

### EAIST1005A0

*Preliminary*

#### Features

- High reliability
- Small double-end package
- Compatible with infrared and vapor phase reflow solder process.
- Pb free
- The product itself will remain within RoHS compliant version.

#### Description

- EAIST1005 is an infrared emitting diode in miniature SMD package which is molded in a water clear epoxy. The device is spectrally matched with silicon photo-diode and photo-transistor.

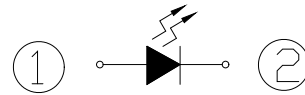
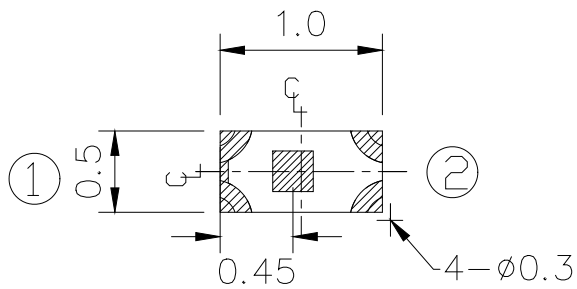
#### Applications

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

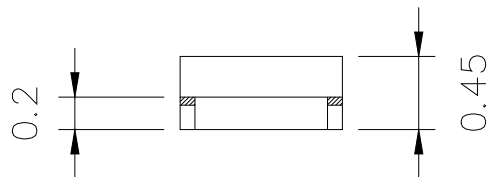
#### Device Selection Guide

Device No.	Chip Material	Lens Color
EAIST1005A0	GaAlAs	Water Clear

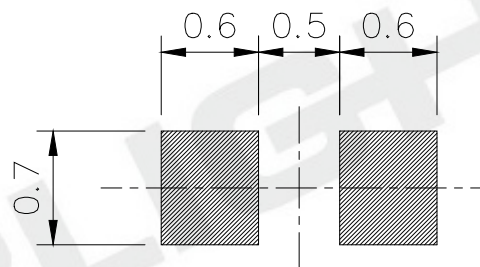
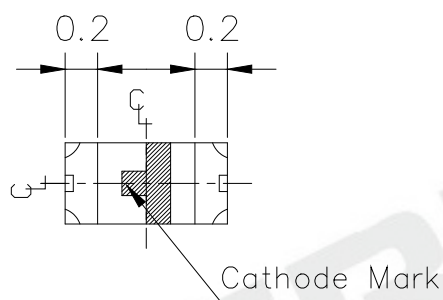
## Package Dimensions



① Anode  
② Cathode



Recommend solder pad



**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	$I_F$	50	mA
Reverse Voltage	$V_R$	5	V
Operating Temperature	$T_{opr}$	$-40 \sim +85$	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	$-40 \sim +100$	$^\circ\text{C}$
Soldering Temperature	$T_{sol}$	260	$^\circ\text{C}$
Power Dissipation at(or below) $25^\circ\text{C}$ Free Air Temperature	$P_d$	100	mW

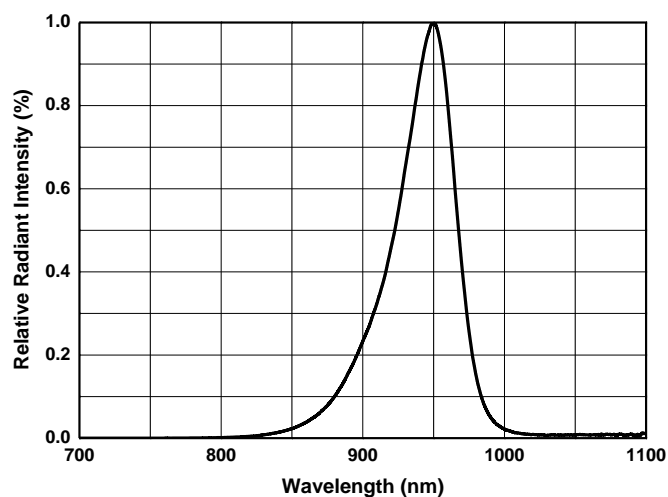
**Notes:** \* Soldering time  $\leq 5$  seconds.

