

### 1.9mm Round Subminiature“ Z-Bend” Lead Infrared LED IR95-21C/L491/TR7



#### Features

- Small double-end package
- High reliability
- Low forward voltage
- Good spectral matching to Si photodetector
- 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).

#### Description

• IR95-21C/L491/TR7 is an infrared emitting diode in miniature SMD package which is molded in a water clear plastic with spherical top view lens. The device is spectrally matched with silicon photodiode and phototransistor.

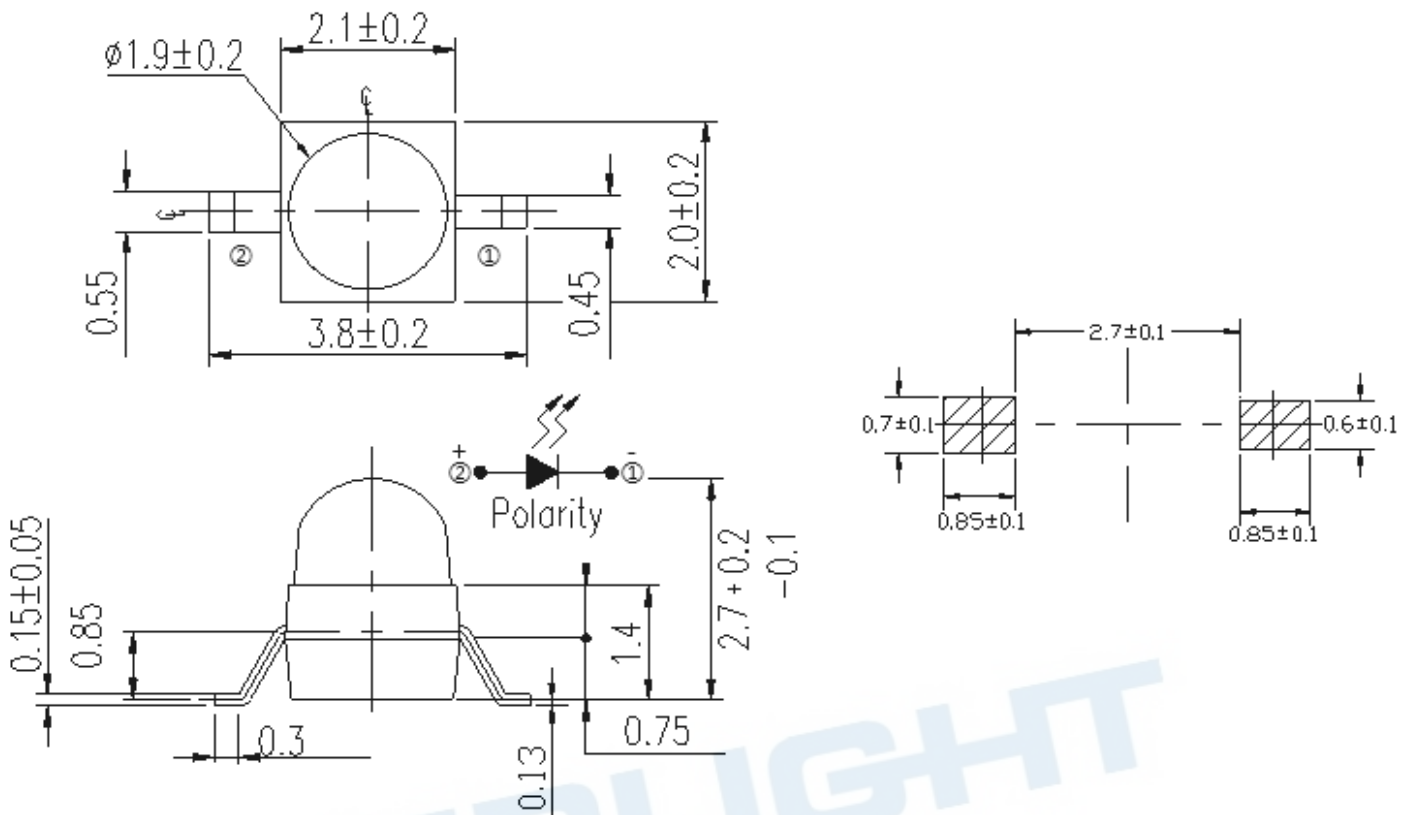
#### Applications

- PCB mounted infrared sensor
- Infrared emitting for miniature light barrier
- Floppy disk drive
- Optoelectronic switch
- Smoke detector

