

### Technical Data Sheet

### High Power Infrared LED

#### EAIST3535A1



#### Features

- Small package with high efficiency
- Peak wavelength  $\lambda_p=940\text{nm}$
- Soldering methods:SMT
- Thermal resistance (junction to lead): 11 /W.
- Pb free
- The product itself will remain within RoHS compliant version.

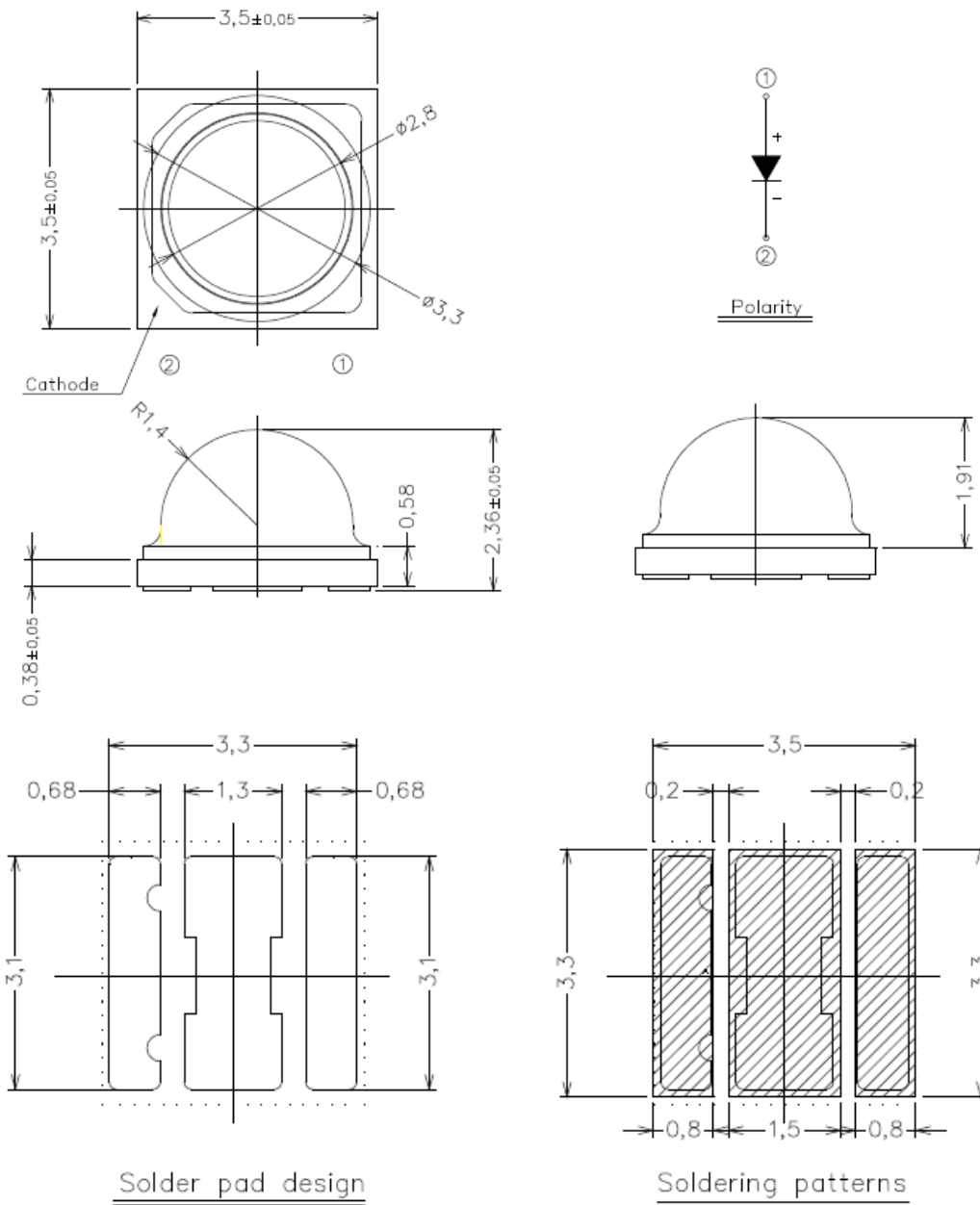
#### Descriptions

- EAIST3535A1 series is an infrared emitting diode in miniature SMD package which is molded in a water clear silicone with spherical top view lens.
- The device is spectrally matched with silicon photodiode, Phototransistor.

