

1.6mm Round Subminiature Reverse Package Phototransistor PT26-21B/CT(HZ)



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

- PT26-21B/CT(HZ) s a phototransistor in miniature SMD package which is molded in a water clear with spherical top view lens.
- The device is Spectrally matched to visible and infrared emitting iode.

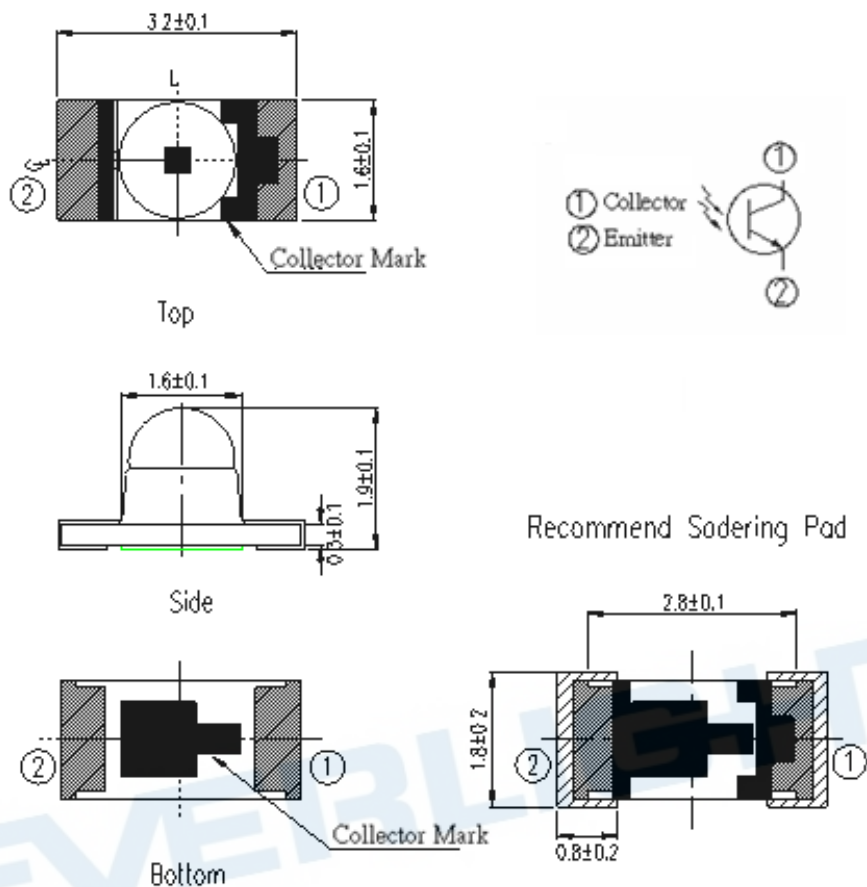
Applications

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

Device Selection Guide

Part Category	Chip Material	Lens Color
PT	Silicon	Black

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 ± 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 ≤ 5 seconds.

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Rang Of Spectral Bandwidth	λ _{0.1}	---	730	---	1100	nm
Wavelength Of Peak Sensitivity	λ _P	---	---	940	---	nm
Collector-Emitter Breakdown Voltage	BV _{CEO}	I _C =100μA Ee=0mW/cm ²	30	---	---	V
Emitter-Collector Breakdown Voltage	BV _{ECO}	I _E =100μA Ee=0mW/cm ²	5	---	---	V
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _C =2mA Ee=1mW/cm ²	---	---	0.4	V
Collector Dark Current	I _{CEO}	V _{CE} =20V Ee=0mW/cm ²	---	---	100	nA
On State Collector Current	I _{C(ON)}	V _{CE} =5V Ee=1mW/cm ²	3.14		6.04	mA

Intensity Specifications for Bin Grading

Rank	Test condition VCE=5V Ee=1mW/cm ² λ p=940nm	Min	Max	Unit
Bin6		3.14	4.30	mA
Bin7		4.30	6.04	

Notes: This bin table is only for reference, not for specific bin shipment
Tolerance on each collector current is ±15%

