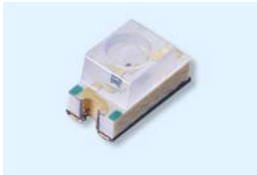


## 1206 Package Chip Infrared LED With Inner Lens HIR11-21C/L11/TR8



### Features

- High reliability
- Small double-end package
- Peak wavelength  $\lambda_p=850\text{nm}$
- Package in 8mm tape on 7" diameter reel
- Low forward voltage
- Pb free
- The product itself will remain within RoHS compliant version.
- Compliance with EU REACH

### Descriptions

HIR11-21C/L11/TR8 is an infrared emitting diode in miniature SMD package which is molded in a water clear plastic With flat top view lens.

The device is spectrally matched with silicon photodiode and phototransistor.

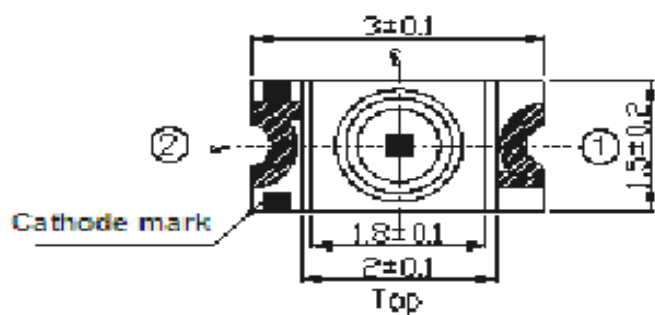
### Applications

- PCB mounted infrared sensor
- Infrared remote control units with high power requirement
- Smoke detector
- Infrared applied system

### Device Selection Guide

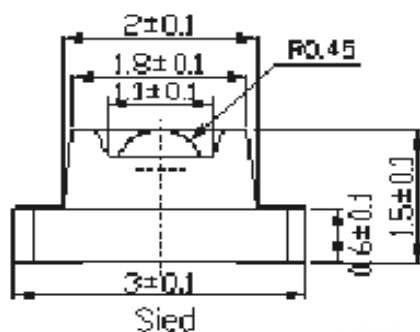
Part Category	Chip Material	Resin Color
HIR	GaAlAs	Water Clear

## Package Dimensions

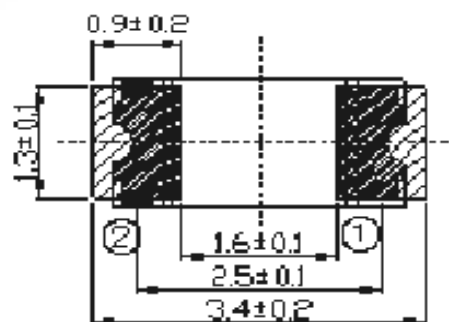
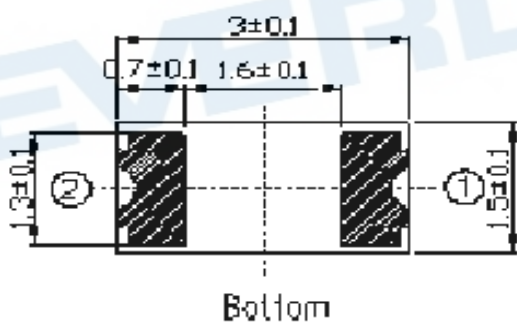


① Anode

② Cathode



Recommend soldering pad

**Notes:** 1.All dimensions are in millimeters2.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
Continuous Forward Current	I <sub>F</sub>	65	mA
Reverse Voltage	V <sub>R</sub>	5	V
Operating Temperature	T <sub>opr</sub>	-25 ~ +85	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +85	°C
Soldering Temperature *1	T <sub>sol</sub>	260	°C
Power Dissipation at(or below) 25°C Free Air Temperature	P <sub>d</sub>	130	mW

**Notes:** \*1. Soldering time ≤ 5 seconds.

**Electro-Optical Characteristics (Ta=25°C)**

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Radiant Intensity	I <sub>e</sub>	I <sub>F</sub> =20mA	1.0	2.0	--	mW /sr
Peak Wavelength	λ <sub>p</sub>	I <sub>F</sub> =20mA	--	850	--	nm
Spectral Bandwidth	Δ λ	I <sub>F</sub> =50mA	--	45	--	nm
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =20mA	--	1.45	1.65	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	--	--	10	μA
View Angle	2 θ 1/2	I <sub>F</sub> =20mA	--	80	--	deg

