Technical Data Sheet

Mini-Top Infrared LEDs

Preliminary

HIR65-21C/L289/TR8

Features

- Low forward voltage.
- View angle 125°
- Small package
- Wide viewing angle
- Pb free
- The product itself will remain within RoHS compliant version.

Descriptions

- EVERLIGHT's infrared emitting diode (HIR65-21C/L289/TR8) is a high intensity diode. Due to the package design ,the LED has wide viewing angle. The device is spectrally matched with phototransistor, photodiode and infrared receiver module.

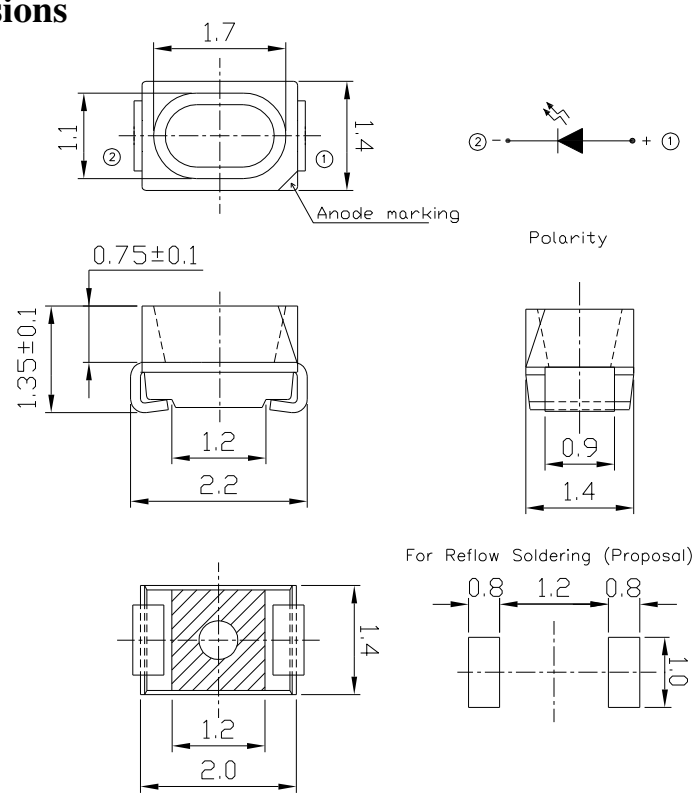
Applications

- Sensor

Device Selection Guide

LED Part No.	Chip Material	Lens Color
HIR65-21C/L289/TR8	GaAlAs	Water clear

Package Dimensions



Notes: 1.All dimensions are in millimeters

2.Tolerances unless dimensions ±0.1mm

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Continuous Forward Current	I_F	65	mA
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-25 ~ +85	℃
Storage Temperature	T_{stg}	-40 ~ +100	℃
Soldering Temperature *1	T_{sol}	260	℃
Power Dissipation at(or below) 25℃ Free Air Temperature	P_d	130	mW

Notes: *1:Soldering time≦5 seconds.

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Radiant Intensity	Ie	I_F=20mA	1.6	--	3.2	mW /sr
		I_F=50mA	--	6.0	--	
Peak Wavelength	λp	I_F=20mA	--	850	--	nm
Spectral Bandwidth	Δλ	I_F=20mA	--	30	--	nm
Forward Voltage	V_F	I_F=20mA	1.20	1.40	1.70	V
		I_F=100mA Pulse Width≦100μs ,Duty≦1%	1.40	1.60	2.00	
Reverse Current	I_R	V_R=5V	0	--	10	μA
View Angle	2θ1/2	I_F=20mA	--	125	--	deg

