

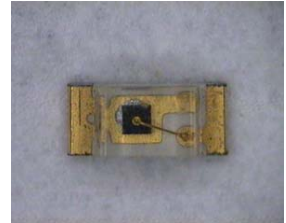
Technical Data Sheet

0603 Package Infrared Chip LED

SIR19-315/TR8

Features

- Small double-end package
- Peak wavelength $\lambda_p=870\text{nm}$
- Package in 8mm tape on 7" diameter reel
- Compatible with infrared and vapor phase reflow solder process.
- Pb free
- RoHS refer to SMD B type SGS report



Descriptions

- SIR19-315/TR8 is an infrared emitting diode in miniature SMD package which is molded in a water clear epoxy.
- The device is spectrally matched with silicon photodiode and phototransistor.

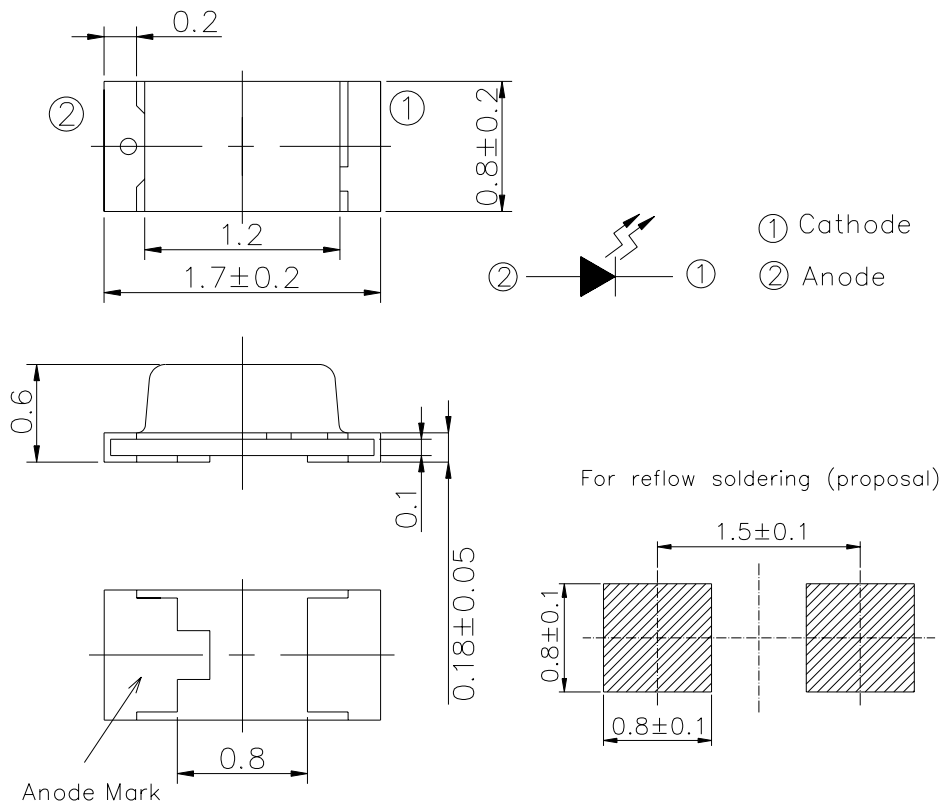
Applications

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

Device Selection Guide

LED Part No.	Chip	Lens Color
	Material	
SIR	AlGaAs	Water clear

Package Dimensions



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

Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Units
Continuous Forward Current	I_F	70	mA
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	$-25 \sim +85$	$^\circ\text{C}$
Storage Temperature	T_{stg}	$-40 \sim +85$	$^\circ\text{C}$
Soldering Temperature	T_{sol}	260	$^\circ\text{C}$
Power Dissipation at(or below) 25 $^\circ\text{C}$ Free Air Temperature	P_d	110	mW

