

1206 Package Infrared Chip LED With Inner Lens LED

IR11-21C/L491/TR8



Features

- Small double-end package
- High reliability
- Low forward voltage
- Good spectral matching to Si photodetector
- Package in 8mm tape on 7" diameter reel
- 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

- IR11-21C/L491/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.

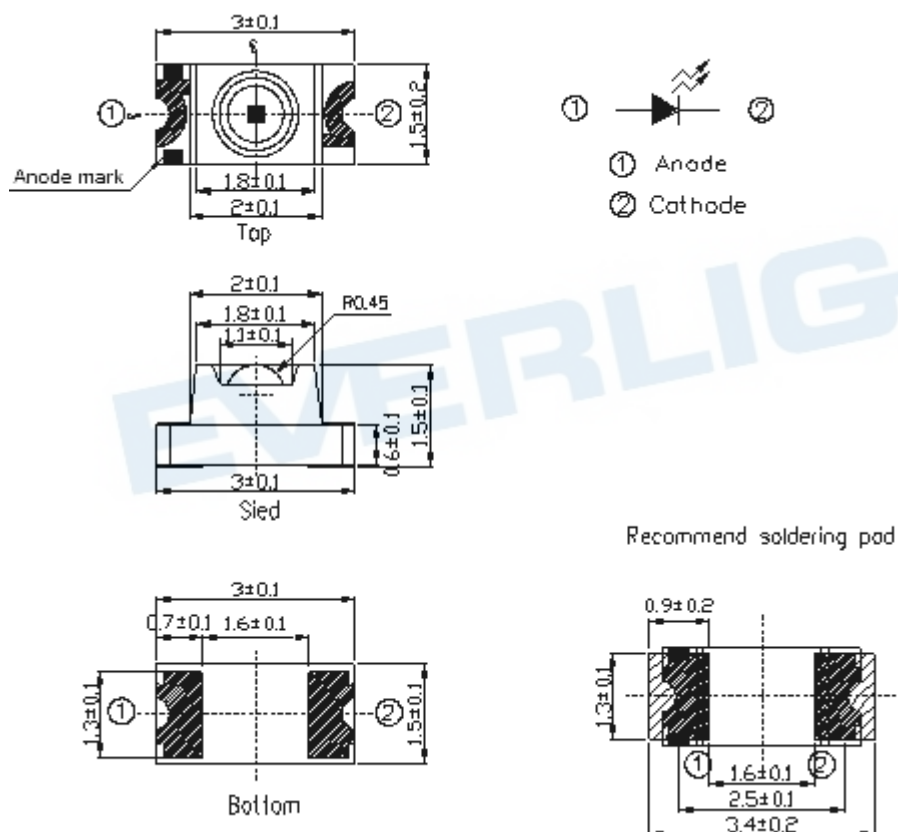
Applications

- PCB mounted infrared sensor

Device Selection Guide

Part Category	Chip Material	Lens Color
IR	GaAlAs	Water Clear

Package Dimensions



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}	-25 ~ +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	110	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	1.0	2.8	--	mW/sr
Peak Wavelength	λ _p		--	940	--	nm
Spectral Bandwidth	Δλ		--	30	--	nm
Forward Voltage	V _F		--	1.3	1.7	V
View Angle	2θ1/2		--	80	--	deg
Reverse Current	I _R	V _R =5V	--	--	10	μA