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

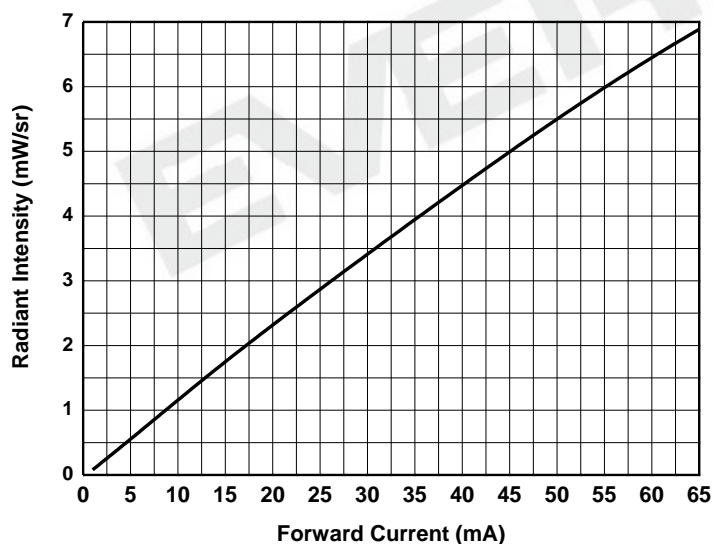
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Radiant Intensity	I <sub>e</sub>	--	2.35	--	mW /sr	I <sub>F</sub> =20mA
Peak Wavelength	λ <sub>p</sub>	--	940	--	nm	I <sub>F</sub> =20mA
Spectral Bandwidth	Δλ	--	45	--	nm	I <sub>F</sub> =20mA
Forward Voltage	V <sub>F</sub>	--	1.5	1.9	V	I <sub>F</sub> =20mA
Reverse Current	I <sub>R</sub>	--	--	10	μA	V <sub>R</sub> =5V
View Angle	2θ <sub>1/2</sub>	--	120	--	deg	I <sub>F</sub> =20mA

