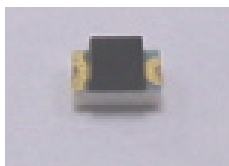


0805 Package Phototransistor PT17-21B/L41/TR8



Features

- Fast response time
- High photo sensitivity
- Small junction capacitance
- 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

- PT17-21B/L41/TR8 is a phototransistor in miniature SMD package which is molded in a black with flat top view lens.
The device is Spectrally matched to infrared emitting diode.

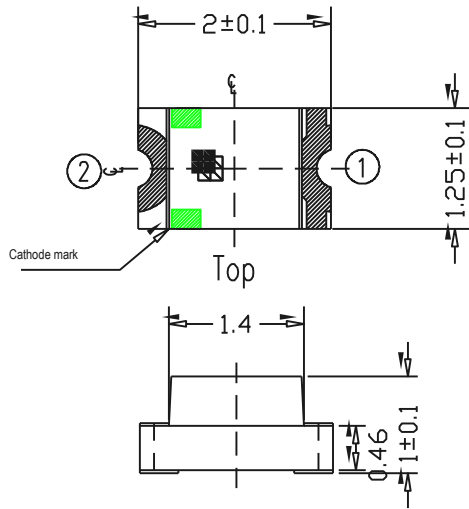
Applications

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

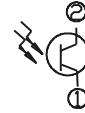
Device Selection Guide

Part Category	Chip Material	Lens Color
PT	Silicon	Black

Package Dimensions



① Emitter
② Collector



Side

Recommend Soldering Pad



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	$\lambda_{0.5}$	---	730	---	1100	nm
Wavelength Of Peak Sensitivity	λ_P	---	---	940	---	nm
Collector-Emitter Breakdown Voltage	BV _{CEO}	I _C =100 μ A Ee=0mW/cm ²	30	---	---	V
Emitter-Collector Breakdown Voltage	BV _{ECO}	I _E =100 μ A 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	0.1	0.65		mA

Typical Electro-Optical Characteristics Curves

Fig.2 Spectral Sensitivity

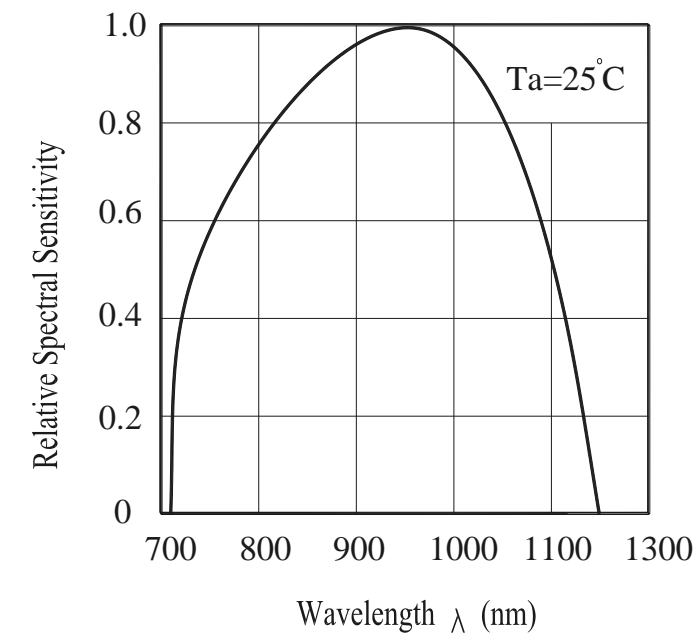


Fig.4 Collector Current vs. Irradiance

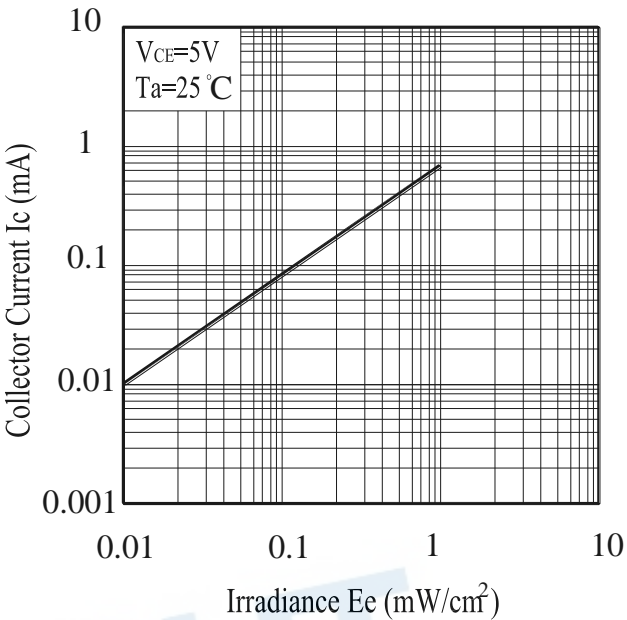
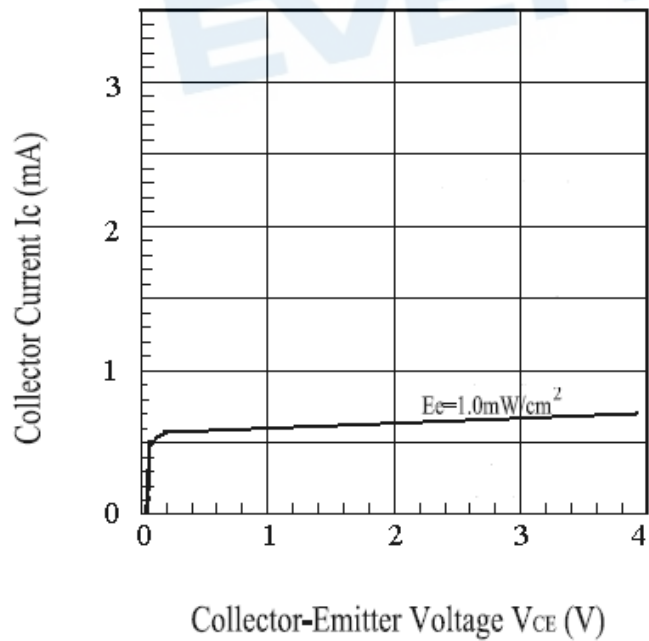


