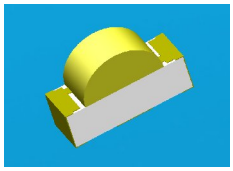
DATASHEET

Chip Infrared LED With Right Angle Lens

SIR12-21C/TR8



Features

- Small double-end package
- Low forward voltage
- Good spectral matching to Si photo detector
- Package in 8mm tape on 7” diameter reel
- Pb free
- The product itself will remain within RoHS compliant version.

Descriptions

SIR12-21C/TR8 is an infrared emitting diode in miniature SMD package molded in a water clear plastic with right angle lens.
The device is spectrally matched with silicon photodiode and phototransistor.

Applications

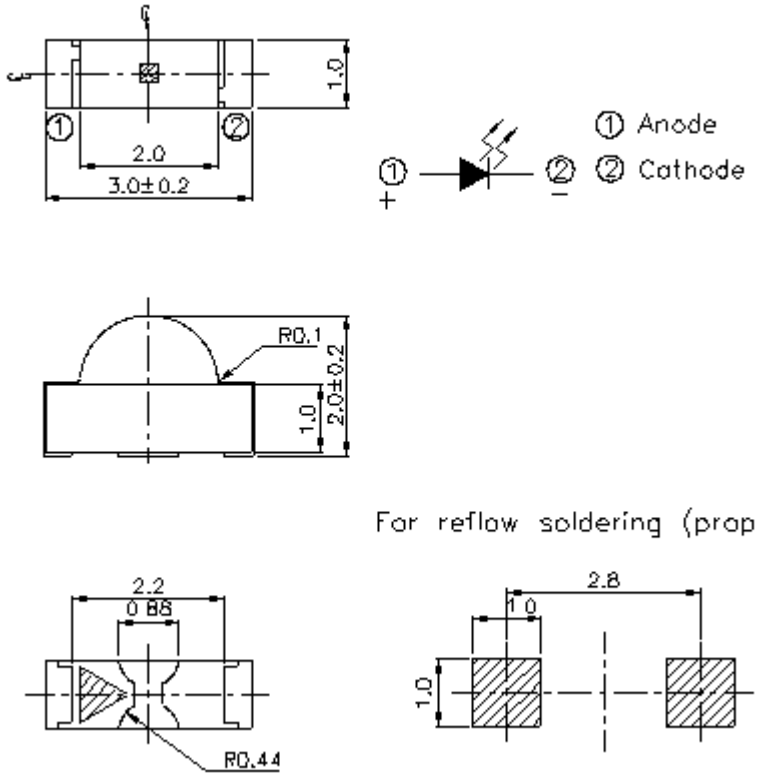
- Household Appliances
- Electric Appliances
- Smoke detector
- Floppy disk drive

Device Selection Guide

Part Category	Chip Material	Lens Color
SIR	GaAlAs	Water clear

Revision : 3
Release Date:2013-07-05 13:49:39.0
LifecyclePhase: 正式發行 Approved
Expired Period: Forever

Package Dimensions



Notes: 1.All dimensions are in millimeters
2.Tolerances unless dimensions ±0.1mm

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Units
Continuous Forward Current	I_F	65	mA
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-25 ~ +85	℃
Storage Temperature	T_{stg}	-40 ~ +85	℃
Soldering Temperature *1	T_{sol}	260	℃
Power Dissipation at(or below) 25℃Free Air Temperature	P_d	110	mW

Notes: *1. Soldering time≦5 seconds.