## Typical Electrical/Optical/Characteristics Curves for IR

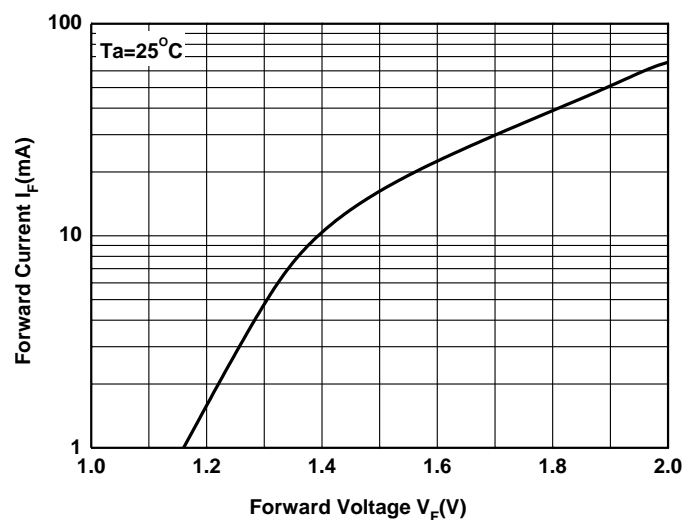
Spectral Distribution



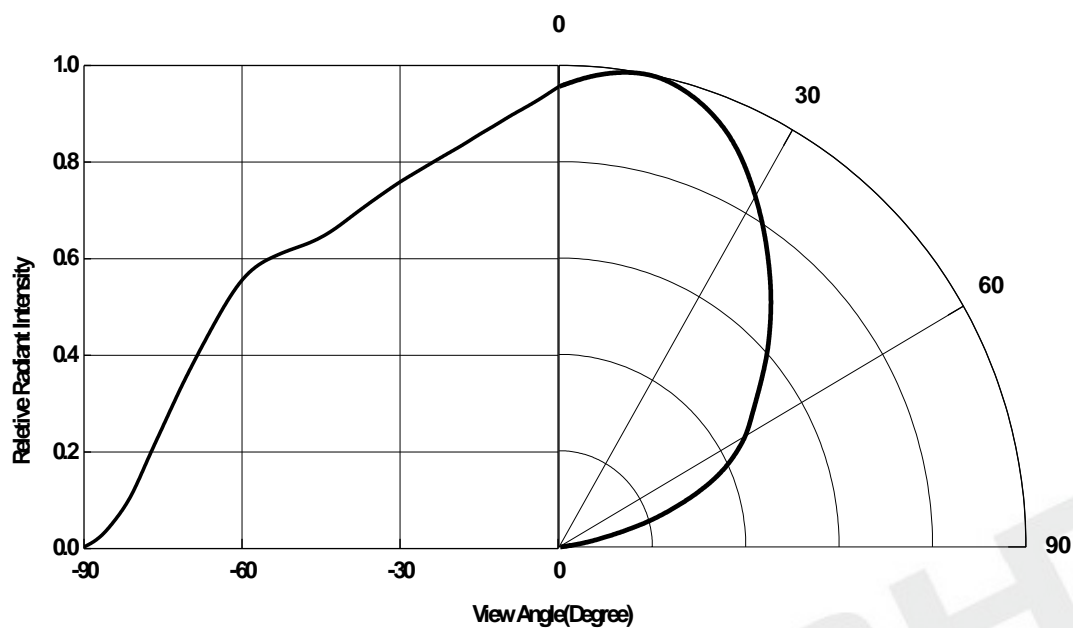
Relative Intensity vs. Forward Current



Forward Current vs. Forward Voltage



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 60%RH or less.

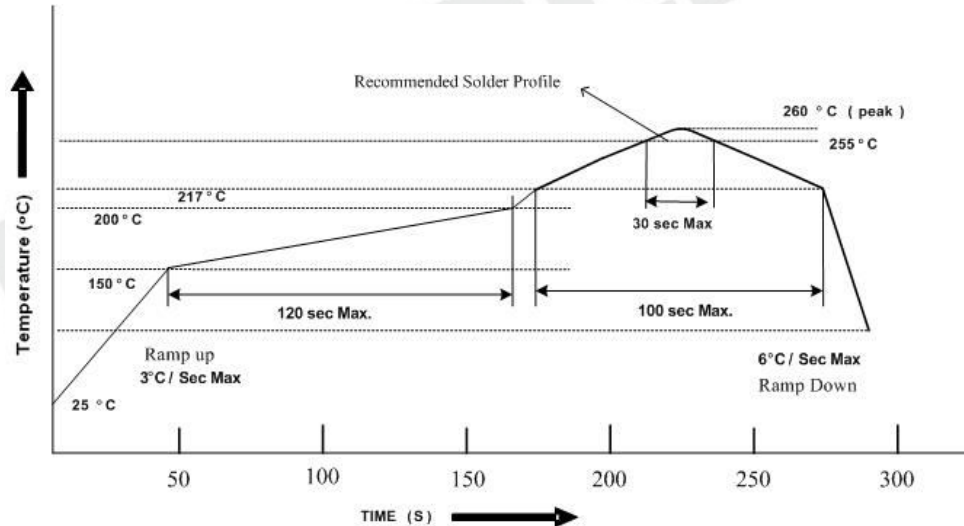
2.5 The LEDs should be used within 168 hours (7 days) after opening the package.

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 :  $60\pm5^{\circ}\text{C}$  for Min. 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.

