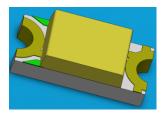


DATASHEET

1206 Package Phototransistor PT15-21C/TR8



Features

- Fast response time
- High photo sensitivity
- Small junction capacitance
- Pb free
- The product itself will remain within RoHS compliant version.

Descriptions

• PT15-21C/TR8 is a phototransistor in miniature SMD package which is molded in a water clear with flat top view lens.

The device is Spectrally matched to visible and infrared emitting diode.

Applications

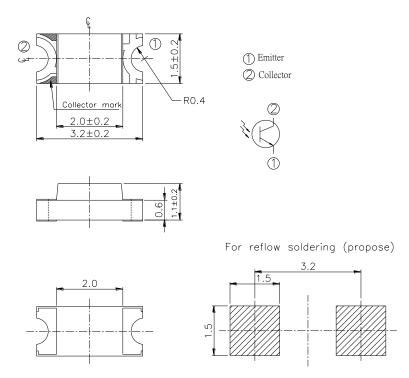
- Miniature switch
- Counters and sorter
- Position sensor
- Infrared applied system

Device Selection Guide

Part Category	Chip Material	Lens Color	
PT	Silicon	Water clear	



Package Dimensions



Notes: 1.All dimensions are in millimeters

2.Tolerances unless dimensions ±0.1mm

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	$^{\circ}\!\mathbb{C}$	
Storage Temperature	T_{stg}	-40 ~ +85	$^{\circ}\!\mathbb{C}$	
Soldering Temperature *1	T_{sol}	260	$^{\circ}\!\mathbb{C}$	
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 $^{\circ}$ C)

Parameter	Symbol	Condition	Min	Тур	Max	Unit
Rang Of Spectral Bandwidth	λ 0.5		530		1030	nm
Wavelength Of Peak Sensitivity	λp			940		nm
Collector-Emitter Breakdown Voltage	BV _{CEO}	$I_C=100 \mu A$ Ee=0mW/cm ²	30			V
Emitter-Collector Breakdown Voltage	$\mathrm{BV}_{\mathrm{ECO}}$	$I_E=100 \mu A$ $Ee=0 mW/cm^2$	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	0.3		mA



Typical Electro-Optical Characteristics Curves

Fig.1 Spectral Sensitivity

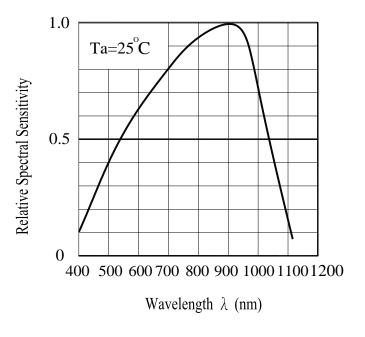


Fig.2 Collector Current vs.
Irradiance

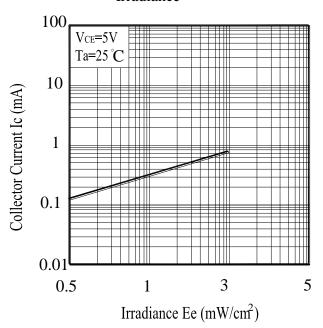
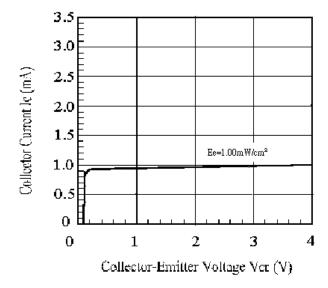


Fig.3 Collector Current vs Collector-Emitter Voltage





Recautions For Use

1. Over-current-proof

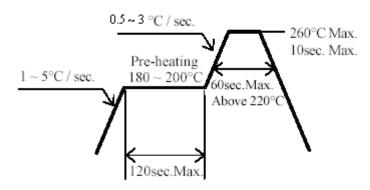
Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).

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 70% 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: $60\pm5^{\circ}$ 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.

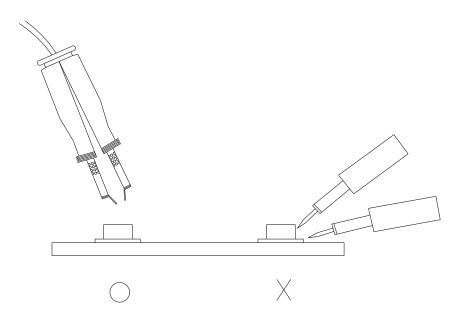


4. Soldering Iron

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.

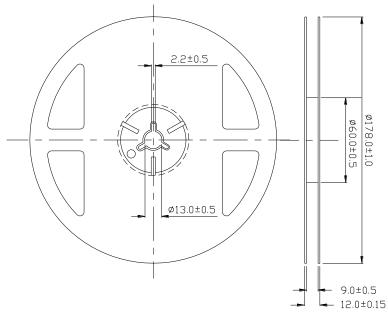
5.Repairing

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.



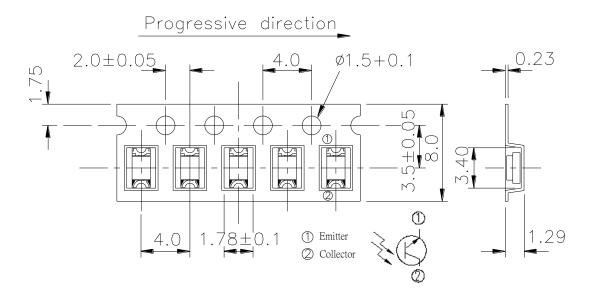


Package Dimensions



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

Carrier Taping Dimensions: Loaded Quantity 2000PCS/Reel



Note: The tolerances unless mentioned is ± 0.1 mm, Unit = mm



Label Form Specification



CPN: Customer's Production Number

P/N : Production Number QTY: Packing Quantity

CAT: Ranks

HUE: Peak Wavelength

REF: Reference

LOT No: Lot Number

Notes

- 1. Above specification may be changed without notice. EVERLIGHT 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 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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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