Revision : 3
Release Date:2013-07-05 13:49:39.0
LifecyclePhase: 正式發行 Approved
Expired Period: Forever

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Radiant Intensity	Ie	I_F=20mA	0.5	0.9	--	mW /sr
Peak Wavelength	λp	I_F=20mA	--	875	--	nm
Spectral Bandwidth	Δλ	I_F=20mA	--	80	--	nm
Forward Voltage	V_F	I_F=20mA	--	1.3	1.6	V
Reverse Current	I_R	V_R=5V	--	--	10	μA
View Angle	2θ1/2	I_F=20mA	--	160	--	deg

Revision : 3
Release Date:2013-07-05 13:49:39.0
LifecyclePhase: 正式發行 Approved
Expired Period: Forever

Typical Electro-Optical Characteristics Curves

Fig.1 Forward Current vs. Ambient Temperature

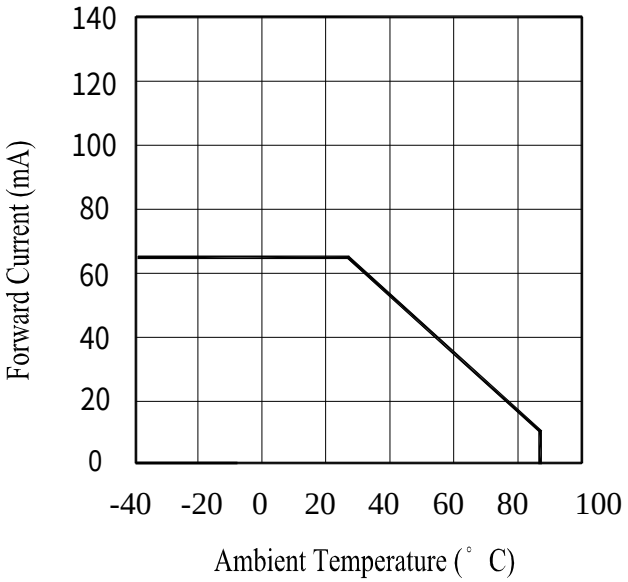


Fig.2 Spectral Distribution

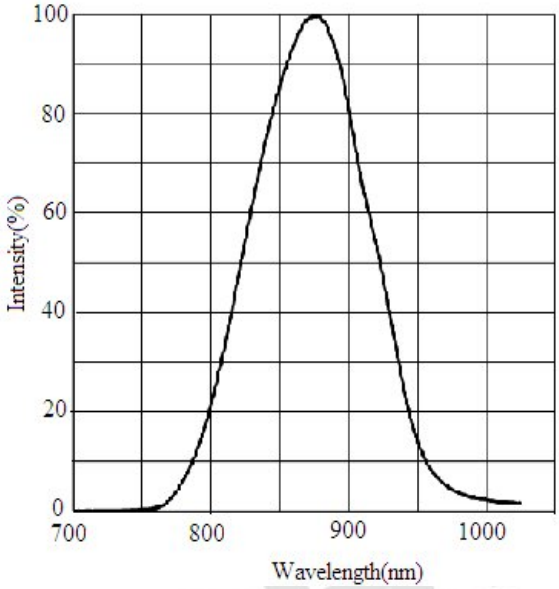


Fig.3 Forward Current vs. Forward Voltage

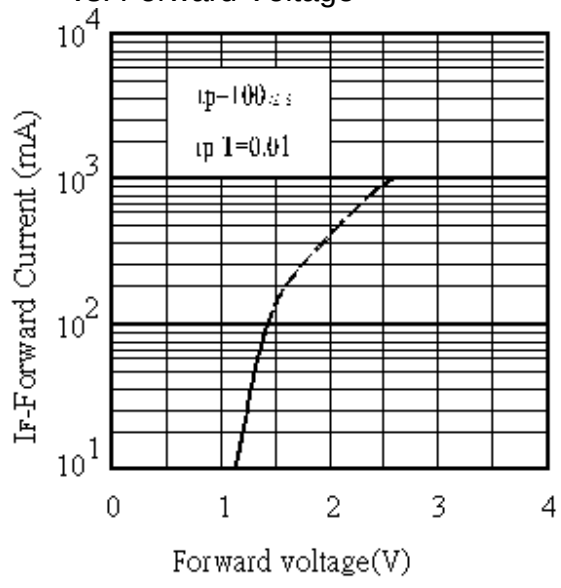
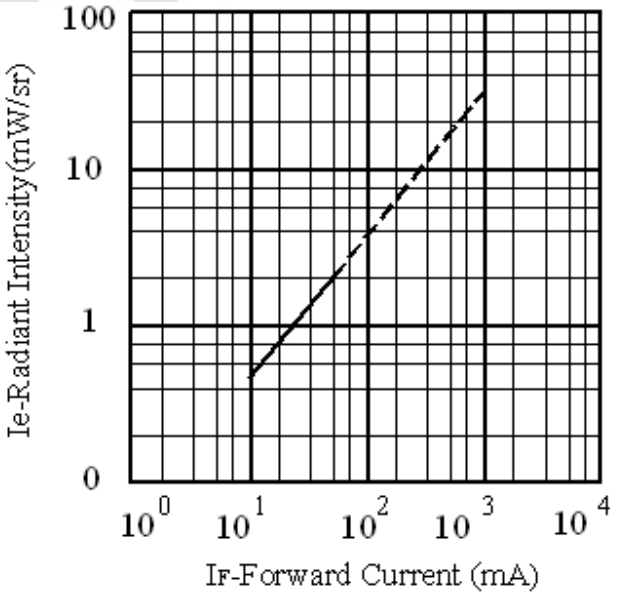


