

0805 Package Infrared LED with flat top view lens

IR17-21C/TR8



Features

- High reliability
- Small double-end package
- Peak wavelength $\lambda_p=940\text{nm}$
- 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
- Compliance Halogen Free .(Br <900 ppm ,Cl <900 ppm , Br+Cl < 1500 ppm).

Descriptions

- IR17-21C/TR8 is an infrared emitting diode in miniature SMD package which is molded in a water clear epoxy with flat top view lens.
- The device is spectrally matched with silicon photodiode and phototransistor.

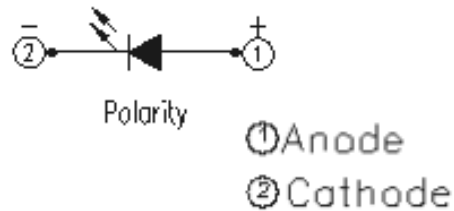
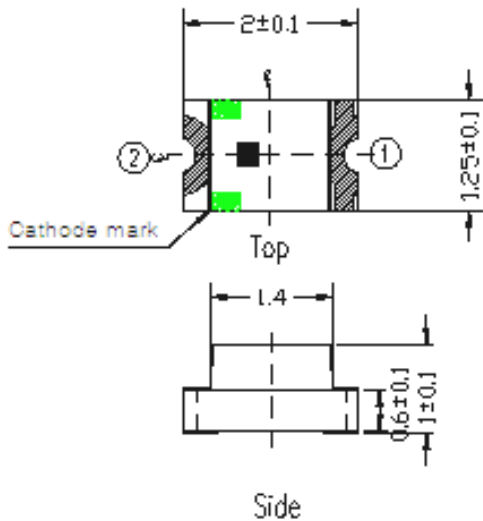
Applications

- 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
IR	GaAlAs	Water Clear

Package Dimensions



Recommend Soldering Pad



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
Continuous Forward Current	I _F	65	mA
Reverse Voltage	V _R	5	V
Operating Temperature	T _{opr}	-40 ~ +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	130	mW

Notes: *1: Soldering time ≤ 5 seconds

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Radiant Intensity	I _e	I _F =20mA	0.22	---	4.25	mW/sr
Peak Wavelength	λ _p	I _F =20mA	--	940	--	nm
Spectral Bandwidth	Δλ	I _F =20mA	--	45	--	nm
Forward Voltage	V _F	I _F =20mA	1.0	---	1.5	V
Reverse Current	I _R	V _R =5V	--	--	10	μA
View Angle	2θ _{1/2}	I _F =20mA	--	120	--	deg

Reverse Light Current Specifications for Bin Grading

Rank	Condition	Min	Max	Unit
E	I _F =20mA	0.22	0.56	mW/sr
F*		0.56	0.75	
F		0.75	1.25	
G		1.25	2.25	
H		2.25	3.25	
J		3.25	4.25	