EVERLIGHT

Typical Electro-Optical Characteristics Curves

Fig.1 Spectral Sensitivity

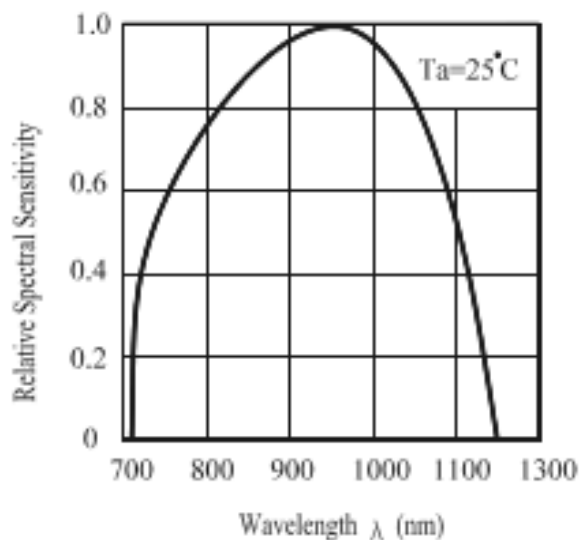


Fig.2 Collector Current vs. Irradiance

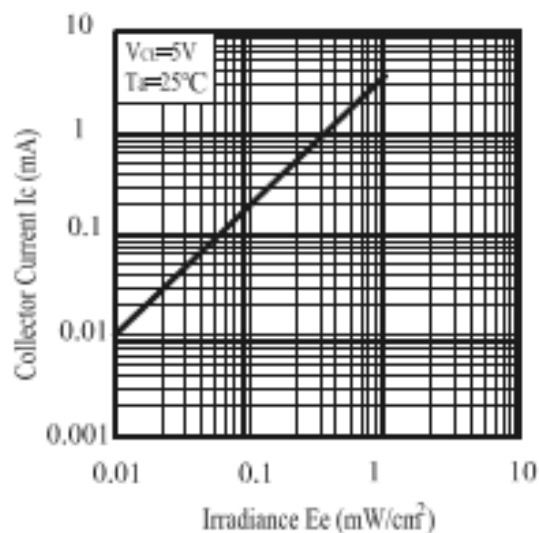
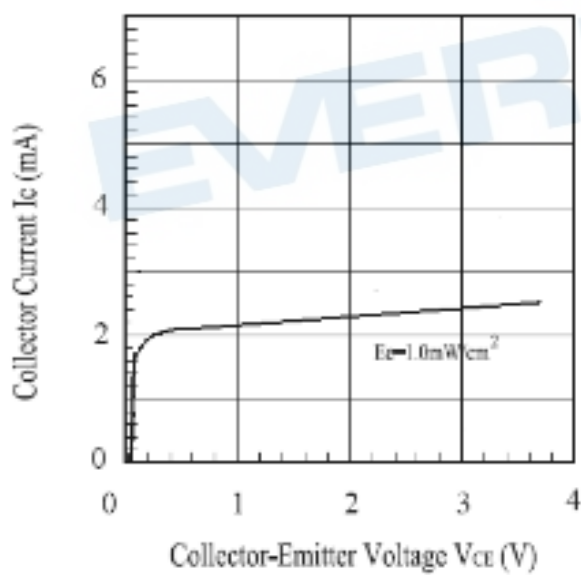


Fig.3 Collector Current vs. Collector-Emitter Voltage



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 After opening the package: The LEDs should be kept at 30°C or less and 60%RH or less.

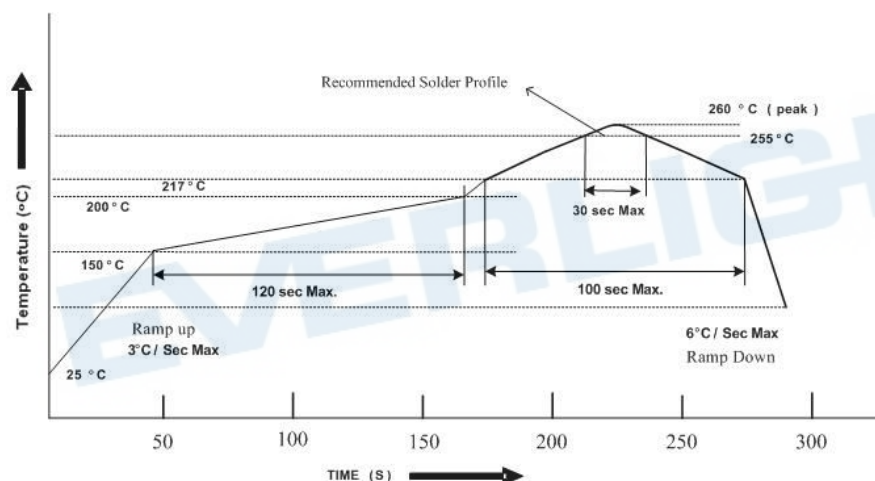
2.3 The LEDs should be used within 168 hours (7days) after opening the package .

2.4 If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions.

Baking treatment : $60\pm5^{\circ}\text{C}$ for 24 hours.

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.