#### Applications

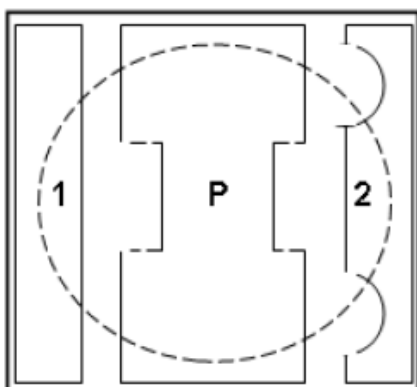
- CCD Camera
- Infrared applied system

## Package Dimensions

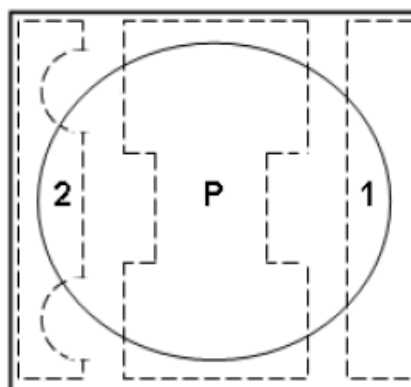


1. Dimensions are in millimeters.
2. Tolerances unless mentioned are  $\pm 0.1$  mm.
3. Do not handle the device by the lens. Incorrect force applied to the lens may lead to the failure of devices.

## Pad Configuration



BOTTOM VIEW



TOP VIEW

PAD	FUNCTION
1	ANODE
2	CATHODE
P	THERMAL PAD

### Absolute Maximum Ratings (Ta=25 °C)

Parameter	Symbol	Rating	Unit
Forward Current	$I_F$	1	A
Reverse Voltage	$V_R$	5	V
Operating Temperature	$T_{opr}$	-40 ~ +85	
Storage Temperature	$T_{stg}$	-40 ~ +100	
Junction temperature	$T_j$	115	°C
Thermal resistance (junction to leadframe)	$R_{th(j-L)}$	11	/W
Power Dissipation @ $I_F=1000mA$	$P_d$	3.7	W

**Note: We suggest that customer should add the heat sink with EAIST3535A1 to exclude the heat.**

**Electro-Optical Characteristics (Ta=25 )**

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Total Radiated Power	Po	IF=350mA	--	370	--	mW
		IF=700mA	--	740	--	
		IF=1A	--	1070	--	
Radiant Intensity	IE	IF=350mA	150	170	--	mW/sr
		IF=700mA	330	350	--	
		IF=1A	450	470	--	
Peak Wavelength	$\lambda_p$	IF=350mA	--	940	--	nm
Spectral Bandwidth	$\Delta\lambda$	IF=350mA	--	25	--	nm
Forward Voltage	VF	IF=350mA	--	3.1	--	V
		IF=700mA	--	3.4	--	
		IF=1A	--	3.7	--	
Reverse Current	IR	VR=5V	--	--	10	$\mu$ A
View Angle	2 $\theta$ 1/2	IF=20mA	--	90	--	deg

