

## 1.6mm Round Subminiature Chip Phototransistor

### PT26-21C/CT



#### Features

- High photo sensitivity
- Small junction capacitance
- Package in 8mm tape on 7" diameter reel
- Pb free
- The product itself will remain within RoHS compliant version.
- Compliance with EU REACH
- Compliance Halogen Free .(Br <900 ppm ,Cl <900 ppm , Br+Cl < 1500 ppm).

#### Descriptions

- PT26-21C/CT is a phototransistor in miniature SMD package which is molded in a water clear epoxy with spherical top view lens.
- The device is spectrally matched to infrared emitting diode.

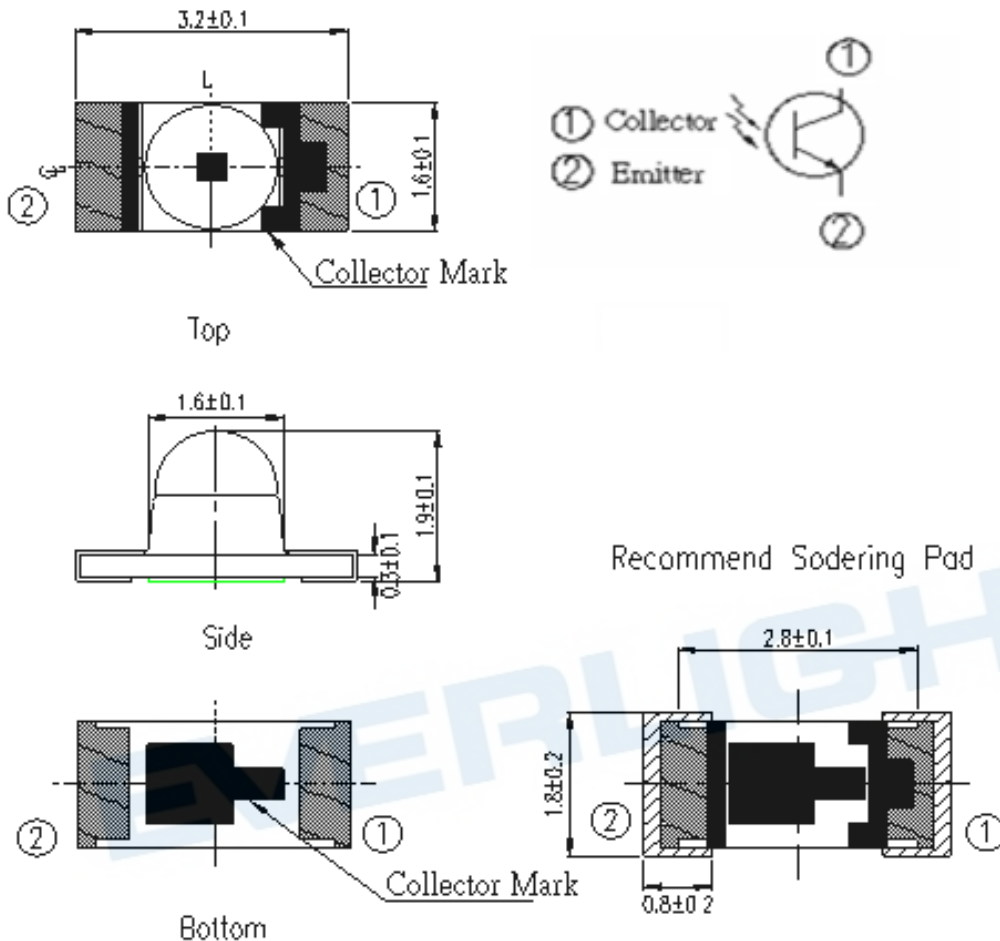
#### Applications

- Miniature switch
- Counters and sorter
- Position sensor
- Infrared applied system
- Encoder

#### Device Selection Guide

LED Part No.	Chip Material	Lens Color
PT	Silicon	Water clear

## Package Dimensions



Suggested pad dimension is just for reference only.  
Please modify the pad dimension based on individual need.