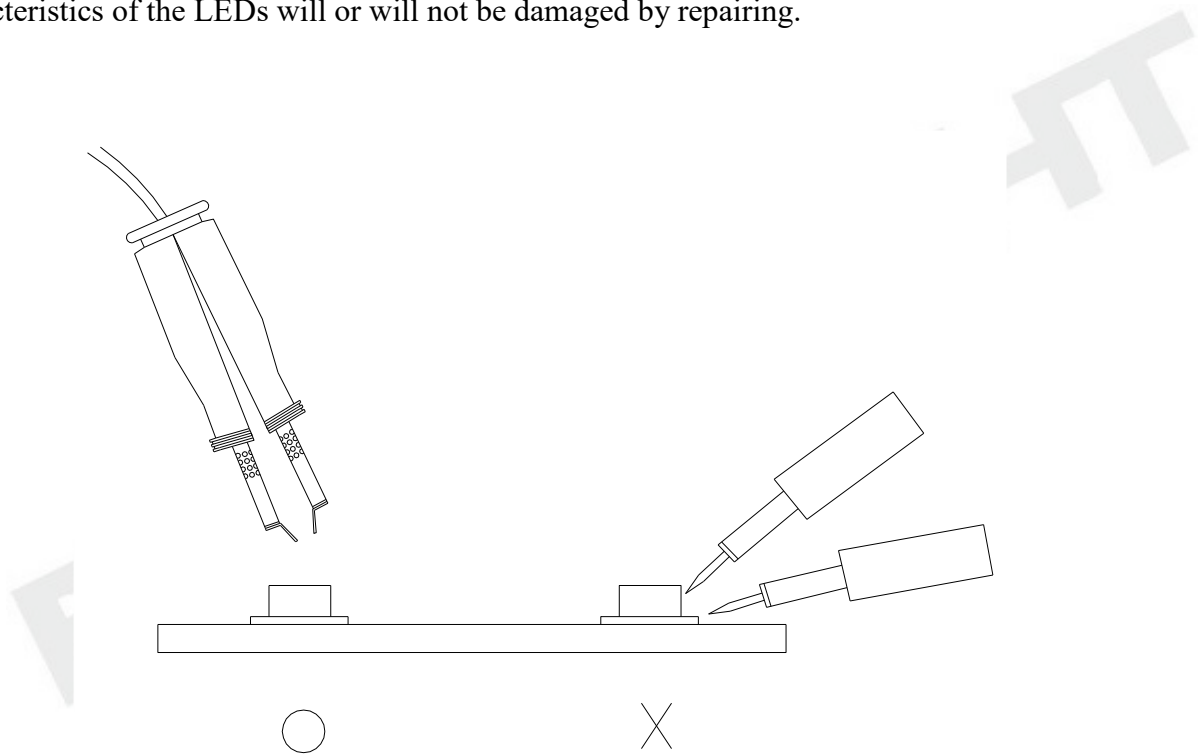
3.4 After soldering, do not warp the circuit board.

#### 4. Soldering Iron

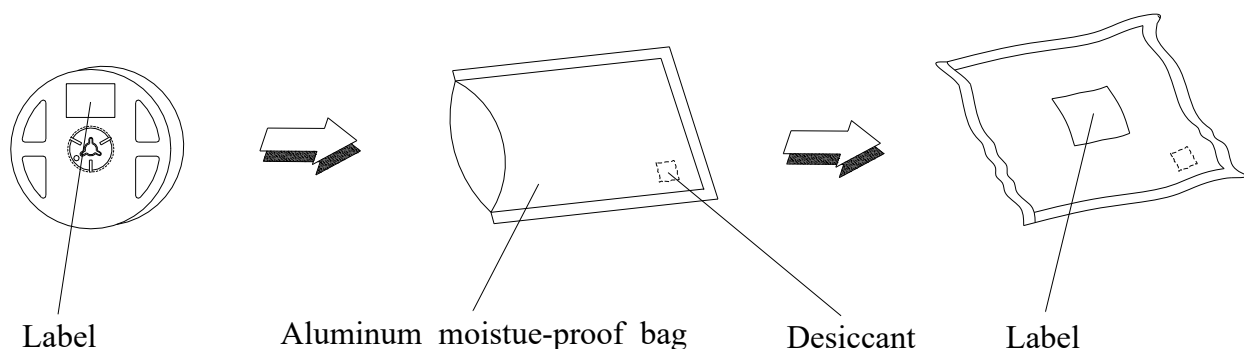
Each terminal is to go to the tip of soldering iron temperature less than  $350^{\circ}\text{C}$  for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started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




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## Label Form Specification

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CPN : XXXXXXXXXXXXXXXXXXXX  
 XXXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX  
 P/N : XXXXXXXXXXXX  
 XXXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX  
 LOT NO : XXXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX  
 QTY : XXXXXXXXXXXX HUE :  
 CAT : XXXXXXXXXXXX REF :  
 REFERENCE : BTPYYMMDDXXXXX  
 MSL-X MADE IN XXXXXX



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.
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