## Typical Electro-Optical Characteristics Curves

Fig.1 Ambient Temperature vs Forward Current

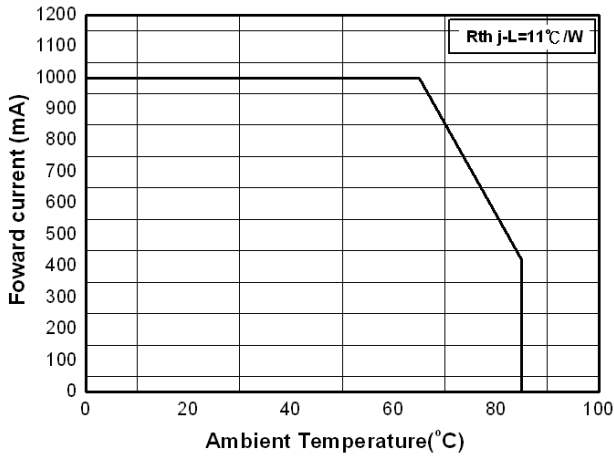


Fig.2 Forward Current vs. Forward Voltage

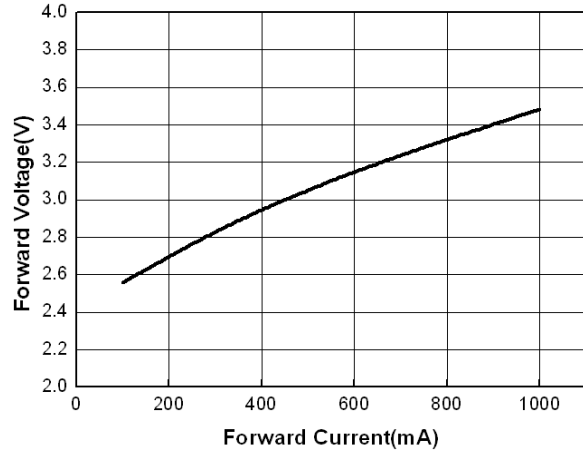


Fig.3 Angular Displacement  
Relative Radiant Intensity

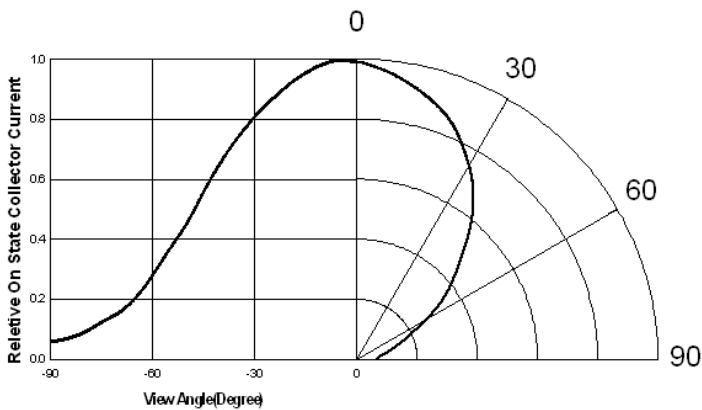


Fig.4 Spectral Distribution

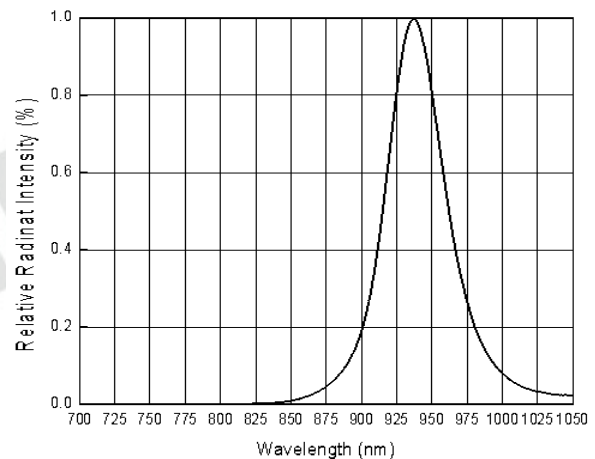
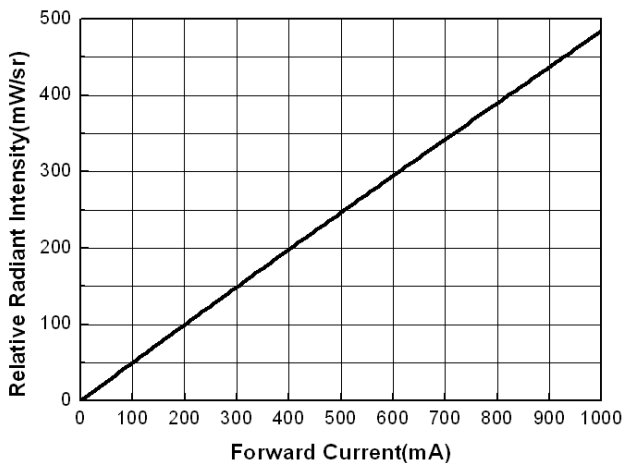