- Notes:**
- 1.All dimensions are in millimeters
  - 2.Tolerances unless dimensions  $\pm 0.1$ mm
  - 3.Suggested pad dimension is just for reference only  
Please modify the pad dimension based on individual need

### 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 ~ +85	°C
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.	Units
Rang Of Spectral Bandwidth	$\lambda_{0.1}$	---	200	---	1050	nm
Wavelength Of Peak Sensitivity	$\lambda_P$	---	---	940	---	nm
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=100\mu A$ $E_e=0mW/cm^2$ $\lambda=940nm$	30	---	---	V
Emitter-Collector Breakdown Voltage	$BV_{ECO}$	$I_E=10\mu A$ $E_e=0mW/cm^2$ $\lambda=940nm$	5	---	---	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=2mA$ $E_e=1mW/cm^2$ $\lambda=940nm$	---	---	0.4	V
Collector Dark Current	$I_{CEO}$	$V_{CE}=20V$ $E_e=0mW/cm^2$ $\lambda=940nm$	---	---	100	nA
On State Collector Current	$I_{C(ON)}$	$V_{CE}=5V$ $E_e=1mW/cm^2$ $\lambda=940nm$	0.3	2.6	---	mA

## Typical Electro-Optical Characteristics Curves

Fig.1 Spectral Sensitivity

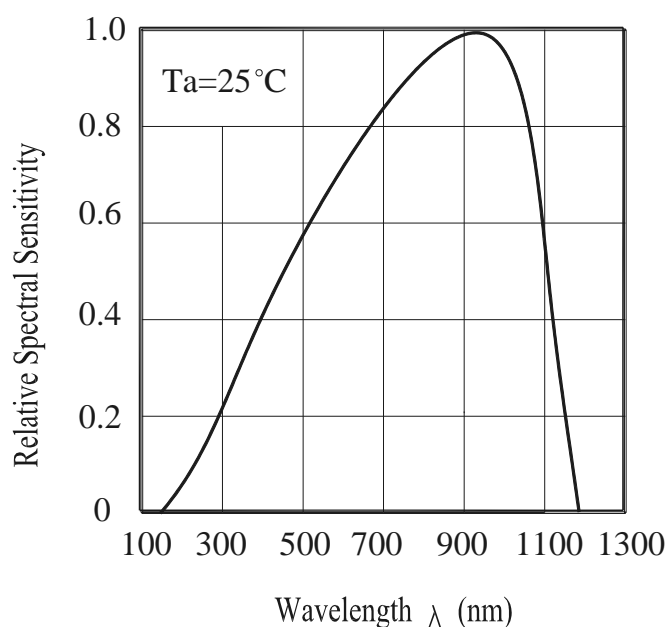


Fig.2 Collector Current vs. Irradiance

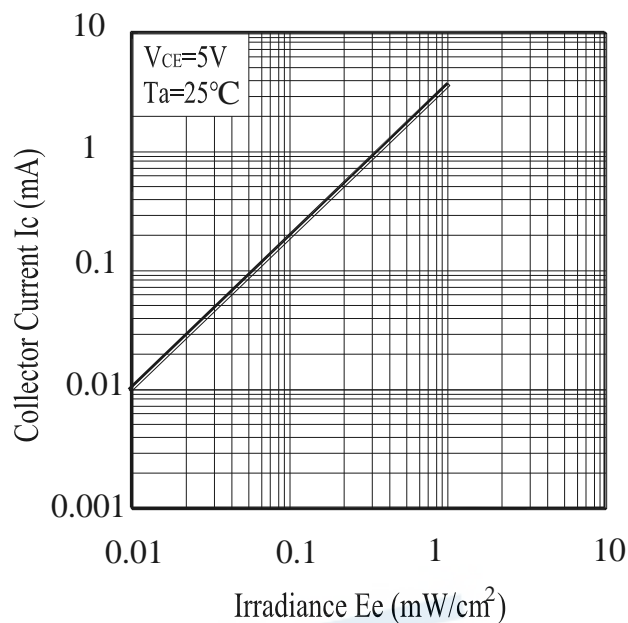
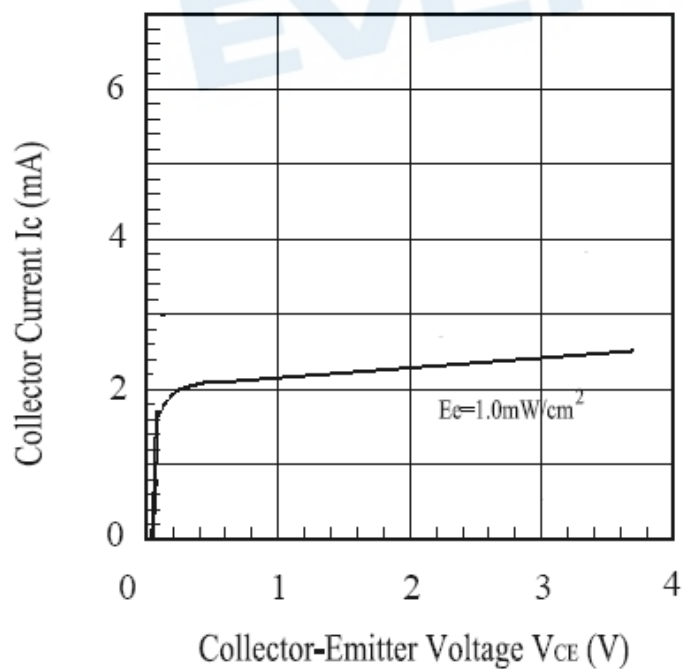


Fig.3 Collector Current vs. Collector-Emitter Voltage



## Precautions For Use

### 1. Over-current-proof

Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).