Typical Electro-Optical Characteristics Curves

Fig.1 Forward Current vs. Ambient Temperature

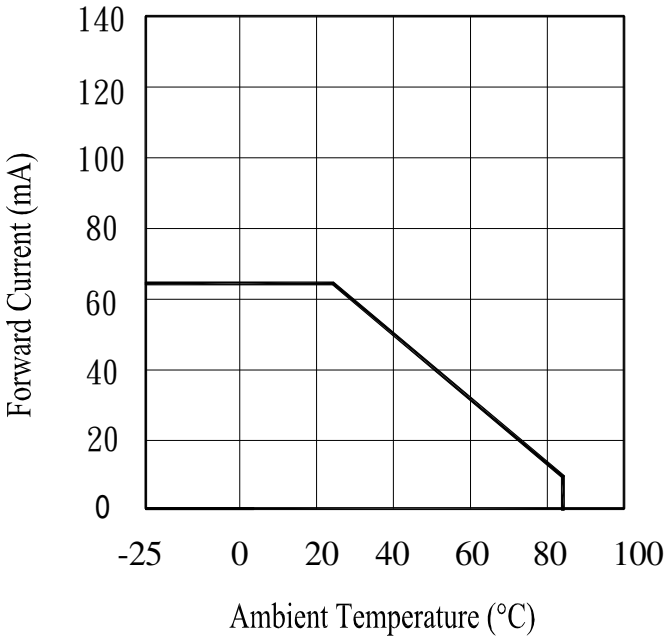


Fig.2 Spectral Distribution

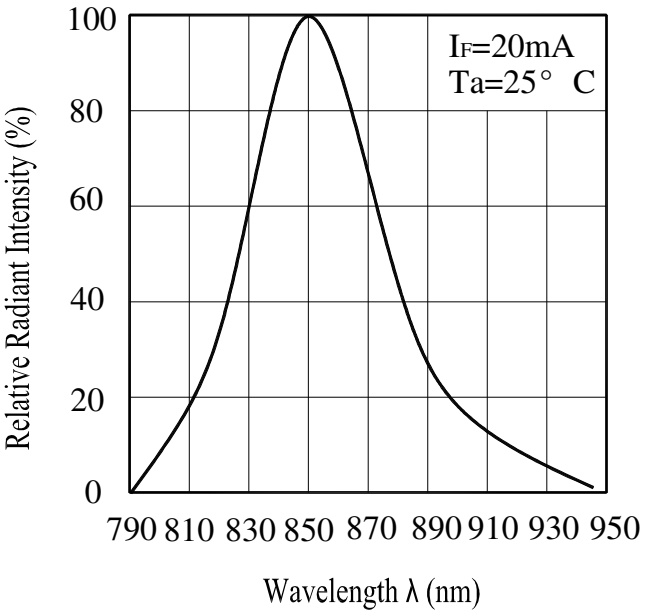


Fig.3 Peak Emission Wavelength Ambient Temperature

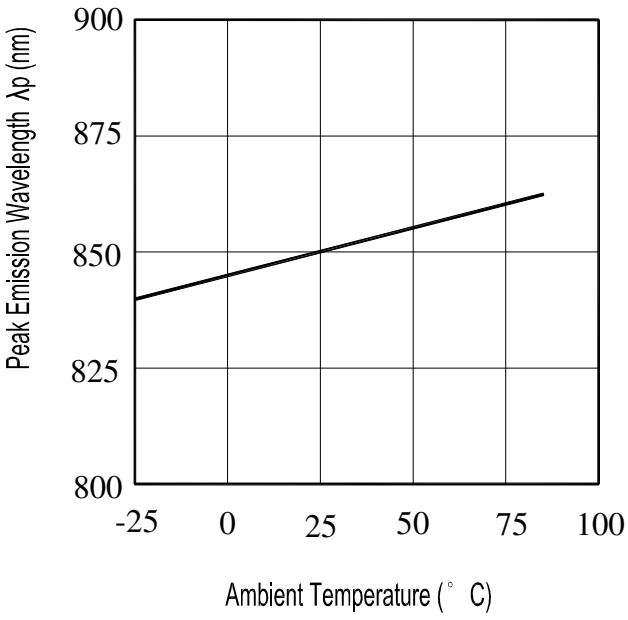
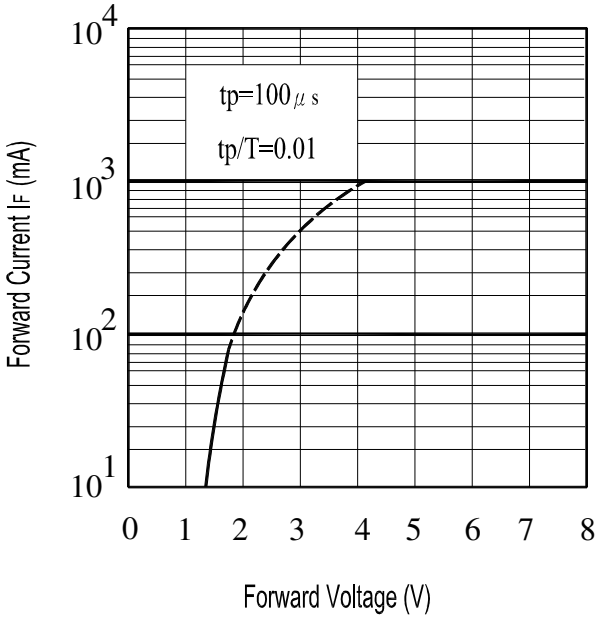