Typical Electro-Optical Characteristics Curves

Fig.1 Forward Current vs.
Ambient Temperature

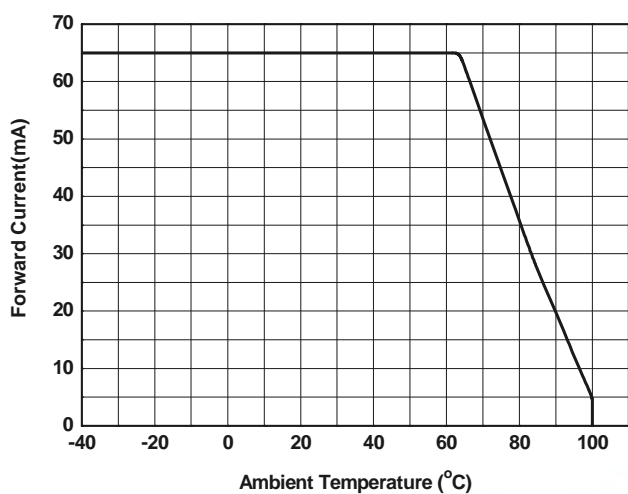


Fig.2 Spectral Distribution

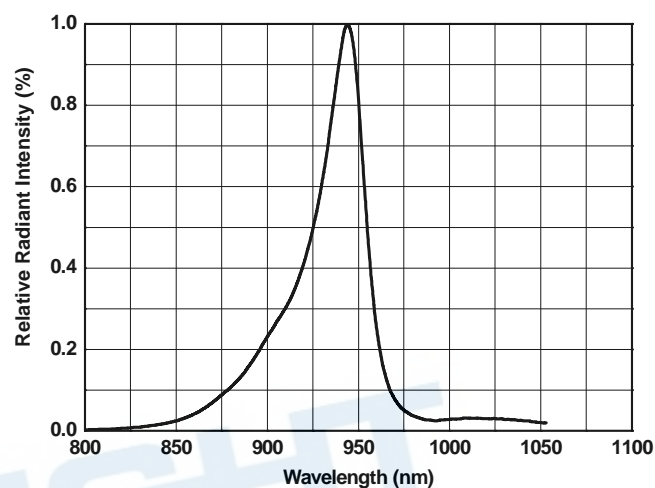


Fig.3 Relative Intensity vs.
Forward Current

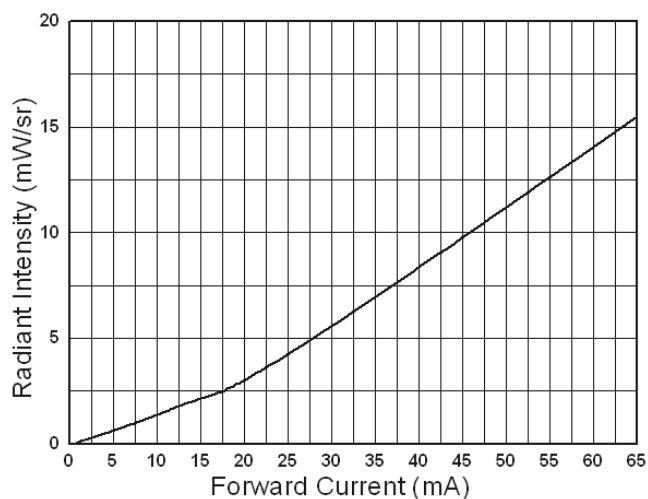
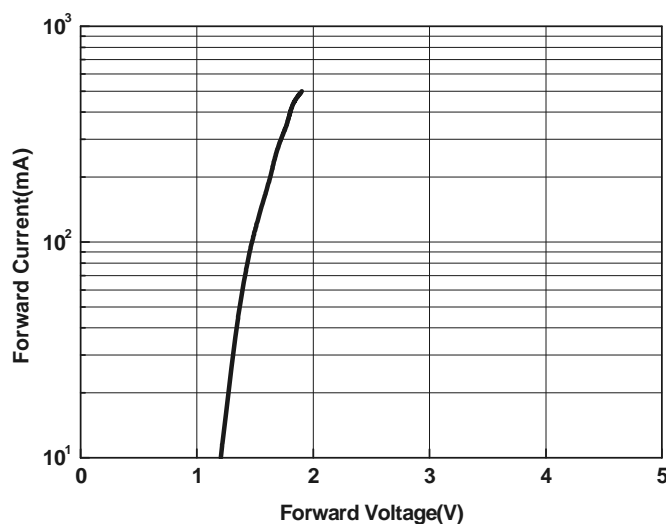
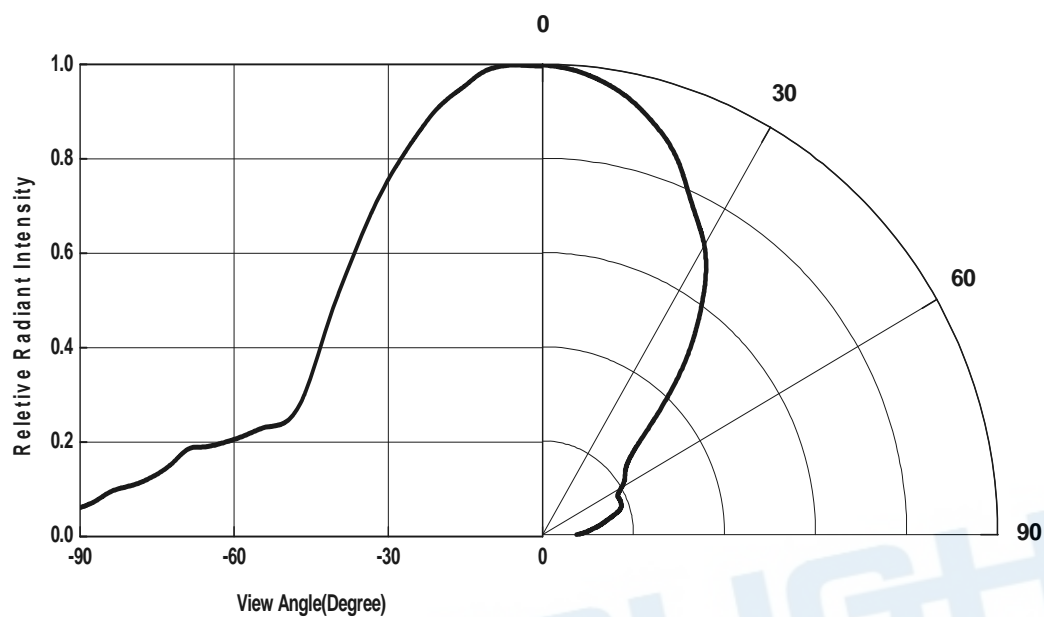