## Typical Electro-Optical Characteristics Curves

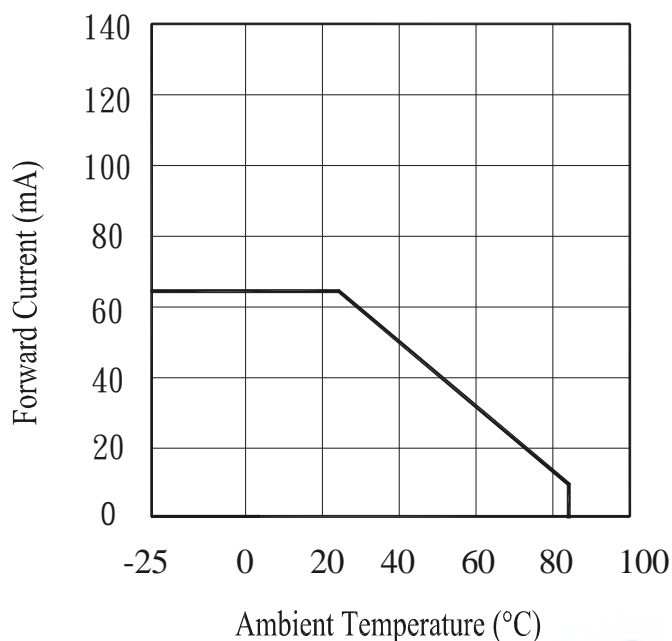
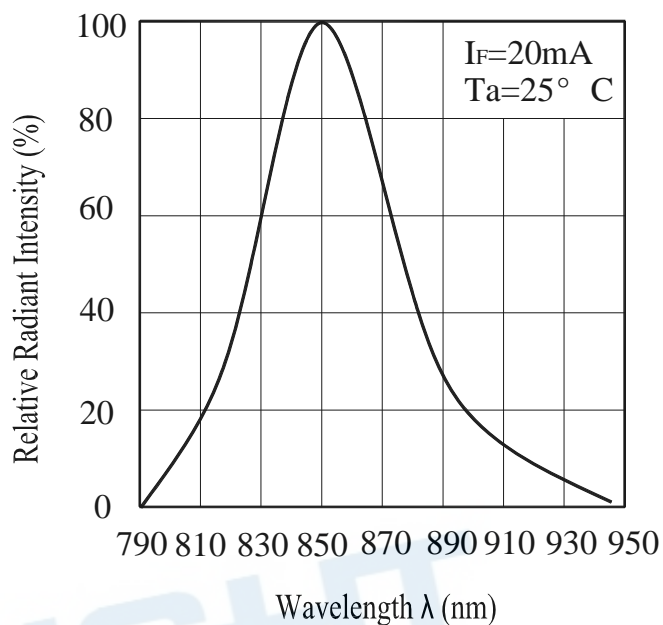