Fig.4 Forward Current vs. Forward Voltage



Typical Electro-Optical Characteristics Curves

Fig.5 Relative Intensity vs. Forward Current

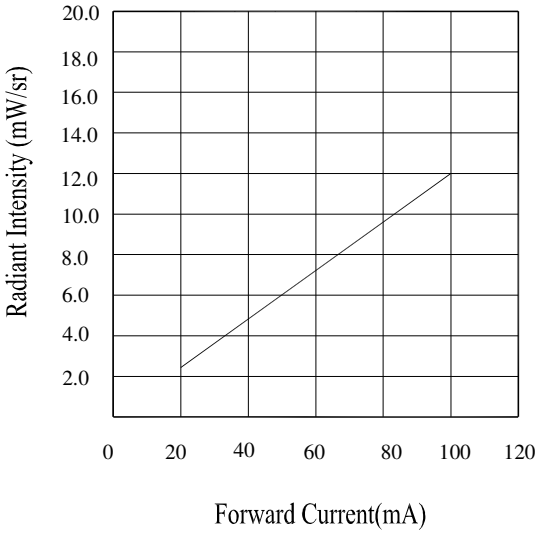
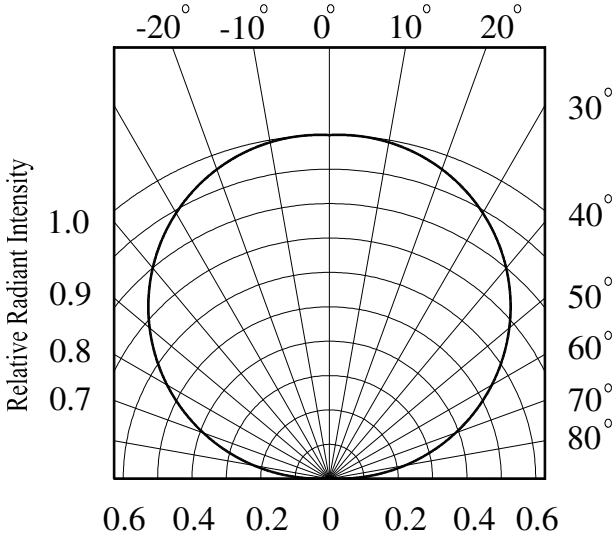


Fig.6 Relative Radiant Intensity vs. Angular Displacement



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℃ or less and 90%RH or less.