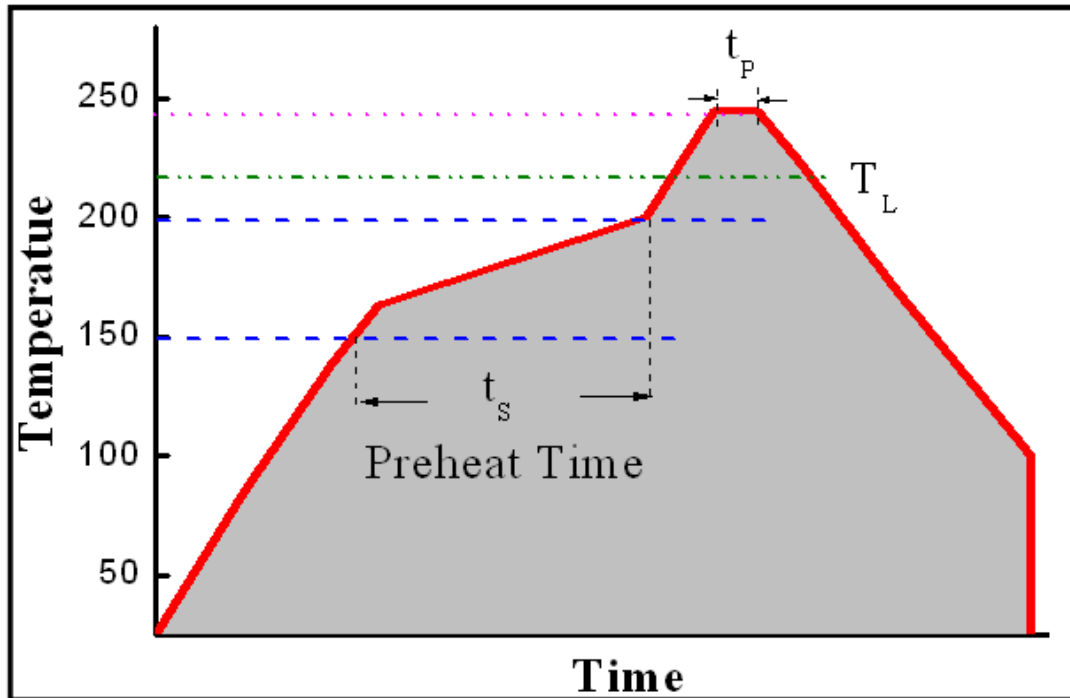
Fig.5 Forward Current vs. Radiant Intensity



## Reflow Soldering Characteristics

### For Reflow Process

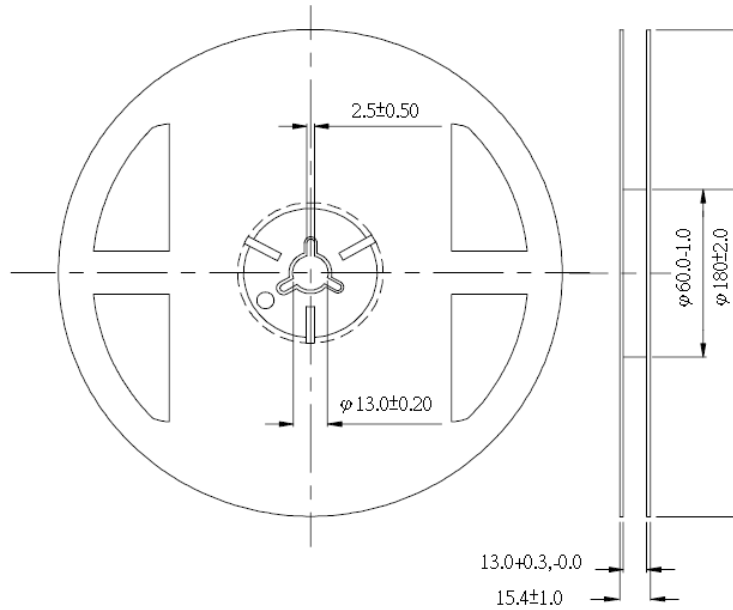
1. EAIST3535A1 series are suitable for SMT processes.
2. Curing of glue in oven must be according to standard operation flow processes.