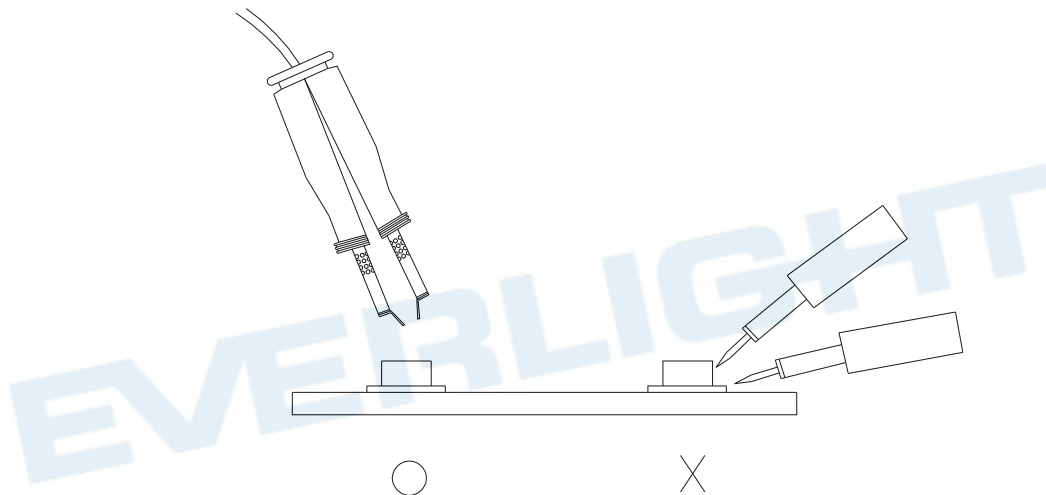
3.4 After soldering, do not warp the circuit board.

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.

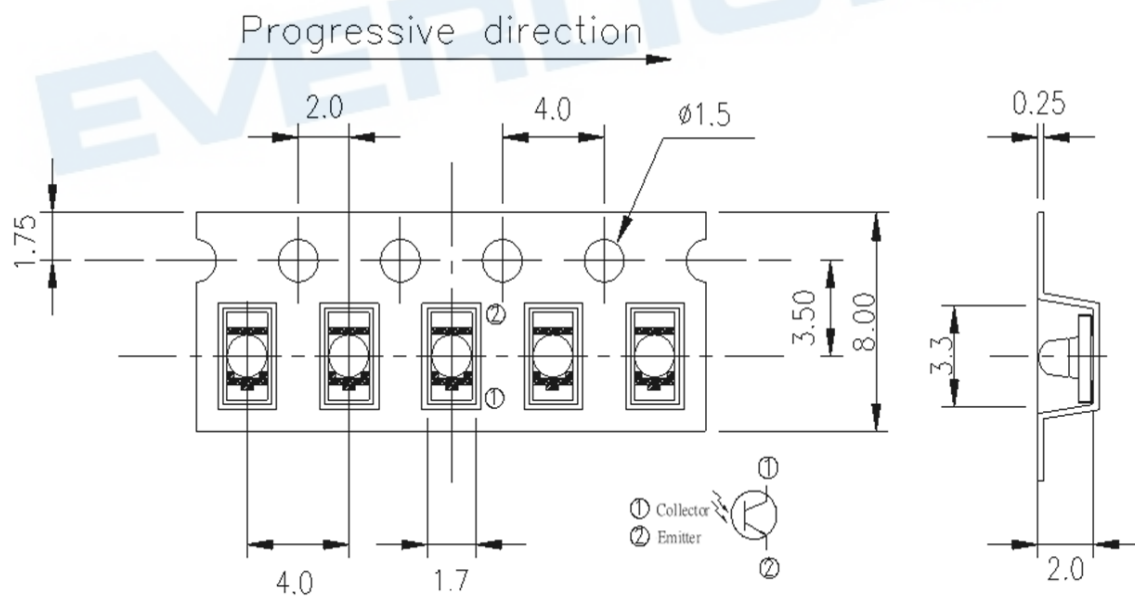


Technical drawing of a circular mechanical part, showing a top view and a side view. The top view is a circle with a central feature and four curved slots. The side view shows the profile of the part with a central raised section.

Dimensions and tolerances:

- Top view:
 - Central feature width: 2.2 ± 0.5
 - Central feature diameter: $\phi 13.0 \pm 0.5$
- Side view:
 - Overall diameter: $\phi 178.0 \pm 1.0$
 - Central raised section diameter: $\phi 50.0 \pm 0.5$
 - Central raised section height: 9.0 ± 0.5
 - Overall height: 12.0 ± 0.15


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



8

Label Form Specification

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



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

DISCLAIMER

1. EVERLIGHT reserves the right(s) on the adjustment of product material mix for the specification.
2. The product meets EVERLIGHT published specification for a period of twelve (12) months from date of shipment.
3. The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
4. 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 the use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
5. These specification sheets include materials protected under copyright of EVERLIGHT. Reproduction in any form is prohibited without obtaining EVERLIGHT's prior consent.
6. This product is not intended to be used for military, aircraft, automotive, medical, life sustaining or life saving applications or any other application which can result in human injury or death. Please contact authorized Everlight sales agent for special application request.

EVERLIGHT ELECTRONICS CO., LTD.

Office: No. 6-8, Zhonghua Rd., Shulin Dist.,

New Taipei City 23860, Taiwan

Tel: 886-2-2685-6688

Fax: 886-2685-2699 · 6897

<http://www.everlight.com>