Notes: Tolerance of Luminous Intensity: ±11%

Typical Electro-Optical Characteristics Curves

Fig.1 Forward Current vs. Ambient Temperature

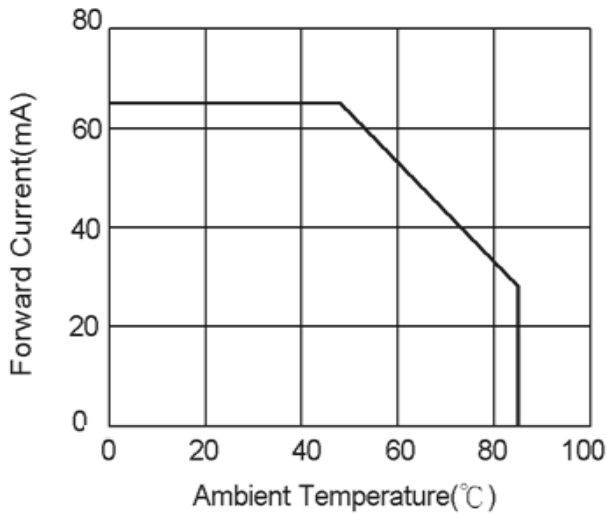


Fig.2 Spectral Distribution

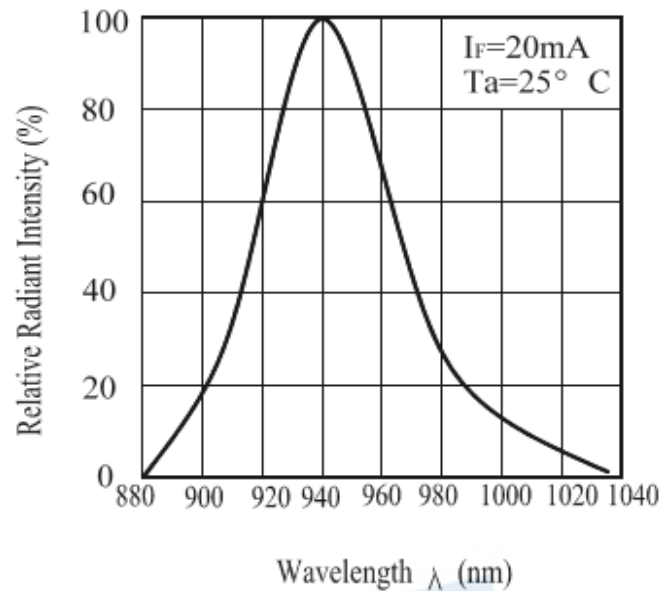


Fig. 3 Radiant Intensity vs. Forward Current

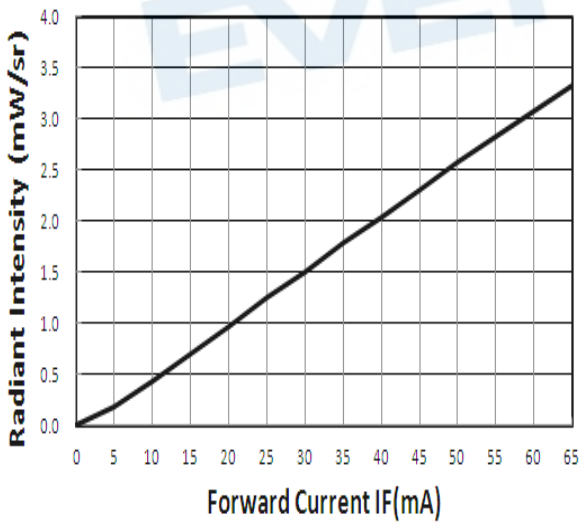
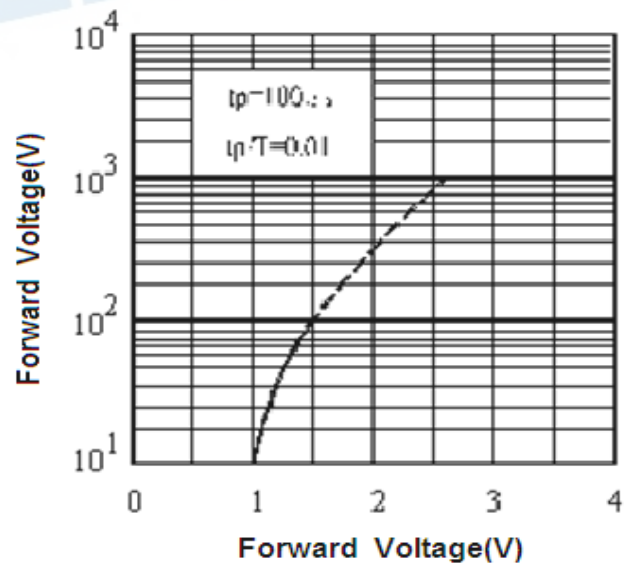
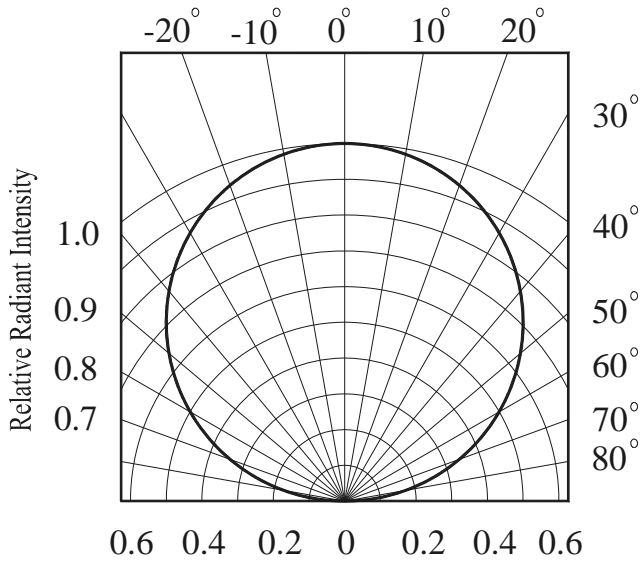


Fig.4 Forward Current vs Forward Voltage



Typical Electro-Optical Characteristics Curves

Fig.5 Relative Radiant Intensity vs.
Angular Displacement



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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.

