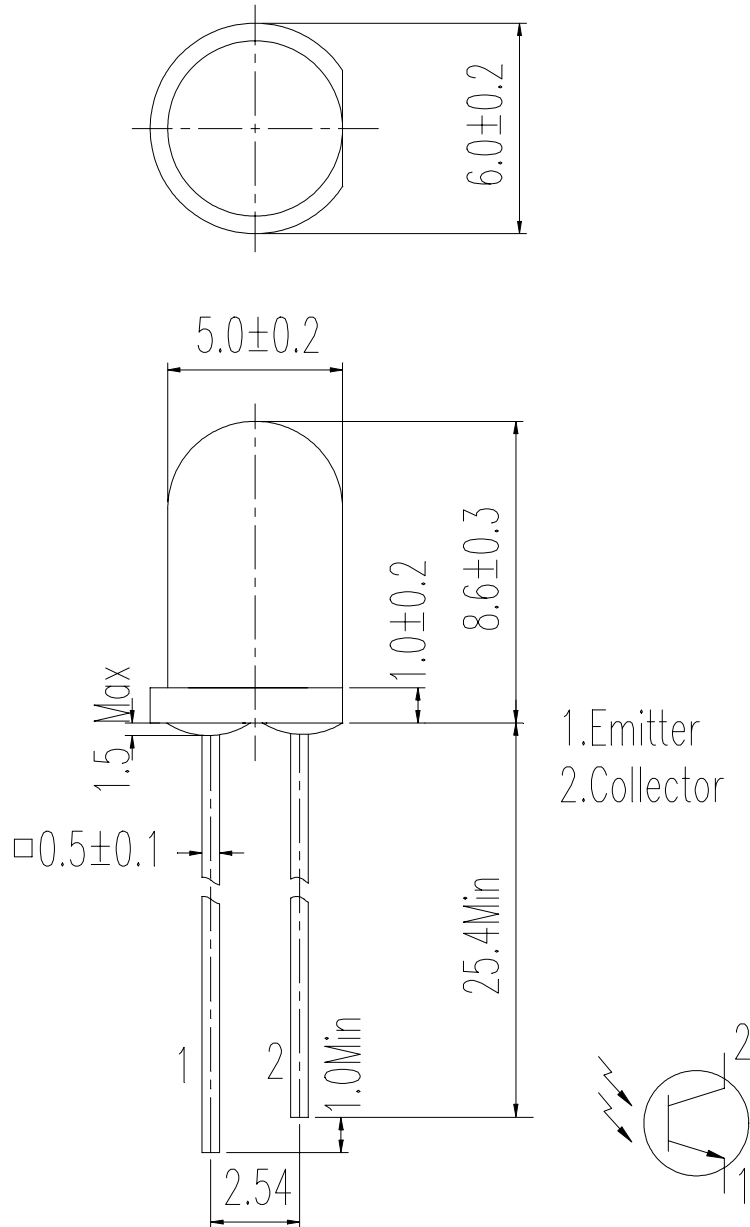




**Package Dimensions:**



Office: NO 25, Lane. 76, Chung Yang Rd., Sec. 3, Tucheng, Taipei 236, Taiwan, R.O.C.

TEL: 886-2-2267-2000, 2267-9936 (22 Lines)

FAX: 886-2-2267-6189

http: //www.everlight.com



Device Number: DPT-033-059 REV: 1.1  
MODEL NO: PT334-6C ECN: \_\_\_\_\_ Page: 2/7

◎Notes :

- 1.All dimensions are in millimeter.
- 2.Protruded resin under flange 1.5 mm Max.
- 3.Lead spacing is measured where the lead emerge from the package.
- 4.Lens color : Water clear.
- 5.Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification.
- 6.These specification sheets include materials protected under copyright of EVERLIGHT corporation . Please don't reproduce or cause anyone to reproduce them without EVERLIGHT's consent.
- 7.When using this product , please observe the absolute maximum ratings and the instructions for use 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.

**Description**

PT334-6C is a high speed and high sensitive NPN silicon phototransistor, molded in a standard  $\phi 5$  mm package . Due to its water clear epoxy the device is sensitive to visible and near infrared radiation .