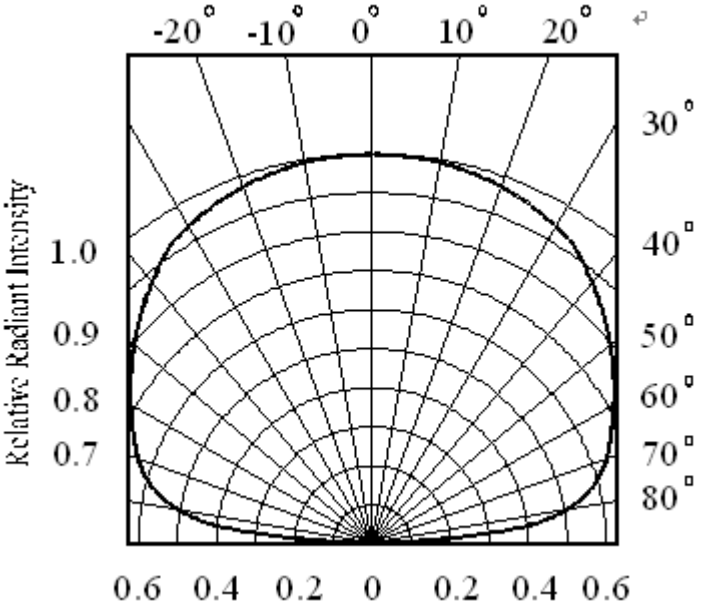
Fig.4 Relative Intensity vs. Forward Current



Revision : 3
Release Date:2013-07-05 13:49:39.0
LifecyclePhase: 正式發行 Approved
Expired Period: Forever

Typical Electro-Optical Characteristics Curves

Fig.5 Relative Radiant Intensity vs.
Angular Displacement



Revision : 3
Release Date:2013-07-05 13:49:39.0
LifecyclePhase: 正式發行 Approved
Expired Period: Forever

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.

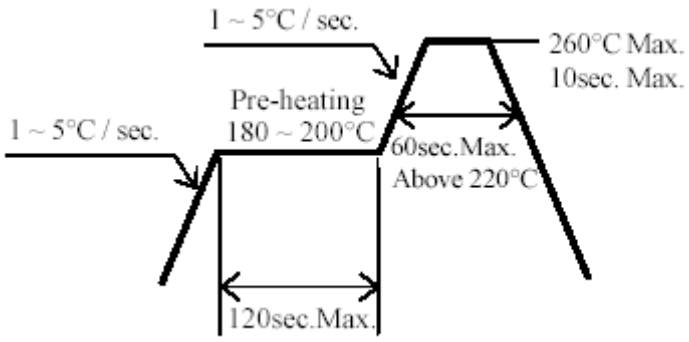
2.4 After opening the package, the LEDs should be kept at 30℃ or less and 60%RH or less.

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℃ 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.