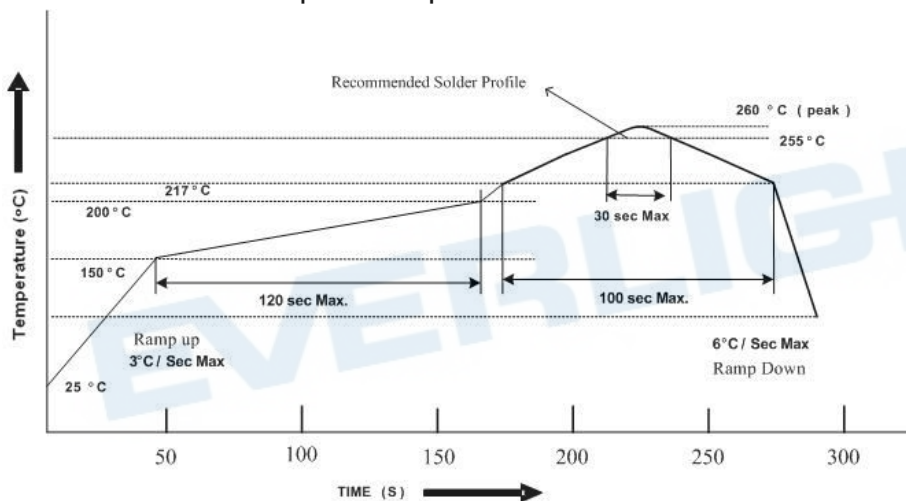
2.2 After opening the package: The LEDs should be kept at 30°C or less and 60%RH or less.

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±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.

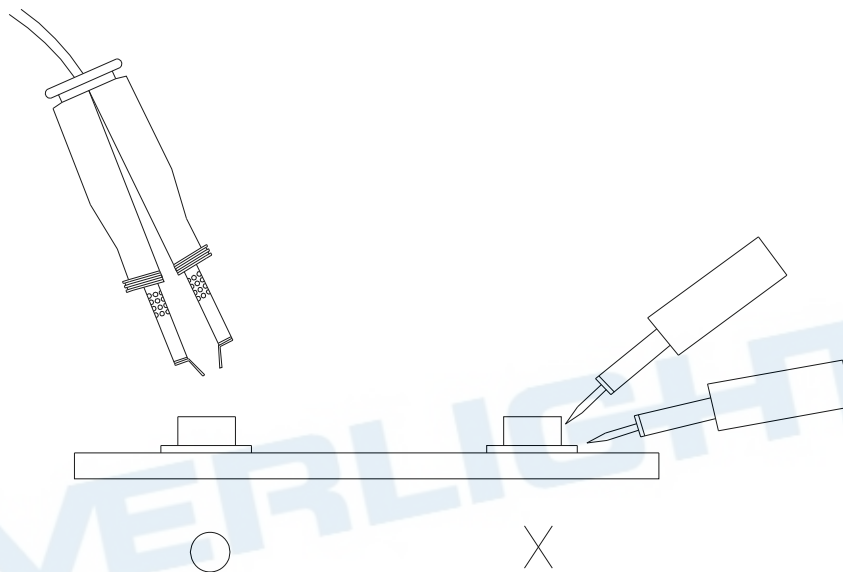
3.4 After soldering, do not warp the circuit board.