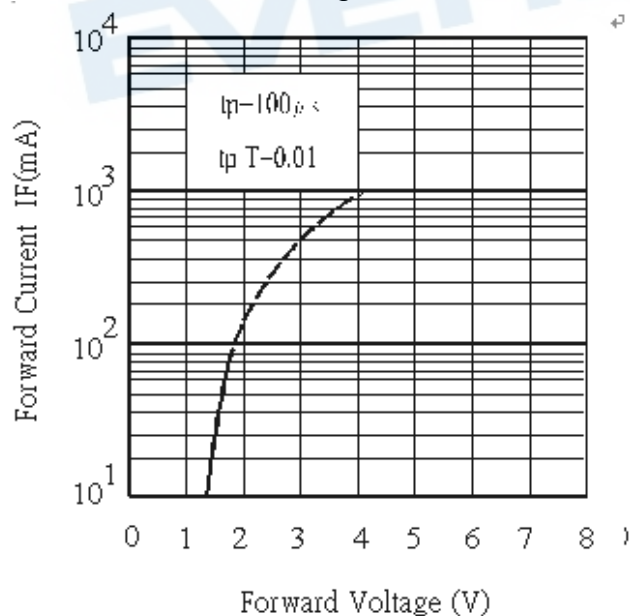
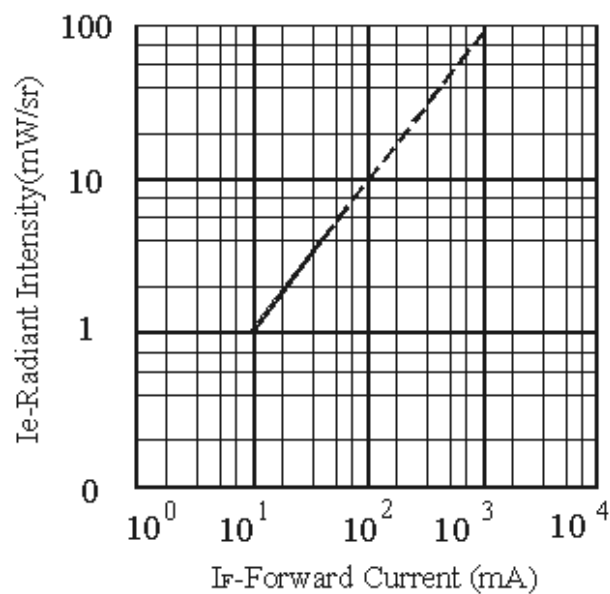
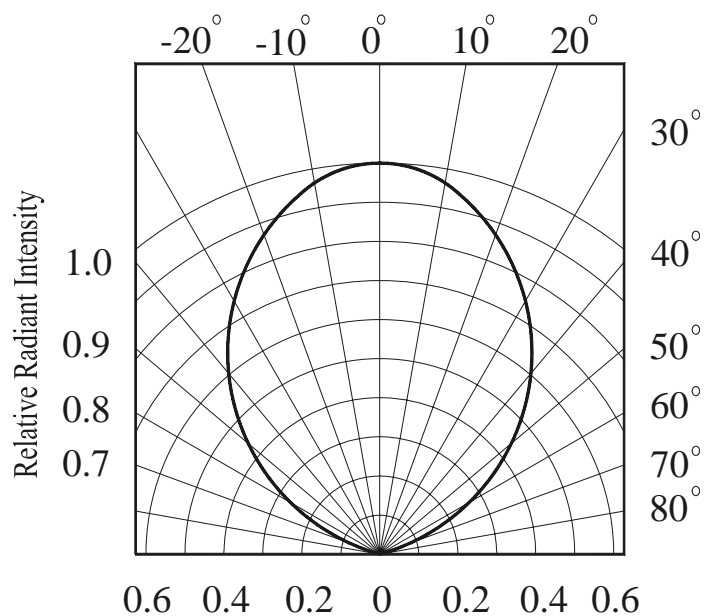
Fig.1 Forward Current vs.  
Ambient Temperature