Notes: * 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	1.3	--	mW /sr
Peak Wavelength	λ _p	I _F =20mA	860	870	900	nm
Spectral Bandwidth	Δ λ	I _F =20mA	--	45	--	nm
Forward Voltage	V _F	I _F =20mA	1.20	1.35	1.70	V
Reverse Current	I _R	V _R =5V	--	--	10	μ A
View Angle	2 θ 1/2	I _F =20mA	--	140	--	deg

Typical Electro-Optical Characteristics Curves

Fig.1 Forward Current vs. Ambient Temperature

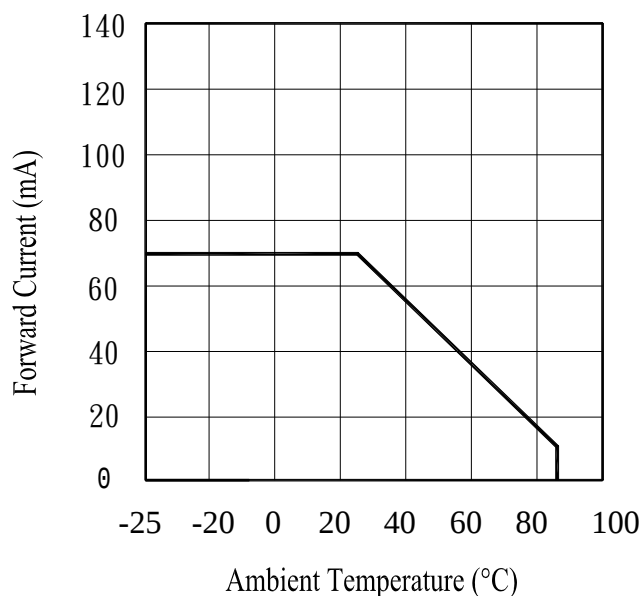


Fig.2 Spectral Distribution

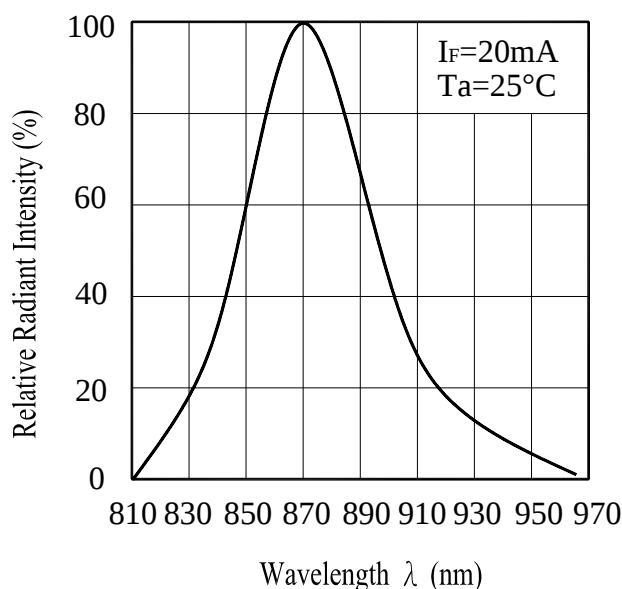