#### Device Selection Guide

Device No.	Chip Material	Lens Color
IR	GaAIAs	Water Clear

Package Dimensions



- Notes: 1. All dimensions are in millimeters  
2. Tolerances unless dimensions  $\pm 0.1$  mm

### 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
Peak Forward Current	I <sub>FP</sub>	500	mA
Operating Temperature	T <sub>opr</sub>	-40 ~ +85	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +100	°C
Electrostatic Discharge	ESD <sub>HBM</sub>	2000	V
Soldering Temperature *1	T <sub>sol</sub>	260	°C

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

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Radiant Intensity	I <sub>e</sub>	I <sub>F</sub> =20mA	20	30	--	mW/sr
Peak Wavelength	λ <sub>p</sub>		--	940	--	nm
Spectral Bandwidth	Δλ		--	45	--	nm
Forward Voltage	V <sub>F</sub>		--	1.2	1.5	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	--	--	10	μA
View Angle	2θ <sub>1/2</sub>	I <sub>F</sub> =20mA	--	20	--	deg

### Typical Electro-Optical Characteristics Curves

Fig.1 Forward Current vs. Ambient Temperature

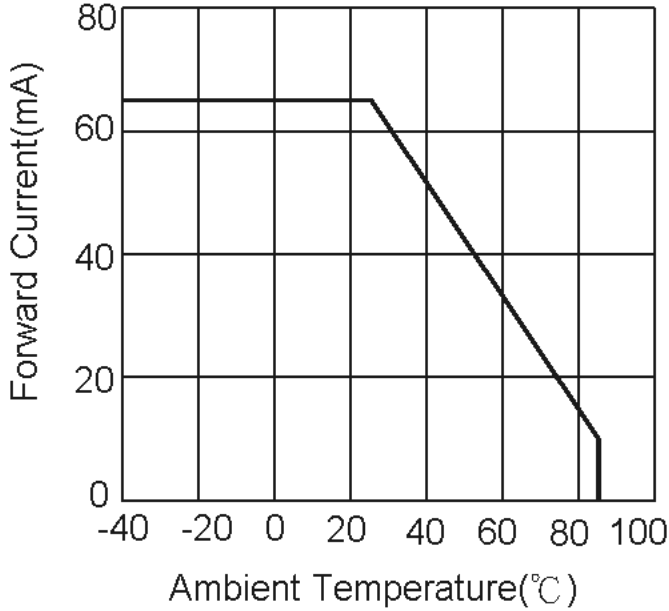


Fig.2 Spectral Distribution

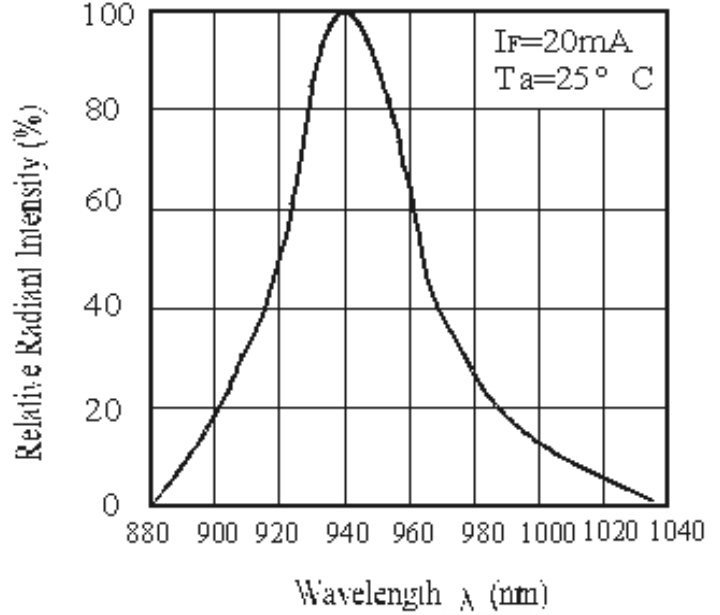
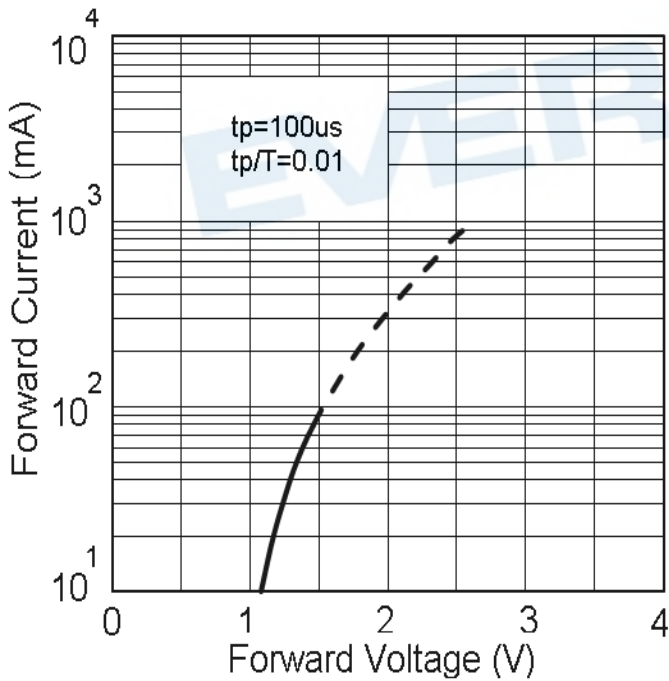


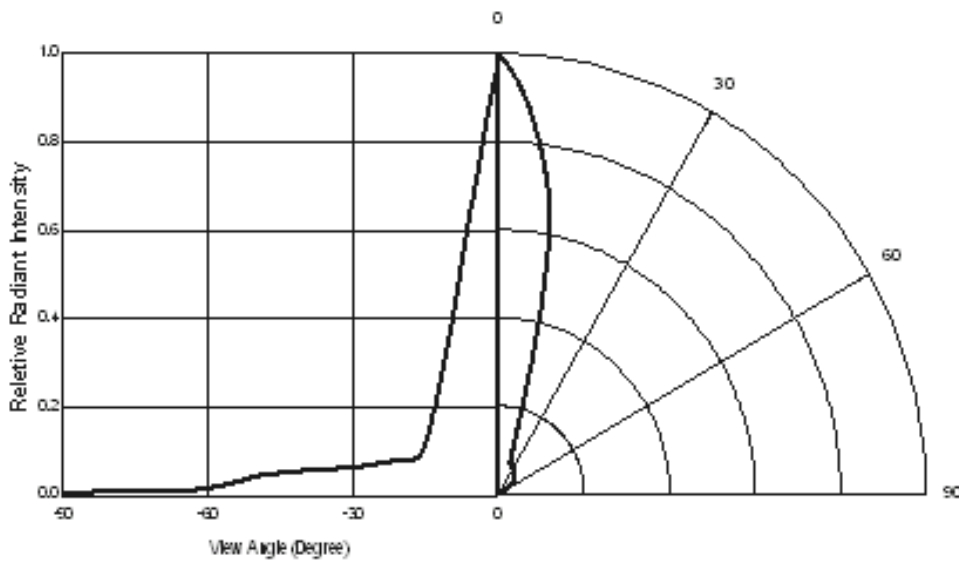
Fig.3 Forward Current vs. Forward Voltage



Note: The graphs shown in this datasheet are representing typical data only and do not show guaranteed value

### Typical Electro-Optical Characteristics Curves

Fig.4 Relative Radiant Intensity vs Angular Displacement



Note: The graphs shown in this datasheet are representing typical data only and do not show guaranteed value.

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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.