**Features**

- High photo sensitivity
- Fast response times

**Applications**

- Optoelectronic switch
- VCRs ,Video camera
- Floppy disk drive
- Infrared applied system

**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 Range	$T_{opr}$	-25 to +85	°C
Storage Temperature Range	$T_{stg}$	-40 to +85	°C
Lead Soldering Temperature (1/16 inch from body for 5 sec.)	$T_{sol}$	260	°C
Power Dissipation at (or below) 25°C Free Air Temperature	$P_c$	100	mW

**Electro Optical Characteristics**

(Ta=25°C)

Parameter	Symbol	MIN	TYP	MAX	Unit	Condition
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	30	---	---	V	$I_C=1\text{mA}$ $E_e=0\text{mW/cm}^2$
Emitter-Collector Breakdown Voltage	$BV_{ECO}$	5	---	---	V	$I_E=100\ \mu\text{A}$ $E_e=0\text{mW/cm}^2$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	---	---	0.4	V	$I_C=80\ \mu\text{A}$ $E_e=1\text{mW/cm}^2$
Rise Time	$t_r$	---	15	---	$\mu\text{S}$	$V_{CC}=5\text{V}$ $I_C=0.5\text{mA}$ $R_L=100\ \Omega$
Fall Time	$t_f$	---	15	---		
Collector Dark Current	$I_{CEO}$	---	---	100	nA	$V_{CE}=10\text{V}$ $E_e=0\text{mW/cm}^2$
On state Collector Current	$I_{C(on)}$	1.77	3.0	---	mA	$V_{CE}=5\text{V}$ $E_e=1\text{mW/cm}^2$
Wavelength of Peak Sensitivity	$\lambda_p$	---	860	---	nm	---
Rang of Spectral Bandwidth	$\lambda_{0.5}$	400	---	1200	nm	---