Fig.3 Peak Emission Wavelength Ambient Temperature

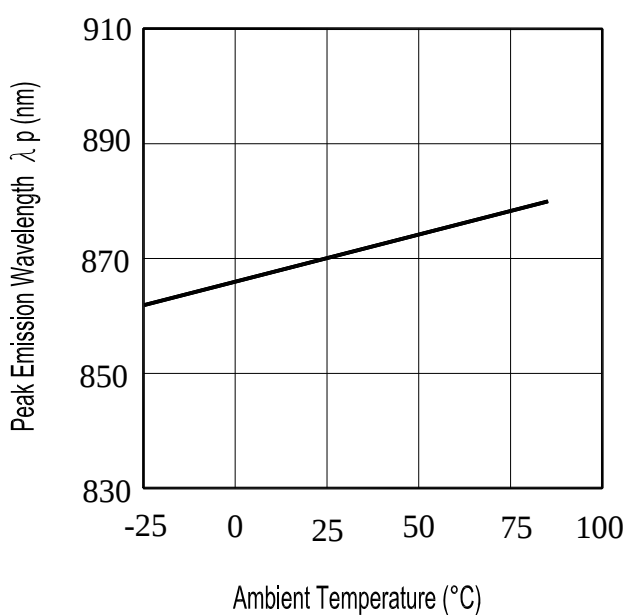
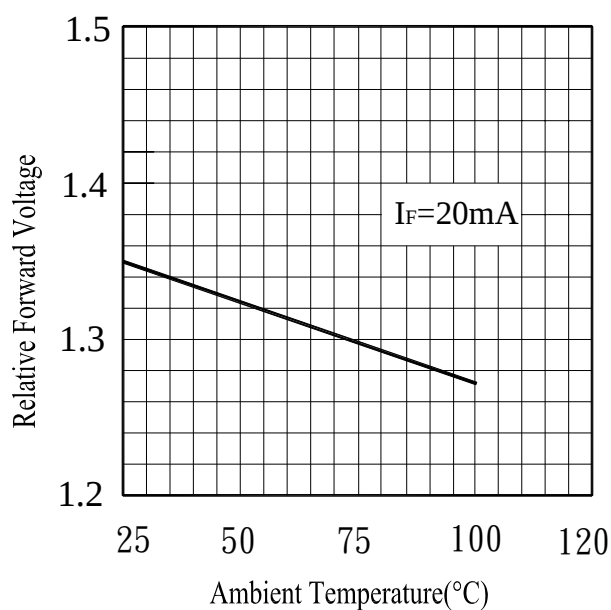


Fig.4 Forward Voltage vs. Ambient Temperature(°C)



Typical Electro-Optical Characteristics Curves

Fig.5 Relative Intensity vs.
Ambient Temperature(°C)

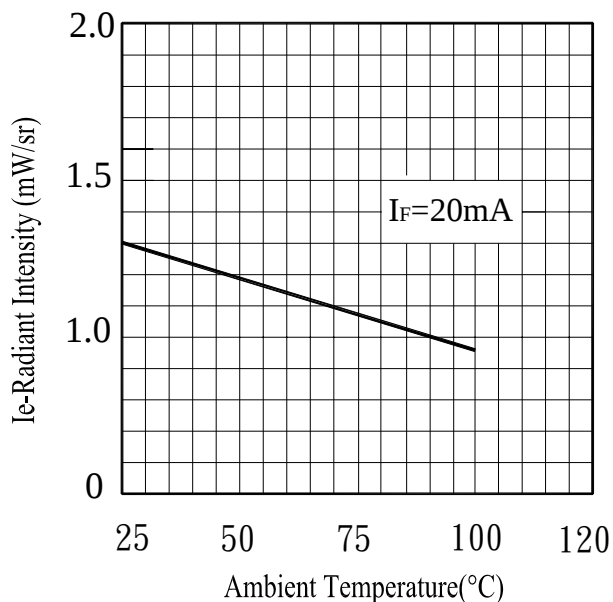
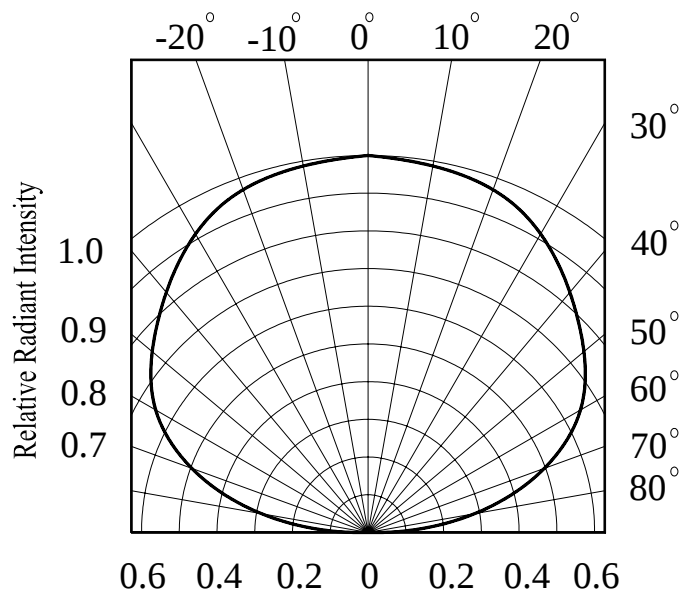


Fig.6 Relative Radiant Intensity vs.
Angular Displacement



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°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.