### 2. Storage

2.1 Do not open moisture proof bag before the products are ready to use.

2.2 Before opening the package, the Phototransistor should be kept at 10°C~30°C and 90%RH or less.

2.3 The Phototransistor suggested be used within one year.

2.4 After opening the package, the devices must be stored at 10°C~30°C and  $\leq 60\%RH$ , and used within 168 hours (floor life). If unused Phototransistor remain, it should be stored in moisture proof packages.

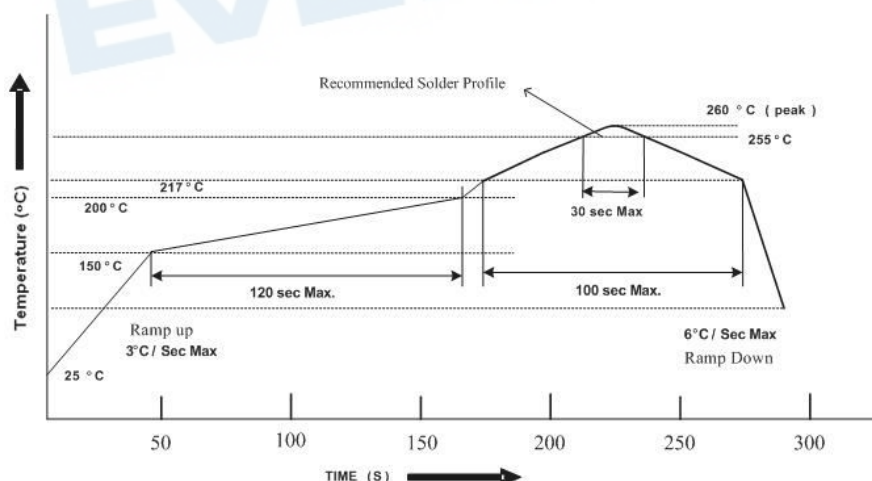
2.5 If the moisture absorbent material (desiccant material) has faded or unopened bag has exceeded the shelf life or devices (out of bag) have exceeded the floor life, baking treatment is required.

2.6 If baking is required, refer to IPC/JEDEC J-STD-033 for bake procedure or recommend the following conditions:

96 hours at 60°C  $\pm$  5°C and < 5 % RH (reeled/tubed/loose units)

### 3. Soldering Condition

#### 3.1 Lead solder temperature profile



3.2 Reflow soldering should not be done more than two times.

3.3 When soldering, do not put stress on the Phototransistor during heating.

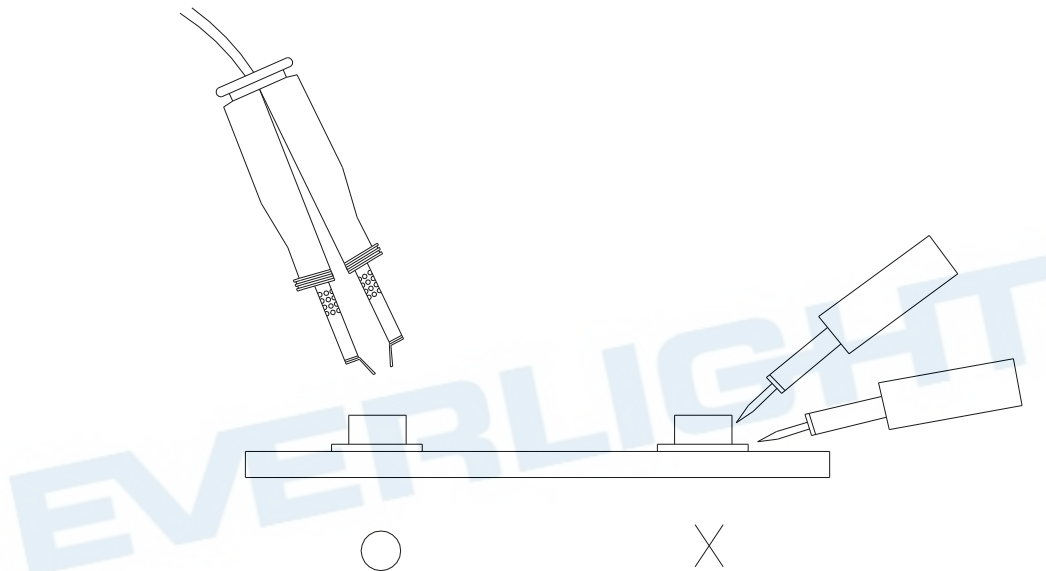
3.4 After soldering, do not warp the circuit board.