Fig.3 Collector Current vs. Collector-Emitter Voltage



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 LEDs should be kept at 30°C or less and 90%RH or less.

2.3 The LEDs should be used within a year.

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

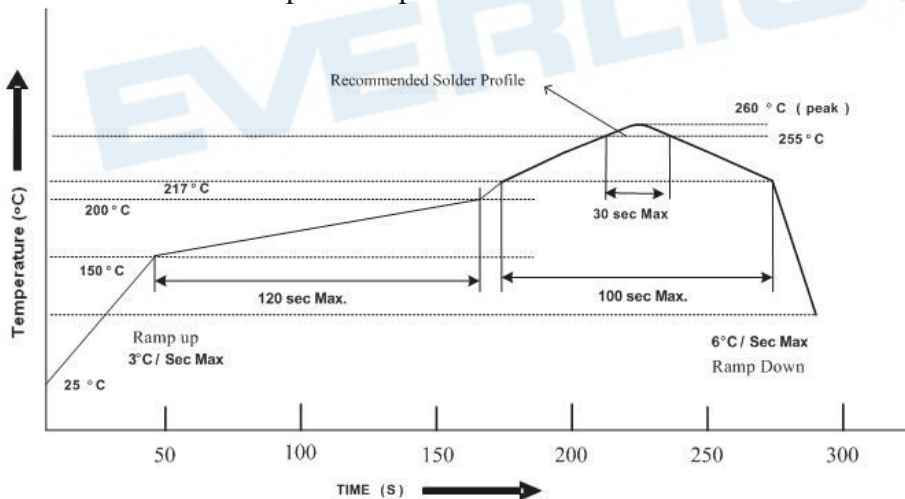
2.5 The LEDs should be used within 168 hours (7 days) after opening the package.

2.6 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 Pb-free 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 LEDs during heating.

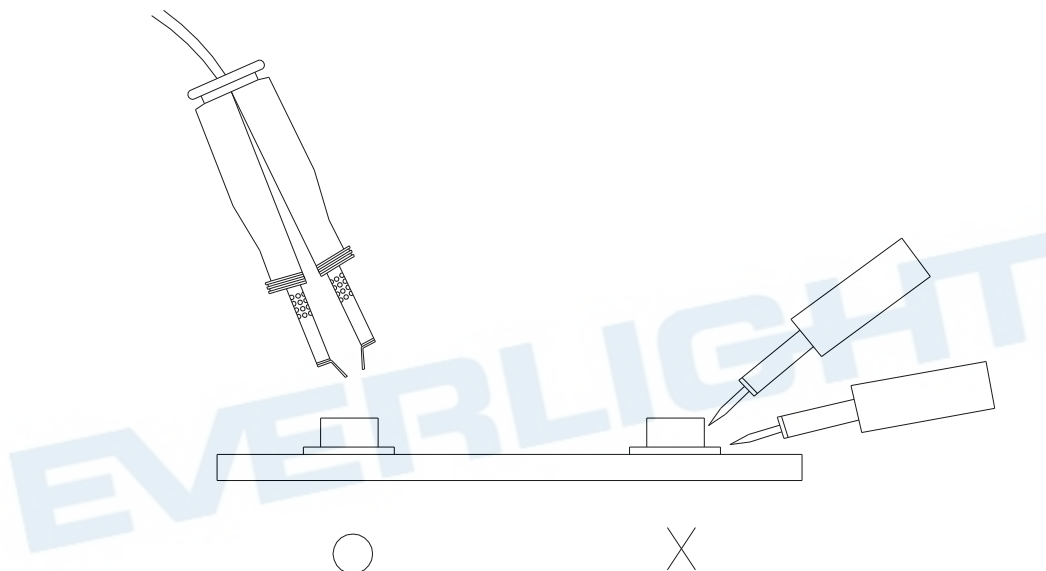
3.4 After soldering, do not warp the circuit board.