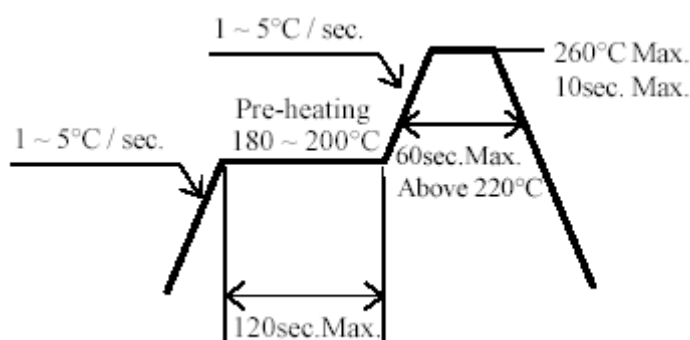
2.5 The LEDs should be used within 168 hours (7 days) after opening the package.

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.

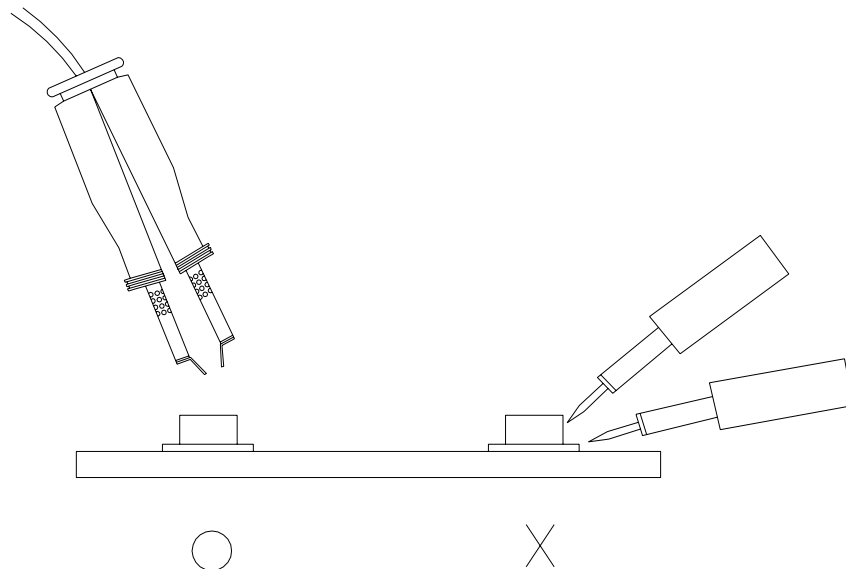
SIR19-315/TR8

4.Soldering Iron

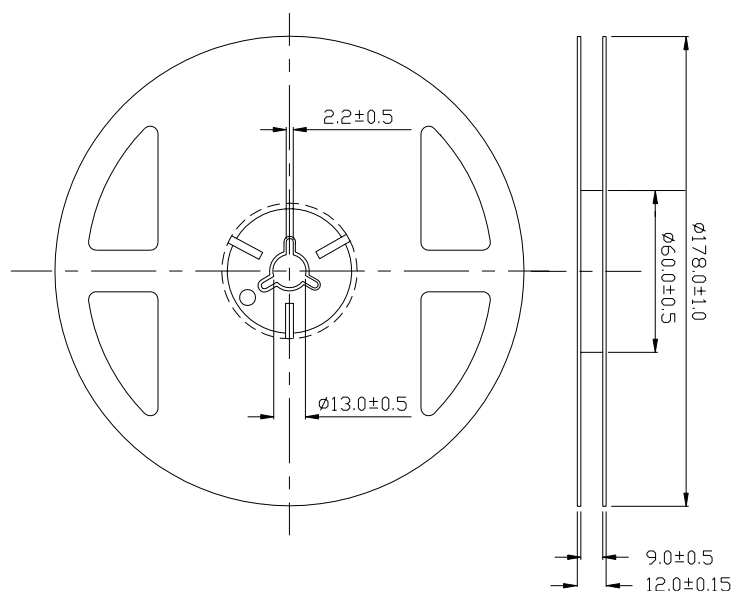
Each terminal is to go to the tip of soldering iron temperature less than 280°C for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