Profile Feature	Lead Free Assembly
Ramp-Up Rate	2-3 °C/S
Preheat Temperature	150-200 °C
Preheat Time ( $t_s$ )	60-120 S
Liquid Temperature ( $T_L$ )	217 °C
Time maintained above $T_L$	60-90 S
Peak Temperature ( $T_P$ )	240±5 °C
Peak Time ( $t_p$ )	Max 20 S
Ramp-Down Rate	3-5 °C/S

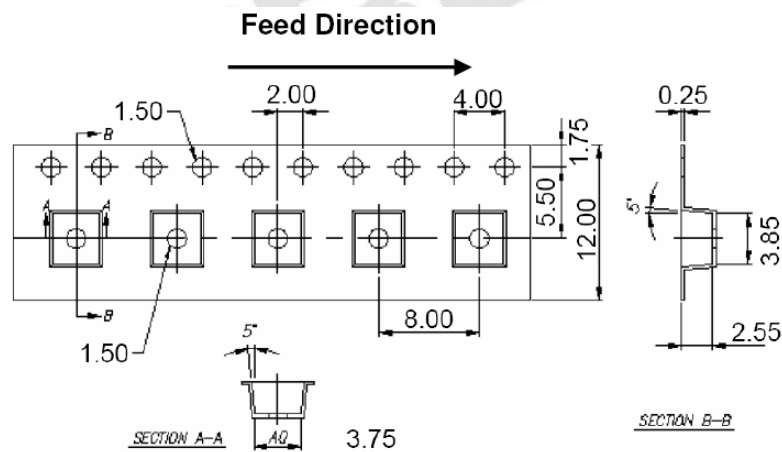
3. Reflow soldering should not be done more than twice.
4. In soldering process, stress on the LEDs during heating should be avoided.

**Package Dimensions**



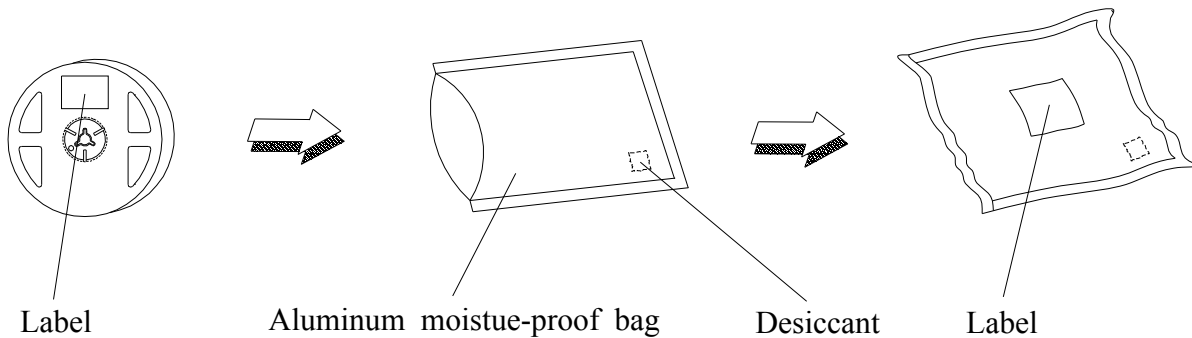
- Note:**
1. Dimensions are in millimeters
  2. The tolerances unless mentioned is  $\pm 0.1$ mm

**Carrier Tape Dimensions:**  
 Loaded quantity 400 PCS per reel.



- Note:**
1. Dimensions are in millimeters
  2. The tolerances unless mentioned is  $\pm 0.1$ mm

## Moisture Resistant Packaging



## 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  
MADE IN TAIWAN: Production Place

## Notes

1. Above specification may be changed without notice. Everlight Americas 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 Americas 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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