4.Soldering Iron

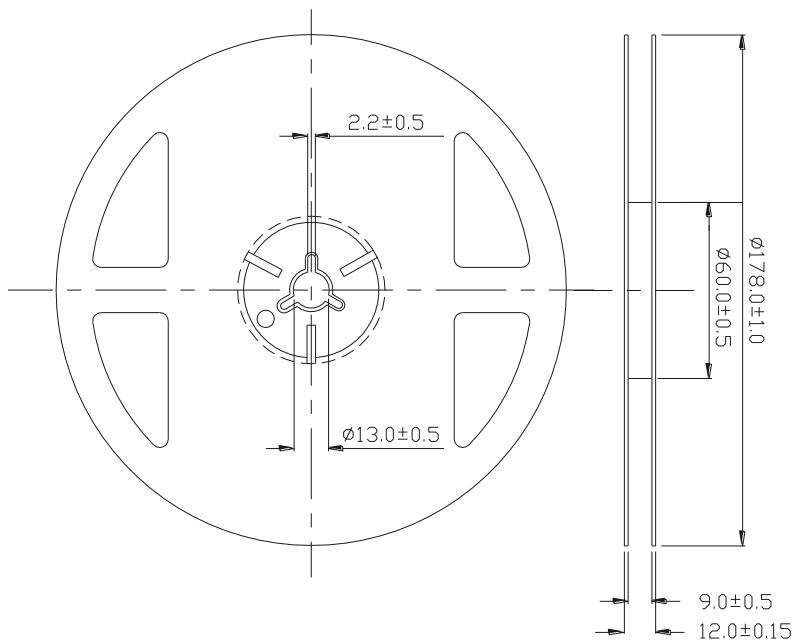
Each terminal is to go to the tip of soldering iron temperature less than 350°C for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of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

5.Repairing

Repair should not be done after the LEDs 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 LEDs will or will not be damaged by repairing.

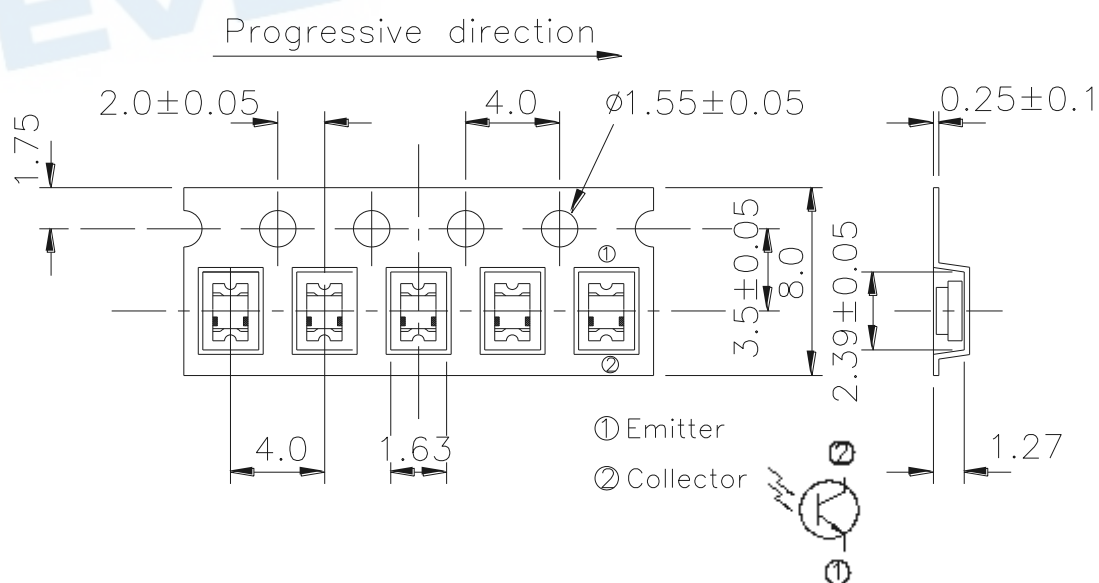


Package Dimensions











Note: The tolerances unless mentioned are ± 0.1 , unit=mm

Carrier Taping Dimensions: (Quantity: 4000PCS/Reel)



Note: The tolerances unless mentioned are ± 0.1 , unit=mm

Label Form Specification

RoHS		EVERLIGHT	5
CPN: XXXXXXXXXXXXXXXXXXXX			
			
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX			
P/N: XXXXXXXXXXXX			
			
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX			
LOT NO: Y150716XXX-XXXXXXXXXX-XXXXXXXXXX			
			
QTY: 0123456789 HUE: XXXXXXXXXXXX			
			
CAT: XXXXXXXXXXXX REF: XXXXXXXXXXXX			
			
REFERENCE: BTPYYMDDXXXXX			
			
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.
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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.

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