Fig.2 Spectral Distribution

Fig.3 Forward Current  
vs. Forward VoltageFig.4 Relative Intensity vs.  
Forward Current

**Typical Electro-Optical Characteristics Curves**

Fig.5 Relative Radiant Intensity vs.  
Angular Displacement



## 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 70%RH or less.

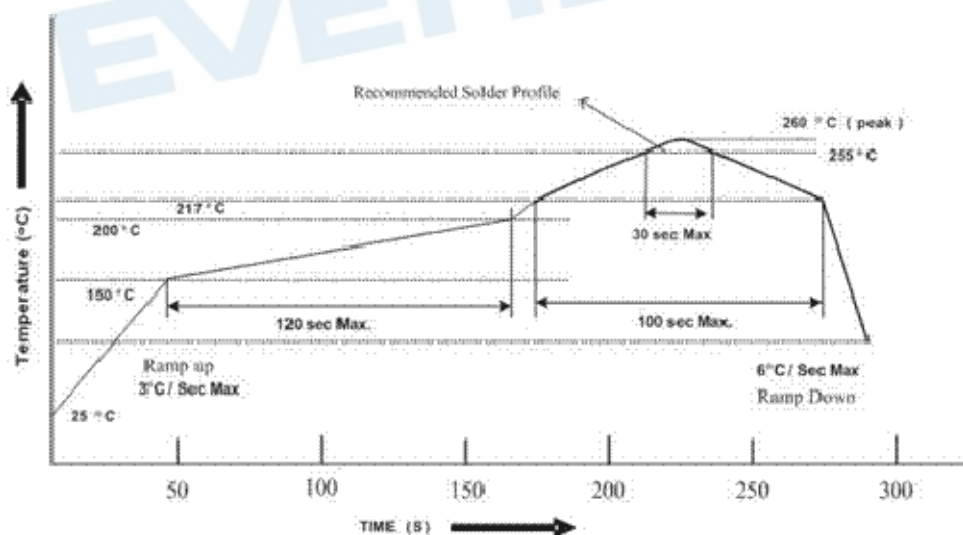
2.5 The LEDs should be used within 168 hours (7 days) after opening the package.

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±5°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.

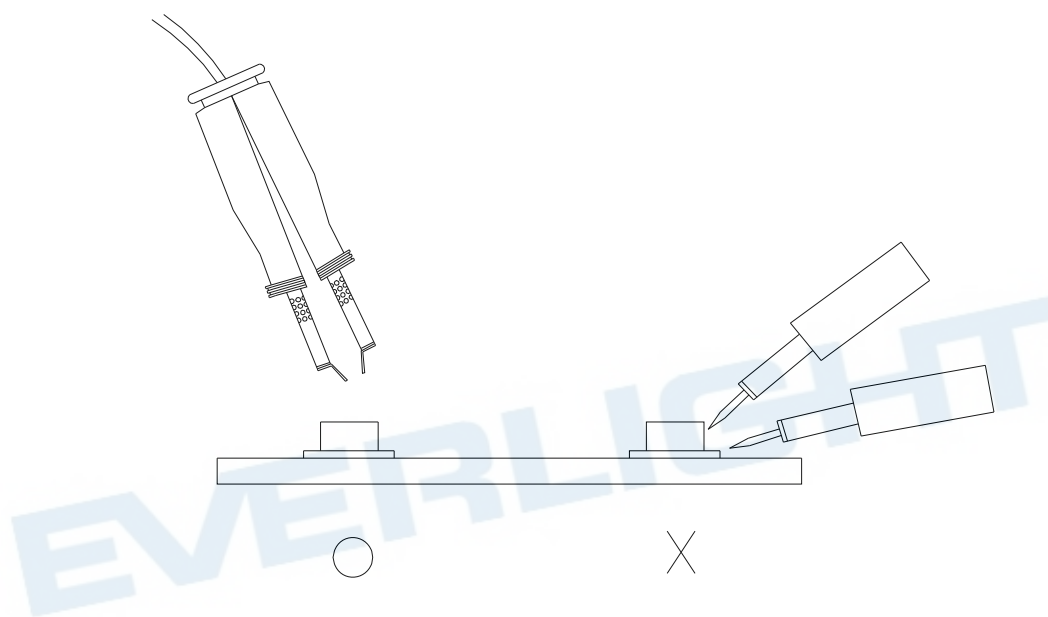
3.4 After soldering, do not warp the circuit board.

#### 4.Soldering Iron

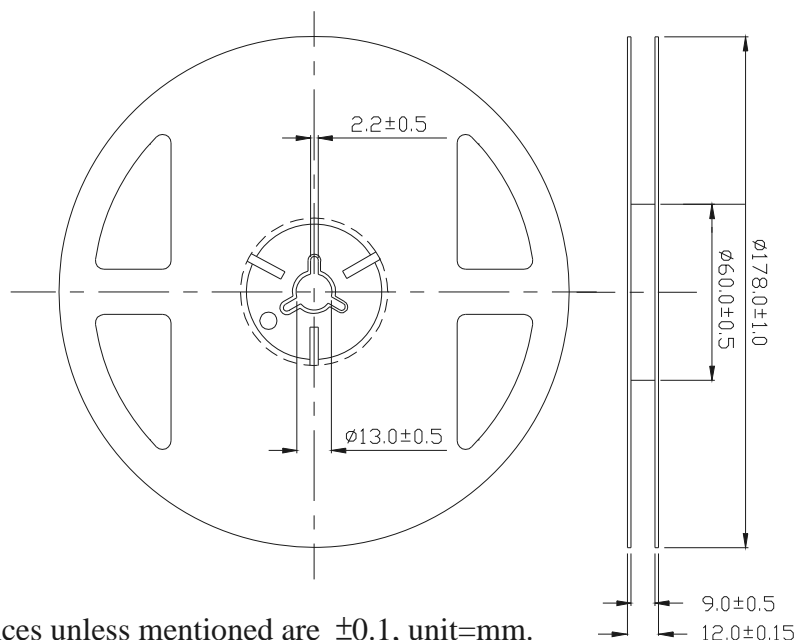
Each terminal is to go to the tip of soldering iron temperature less than 350°C for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of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