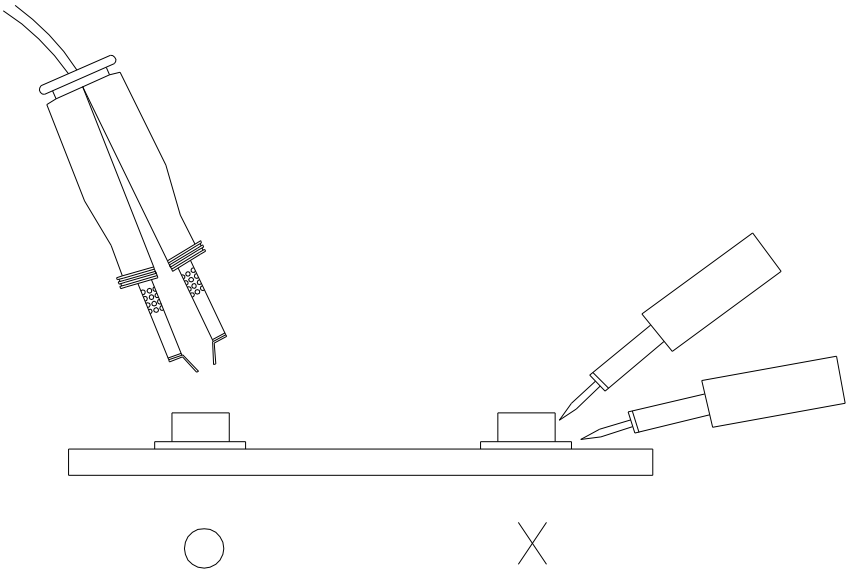
Revision : 3
Release Date:2013-07-05 13:49:39.0
LifecyclePhase: 正式發行 Approved
Expired Period: Forever

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.

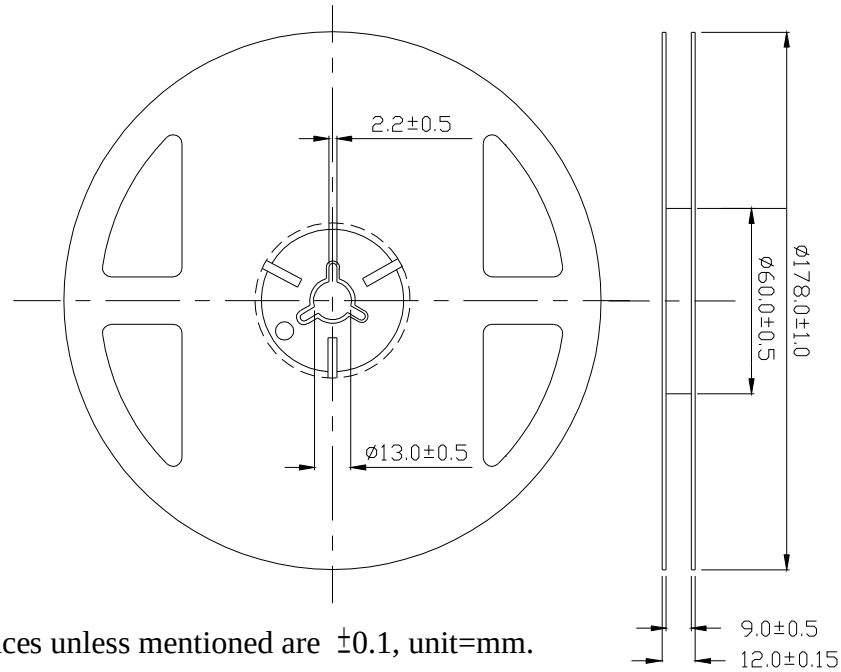
5.Repairing

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.