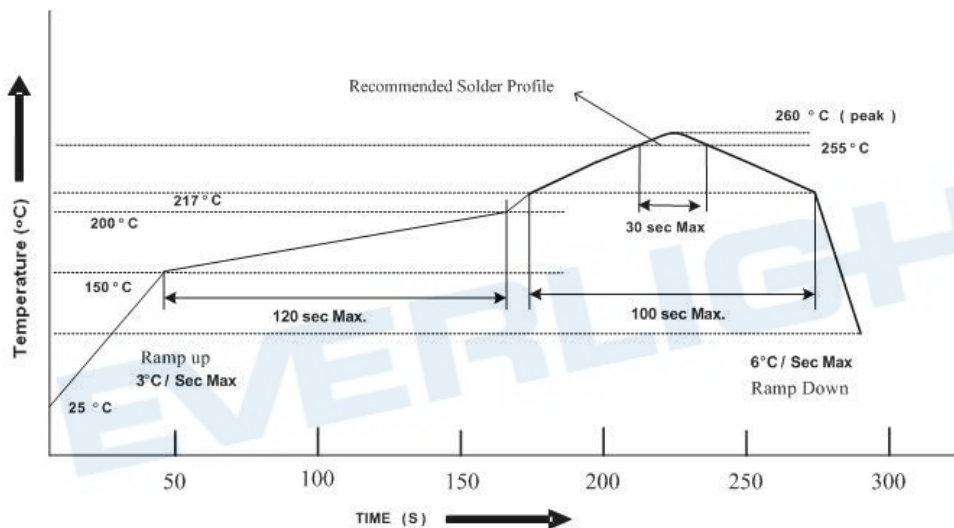
2.3 The LEDs should be used within 168 hours (7days) after opening the package .

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.

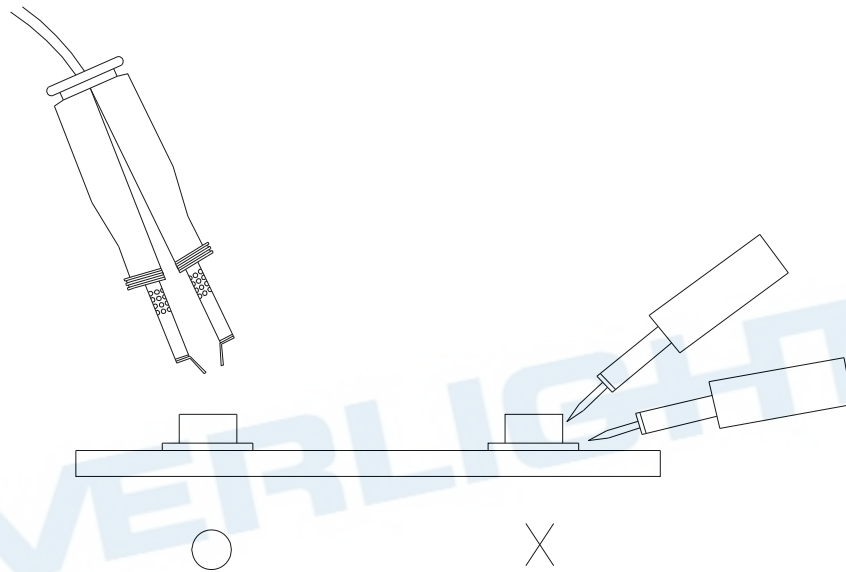
3.4 After soldering, do not warp the circuit board.

#### 4. Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 350°C for 3 seconds within. 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.

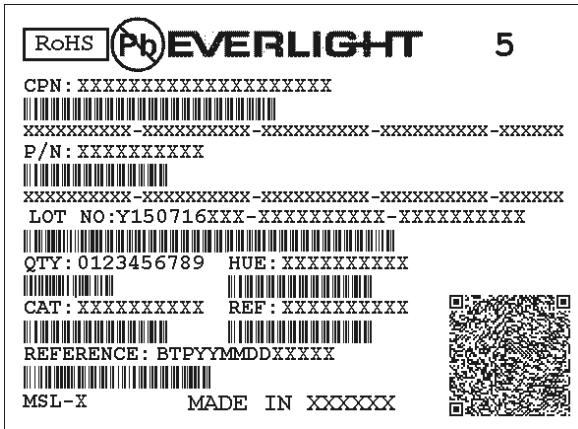
#### 5. Repairing

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.





### Moisture Resistant Packing Materials 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  
MSL-X: MSL Level  
Made In: Manufacture place

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## 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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