#### 5.Repairing

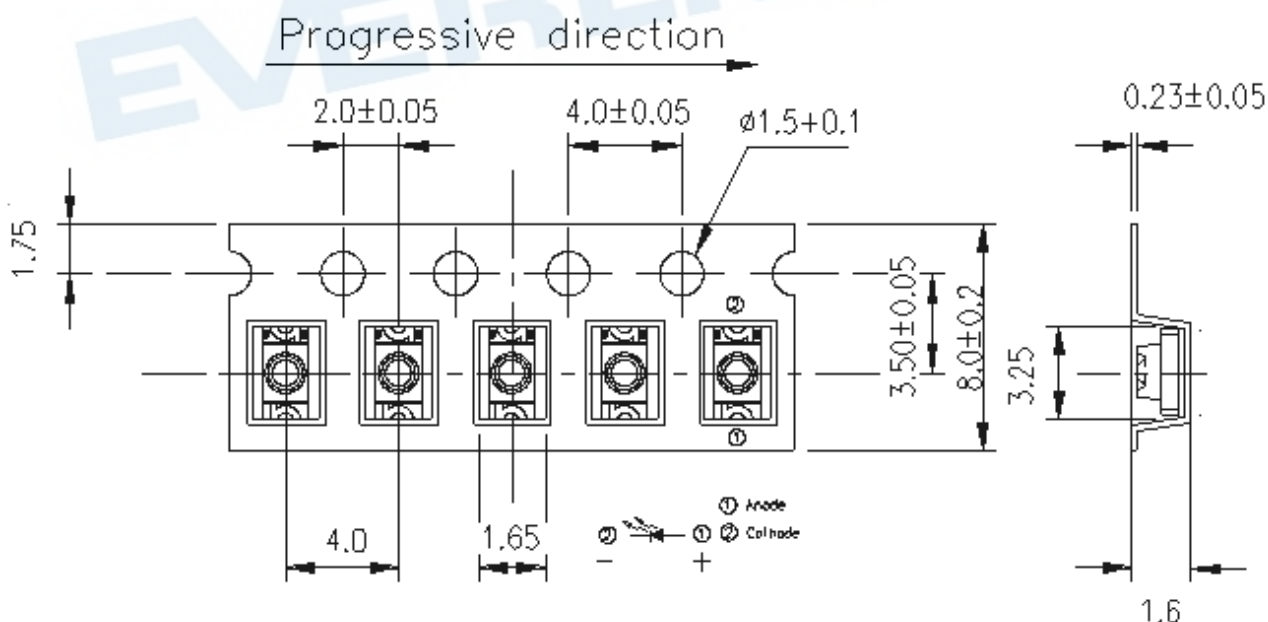
Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.



## Package Dimensions



## Carrier Taping Dimensions: Loaded Quantity Per Reel 3000PCS/Reel



**Note:** The tolerances unless mentioned is  $\pm 0.1$ mm, Unit = mm



## Label Form Specification

RoHS	<b>EVERLIGHT</b>	5
CPN: XXXXXXXXXXXXXXXXXXXX		
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX		
P/N: XXXXXXXXXXXX		
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX		
LOT No: Y150716XXX-XXXXXXXXXX-XXXXXXXXXX		
QTY: 0123456789 HUE: XXXXXXXXXXX		
CAT: XXXXXXXXXXX REF: XXXXXXXXXXX		
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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