Fig.4 Forward Current vs.
Forward Voltage



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 10°C~30°C and 90%RH or less.

2.3 The LEDs suggested be used within one year.

2.4 After opening the package, the devices must be stored at 10°C~30°C and $\leq 60\%RH$, and used within 168 hours (floor life). If unused LEDs remain, it should be stored in moisture proof packages.

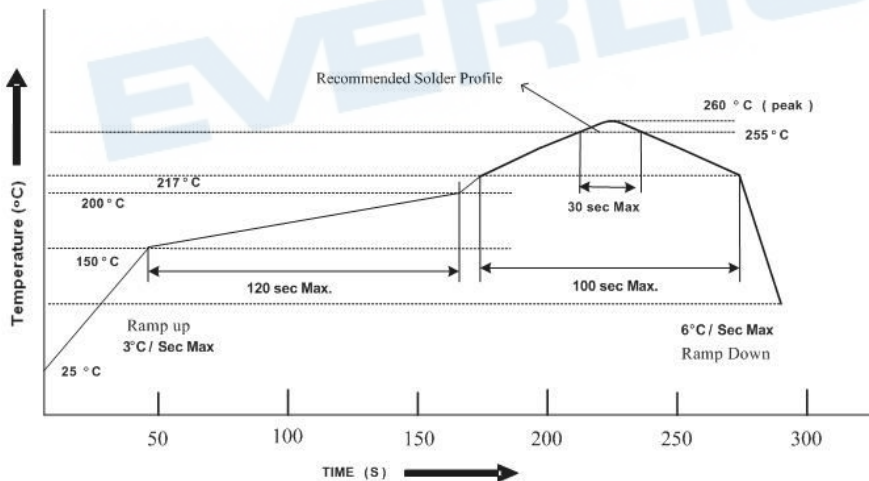
2.5 If the moisture absorbent material (desiccant material) has faded or unopened bag has exceeded the shelf life or devices (out of bag) have exceeded the floor life, baking treatment is required.

2.6 If baking is required, refer to IPC/JEDEC J-STD-033 for bake procedure or recommend the following conditions:

96 hours at 60°C \pm 5°C and < 5 % RH (reeled/tubed/loose units)

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.

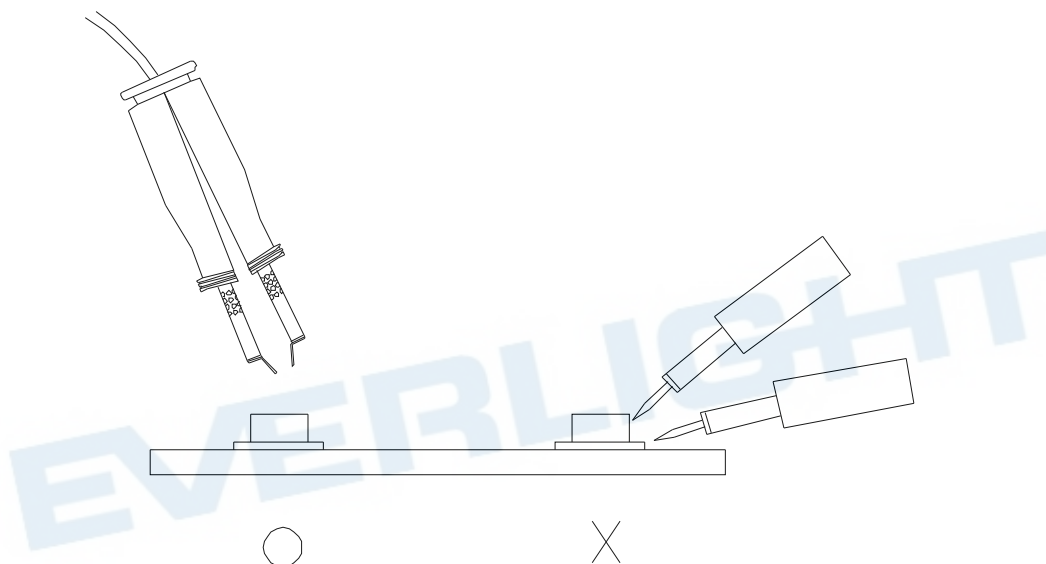
3.4 After soldering, do not warp the circuit board.