5.Repairing

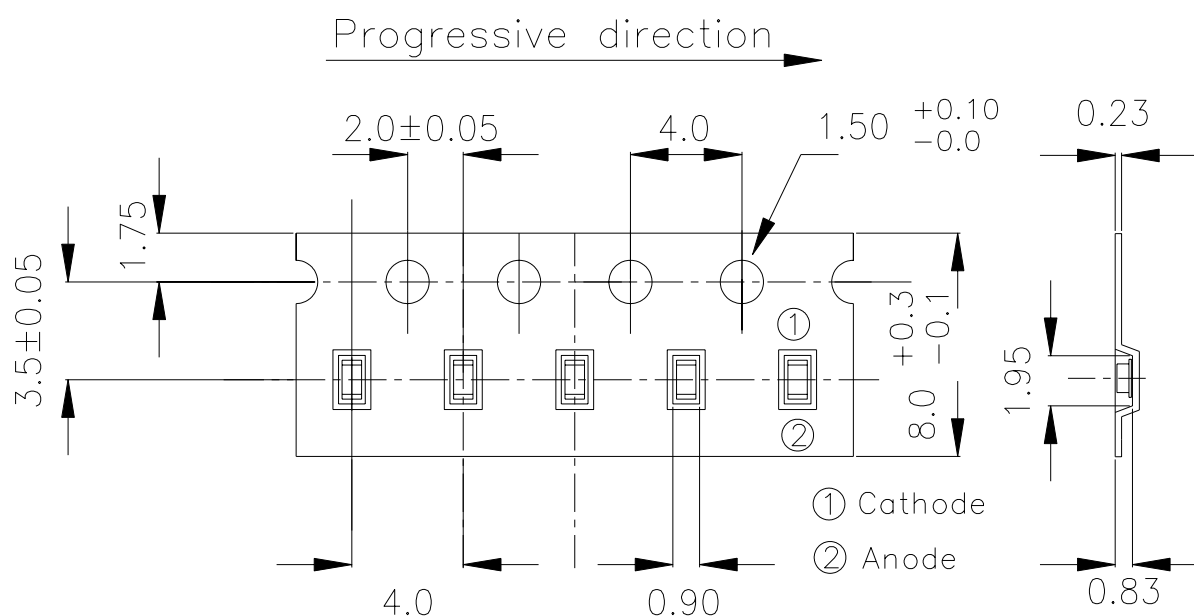
Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.



Package Dimensions



Taping Dimensions



Unit: mm

Packing Quantity Specification

1.3000Pcs/1Volume , 1Volume/1Bag

2.10Boxes/1Carton

Label Form Specification

EVERLIGHT	
CPN:	
P/N:	
	RoHS
SIR19-315/TR8	
QTY:	
	CAT:
	HUE:
	REF:
LOT NO:	
	
MADE IN TAIWAN	

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.
3. These specification sheets include materials protected under copyright of EVERLIGHT corporation. Please don't reproduce or cause anyone to reproduce them without EVERLIGHT's consent.

EVERLIGHT ELECTRONICS CO., LTD.

Office: No 25, Lane 76, Sec 3, Chung Yang Rd,
Tucheng, Taipei 236, Taiwan, R.O.C

Tel: 886-2-2267-2000, 2267-9936

Fax: 886-2267-6244, 2267-6189, 2267-6306

<http://www.everlight.com>