2.3 The LEDs should be used within a year.

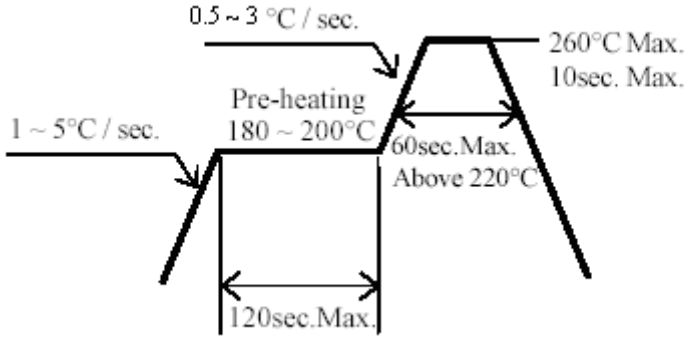
2.4 After opening the package, the LEDs should be kept at 30℃ or less and 70%RH or less.

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℃ , Min. 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.

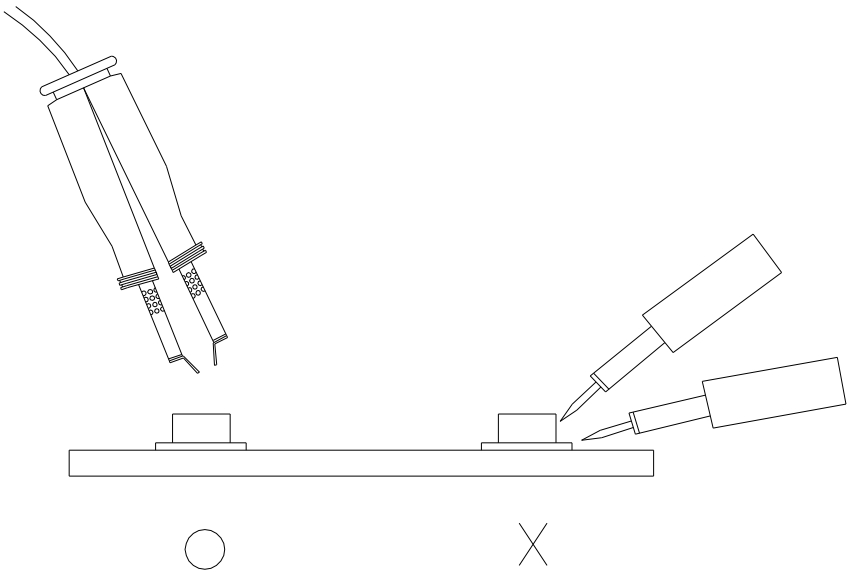
3.4 After soldering, do not warp the circuit board.

4.Soldering Iron

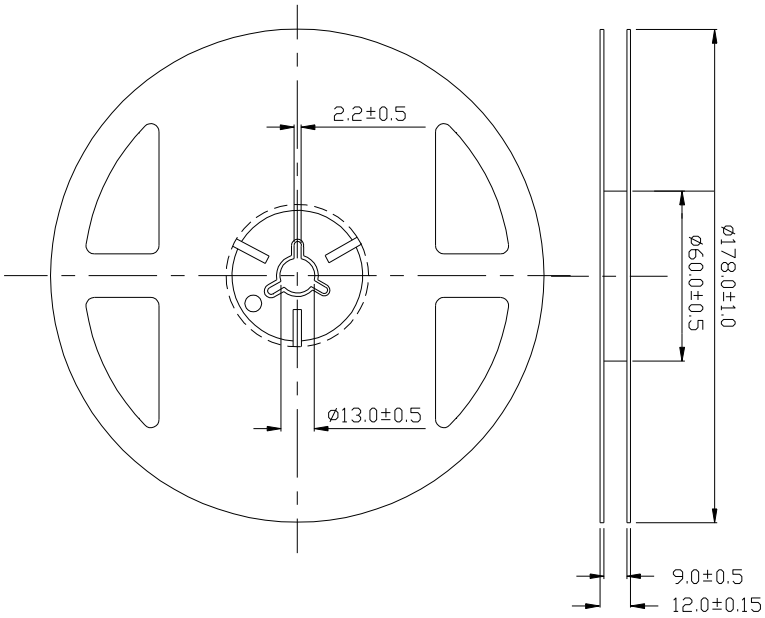
Each terminal is to go to the tip of soldering iron temperature less than 350℃ for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of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