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.



Technical drawing of a circular mechanical part, showing a top view and a side view. The top view is a circle with a central feature and four curved slots. The side view shows the profile of the part with dimensions for thickness and overall diameter.

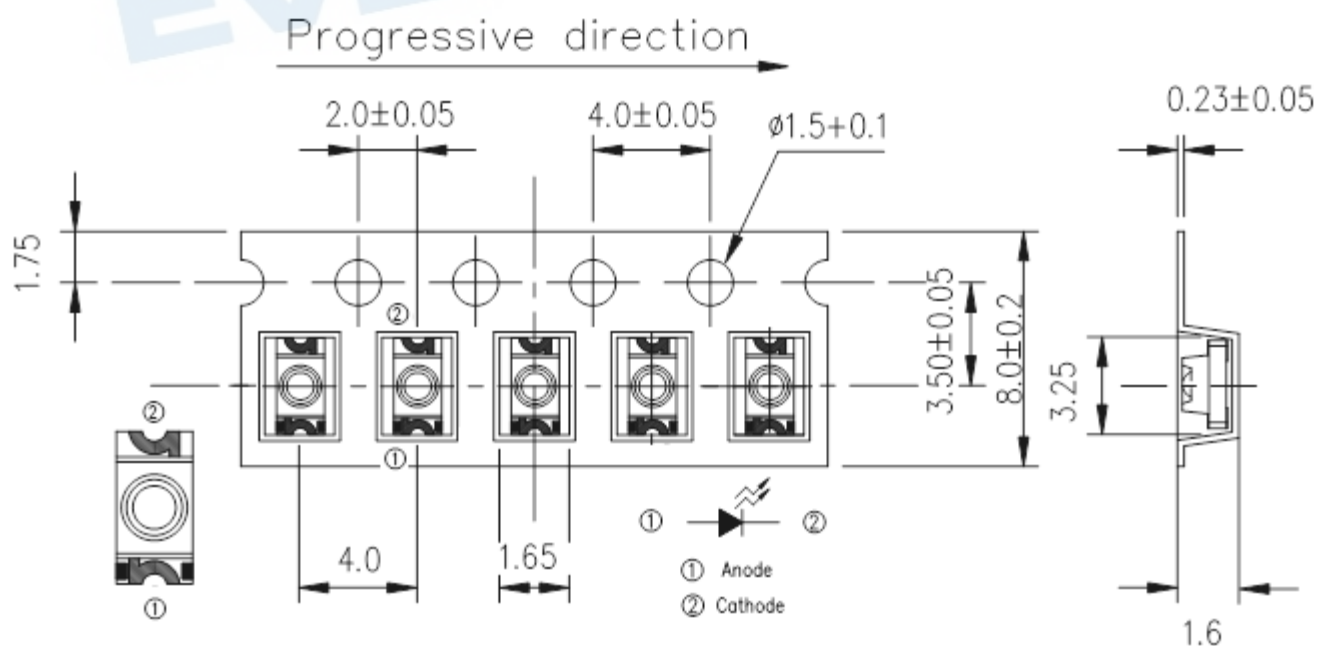
Top View Dimensions:

- Overall diameter: $\phi 178.0 \pm 1.0$
- Central feature diameter: $\phi 60.0 \pm 0.5$
- Distance from center to the start of the slots: 2.2 ± 0.5
- Distance from center to the end of the slots: $\phi 13.0 \pm 0.5$

Side View Dimensions:

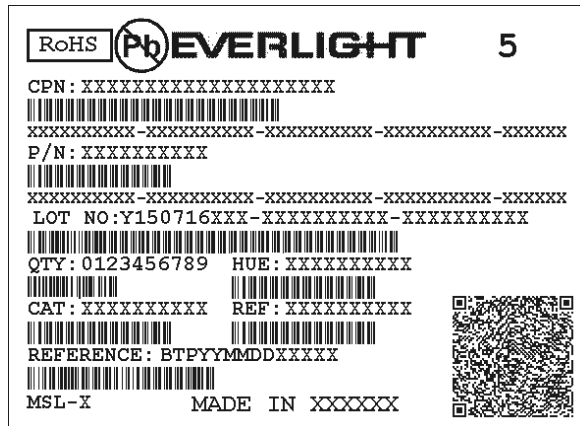
- Overall thickness: 9.0 ± 0.5
- Distance from the base to the top of the central feature: 12.0 ± 0.15

Carrier Tape Dimensions:(Quantity: 3000pcs/reel)



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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

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