4.Soldering Iron

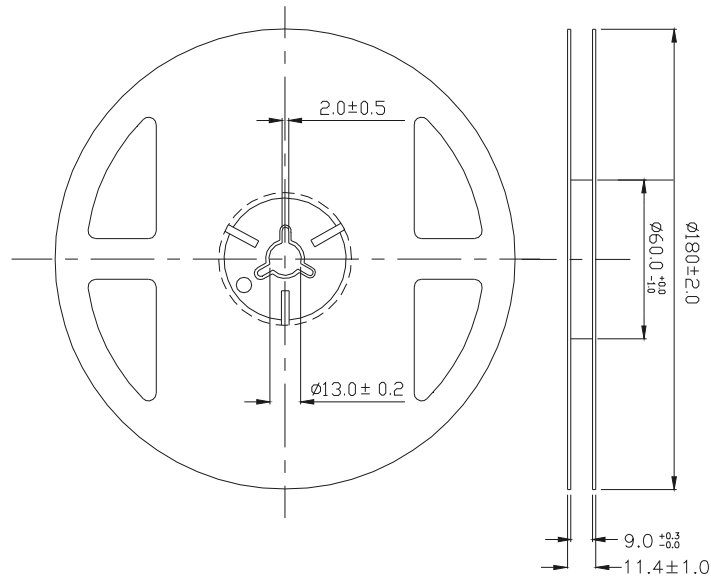
Each terminal is to go to the tip of soldering iron temperature less than 350°C for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of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

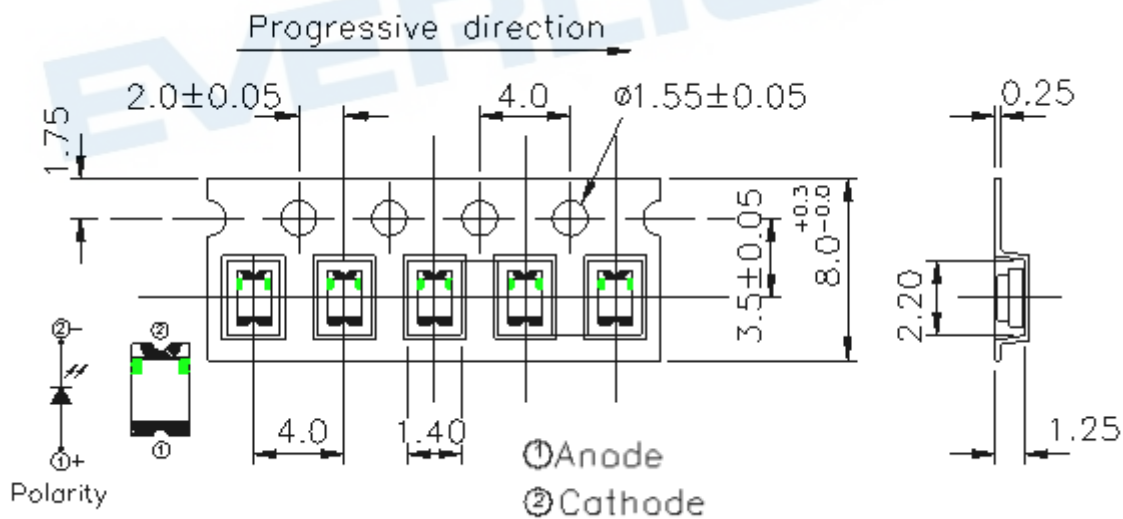


Package Dimensions



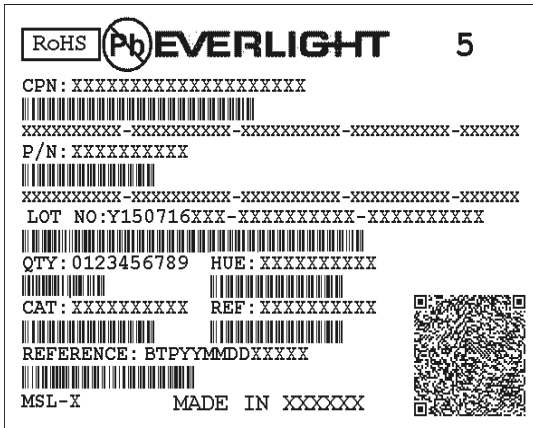
Note: The tolerances unless mentioned are ± 0.1 mm, Unit: mm

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



Note: The tolerances unless mentioned are ± 0.1 mm, Unit: mm

Label Form Specification



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

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- The product meets EVERLIGHT published specification for a period of twelve (12) months from date of shipment.
- The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
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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>