5.Repairing

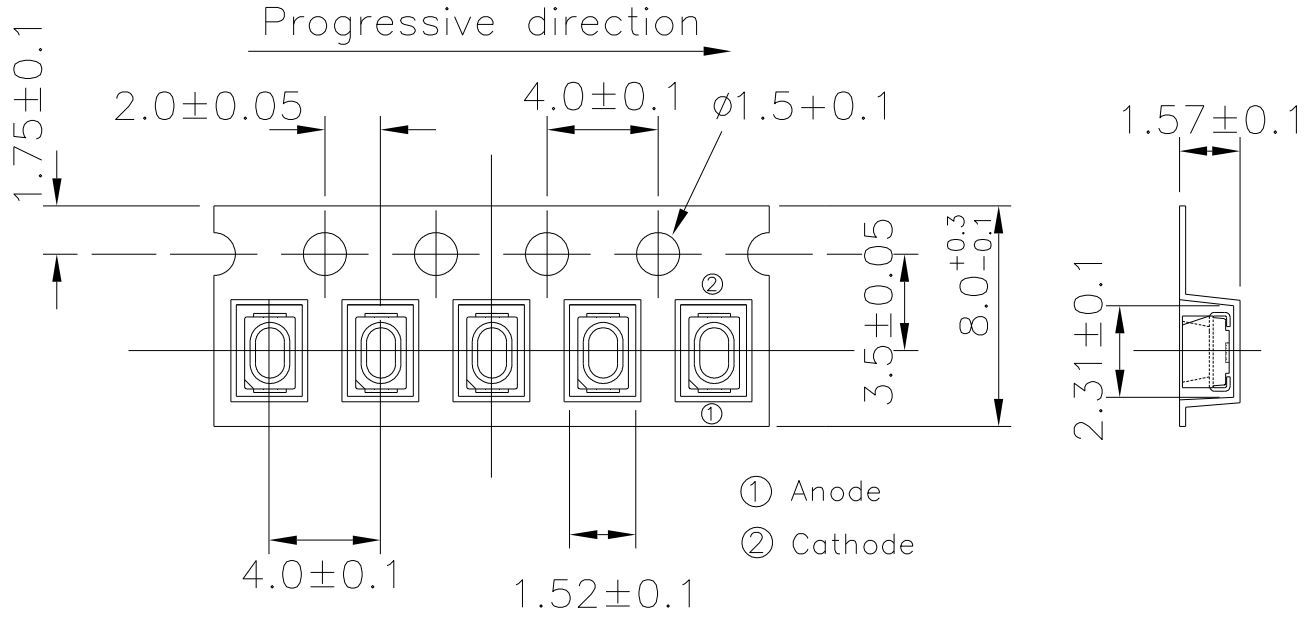
Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.



Package Dimensions



Taping Dimensions

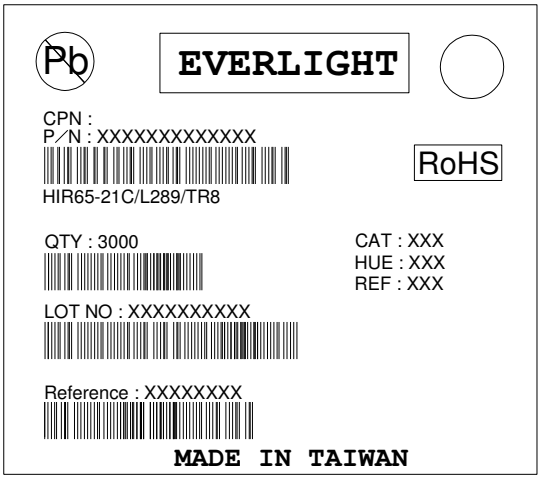


Unit: mm

Packing Quantity Specification

1. 3000Pcs/1Volume，1Volume/1Bag
2. 1Bag/1Box, 16Box/1Carton

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
MADE IN TAIWAN: Production Place

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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