**Typical Electrical/Optical/Characteristics Curves**

Fig.1 Collector Power Dissipation vs. Ambient Temperature

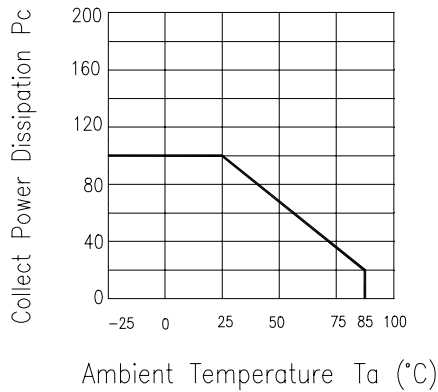


Fig.2 Collector Dark Current vs. Ambient Temperature

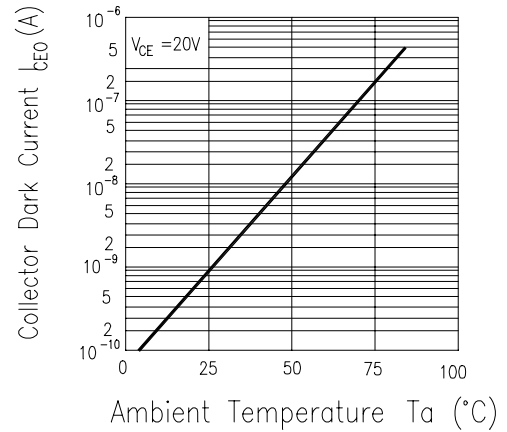


Fig. 3 Relative Collector Current vs. Ambient Temperature

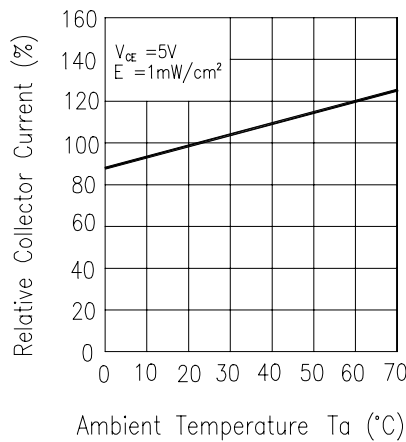


Fig.4 Collector Current vs. Irradiance

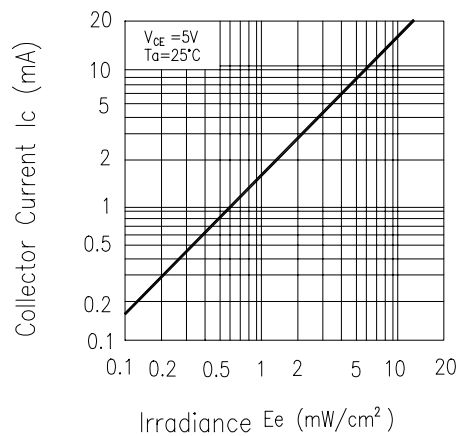


Fig.5 Spectral Sensitivity

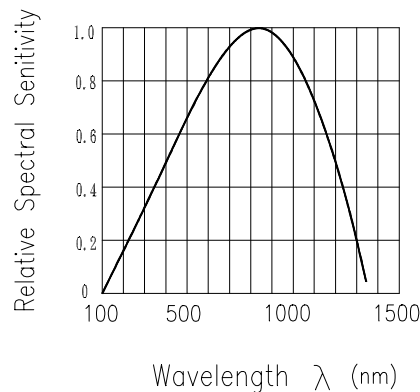
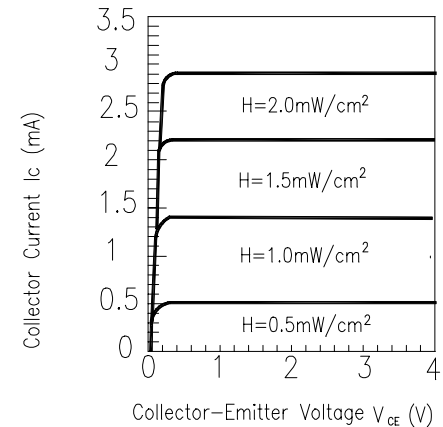


Fig.6 Collector Current vs. Collector-Emitter Voltage





**Reliability**

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

Confidence level : 90%

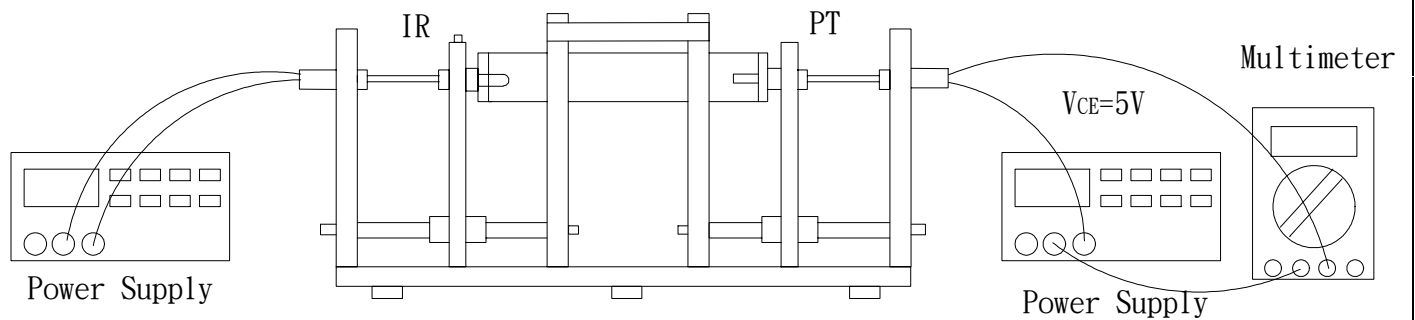
LTPD : 10%

Test Items	Test Conditions	Failure Judgement Criteria	Samples(n)
			Defective(c)
Operation life	$V_{CE}=5V$ , $T_a : 25^{\circ}C$ 1000hrs	$I_{C(on)} \leq L \times 0.8$	n =22 , c=0
Temperature cycle	1 cycle $-55^{\circ}C$ to $+25^{\circ}C$ to $+85^{\circ}C$ (30min) (5min) (30min) 50 cycle test		n =22 , c=0
Thermal shock	$-10^{\circ}C$ to $+100^{\circ}C$ (5min) (10sec) (5min) 50cycle test		n =22 , c=0
High temperature storage	Temp : $+100^{\circ}C$ 1000hrs	L : Lower specification limit	n =22 , c=0
Low temperature storage	Temp : $-55^{\circ}C$ 1000hrs		n =22 , c=0
High temperature High humidity	$T_a : 85^{\circ}C$ RH : 85% 1000hrs		n =22 , c=0
Solder heat	Temp : $260 \pm 5^{\circ}C$ 5sec 4mm Form the bottom of the package.		n =22 , c=0
Solderability	Temp : $230 \pm 5^{\circ}C$ 5sec 4mm Form the bottom of the package.	More than 90% of Lead to be covered by soldering	n =22 , c=0