#### 4.Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 350°C for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

#### 5.Repairing

Repair should not be done after the Phototransistor have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the Phototransistor will or will not be damaged by repairing.



Technical drawing of a circular mechanical part, showing a top view and a side view.

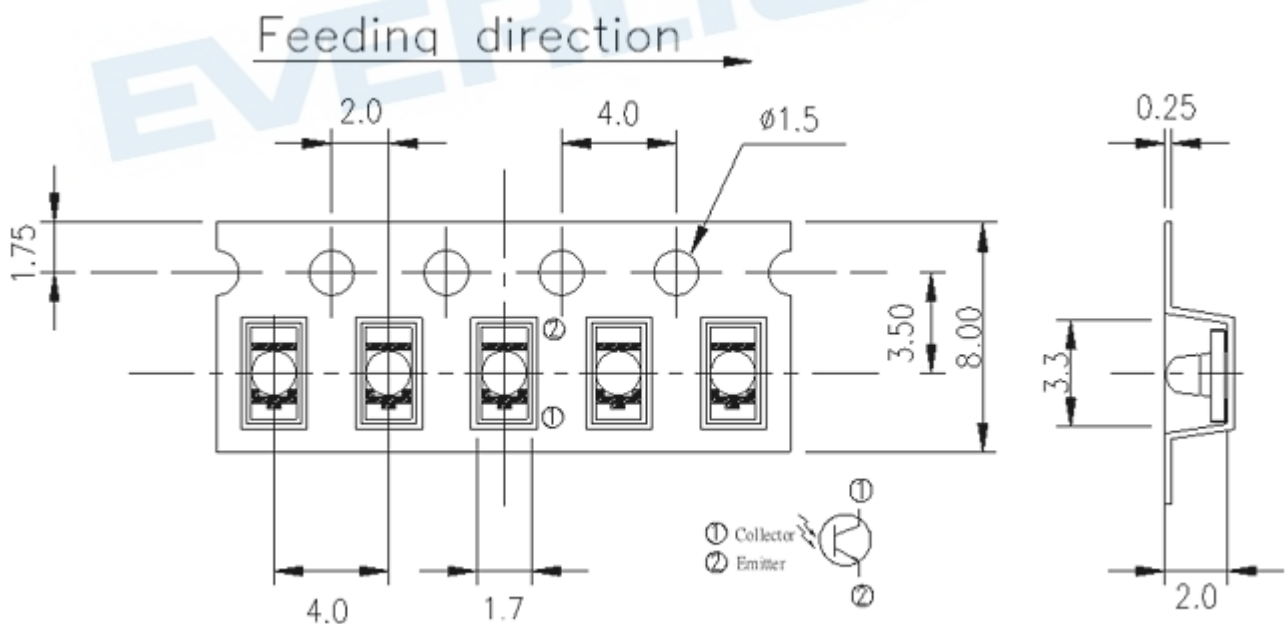
**Top View Dimensions:**

- Overall Diameter:  $\phi 180 \pm 2.0$
- Central Feature Diameter:  $\phi 13.0 \pm 0.2$
- Central Feature Width:  $2.0 \pm 0.5$

**Side View Dimensions:**

- Overall Height:  $11.4 \pm 1.0$
- Central Feature Height:  $9.0^{+0.3}_{-0.0}$

**Carrier Tape Dimensions: (Loaded Quantity: 1500pcs/reel)**



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## Label Form Specification

RoHS	EVERLIGHT	5
CPN: XXXXXXXXXXXXXXXXXXXX		
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX		
P/N: XXXXXXXXXXXX		
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX		
LOT NO: Y150716XXX-XXXXXXXXXX-XXXXXXXXXX		
QTY: 0123456789 HUE: XXXXXXXXXXXX		
CAT: XXXXXXXXXXXX REF: XXXXXXXXXXXX		
REFERENCE: BTPYYMDDXXXXX		
MSL-X MADE IN XXXXXXXX		

CPN: Customer's Production Number

P/N : Production Number

LOT No: Lot Number

QTY: Packing Quantity

HUE: Peak Wavelength

CAT: Ranks

REF: Reference

MSL-X: MSL Level

Made In: Manufacture place

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2. The product meets EVERLIGHT published specification for a period of twelve (12) months from date of shipment.
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