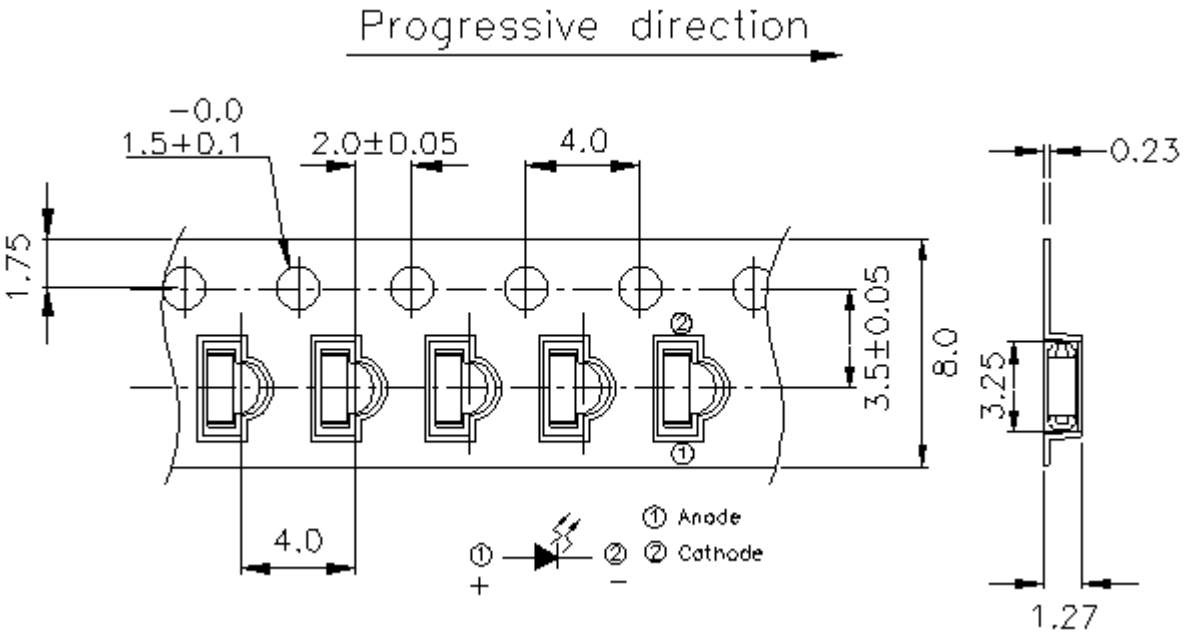
Revision : 3
Release Date:2013-07-05 13:49:39.0
LifecyclePhase: 正式發行 Approved
Expired Period: Forever

Package Dimensions



Note: The tolerances unless mentioned are ±0.1, unit=mm.

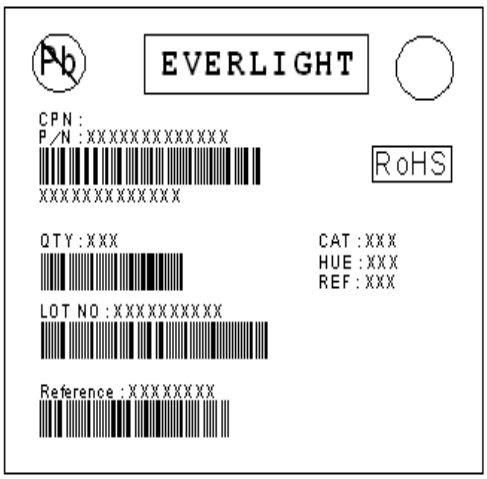
Carrier Taping Dimensions: (Quantity: 2000PCS/Reel)



Note: The tolerances unless mentioned are ±0.1, unit=mm

Revision : 3
Release Date:2013-07-05 13:49:39.0
LifecyclePhase: 正式發行 Approved
Expired Period: Forever

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

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. 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

Revision : 3
Release Date:2013-07-05 13:49:39.0
LifecyclePhase: 正式發行 Approved
Expired Period: Forever

AMEYA360
Components Supply Platform

Authorized Distribution Brand :

Website :

Welcome to visit www.ameya360.com

Contact Us :

- ### Address :

  401 Building No.5, JiuGe Business Center, Lane 2301, Yishan Rd
  Minhang District, Shanghai , China

- ### Sales :

  Direct +86 (21) 6401-6692

  Email amall@ameya360.com

  QQ 800077892

  Skype ameyasales1 ameyasales2

- ### Customer Service :

  Email service@ameya360.com

- ### Partnership :

  Tel +86 (21) 64016692-8333

  Email mkt@ameya360.com