**Test Method For Power**

Condition :  $E_e=1\text{m W/c m}^2$  ,  $V_{CE}=5\text{V}$

Test Item : Collector Current (unit : mA)



**Rankings**

Parameter	Symbol	Min	Max	Unit	Test Condition
J	$I_{C(ON)}$	1.77	3.61	mA	$V_{CE}=5\text{V}$ $E_e=1\text{mW/c m}^2$
K		2.68	5.07		

**Supplements**

1.Parts

(1) Chip

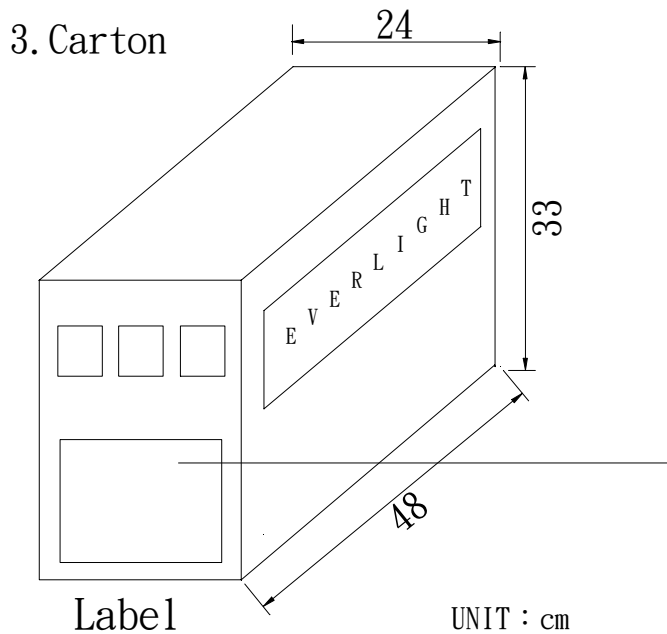
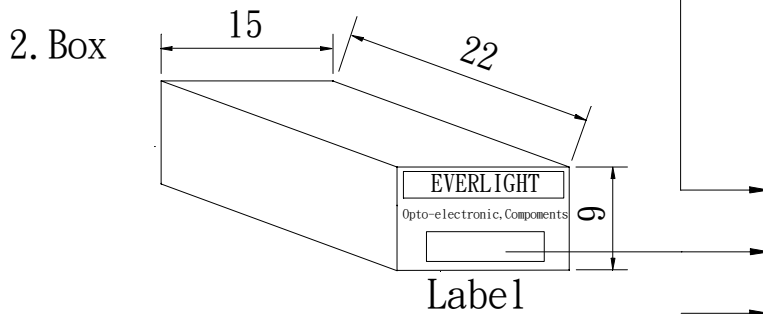
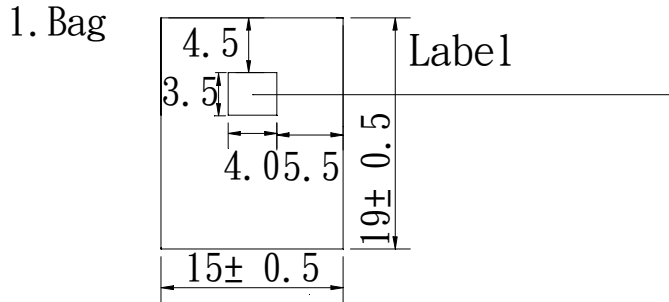
Type	Material	Wavelength of Peak Sensitivity
PT	Silicon	860nm

(2) Material

Type	Lead frame	Wire	Package
Material	SPCC	Gold	Epoxy



**Packing Specifications**



CPN : Customer's Production Number  
 P/N : Production Number  
 QTY : Packing Quantity  
 CAT : Ranks  
 HUE : Peak Wavelength  
 REF : Reference  
 LOT NO : Lot Number  
 MADE IN TAIWAN : Production Place

**Packing Quantity Specification**

1.500Pcs/1Bag , 6Bags/1Box

2.10Boxes/1Carton