

Technical Data Sheet High Power Infrared LED EAIST3535A5



Features

- IR lightsource with high efficiency
- Double stack emitter
- Peak wavelength $\lambda_p=820\text{nm}$
- Centroid wavelength $\lambda_c=810\text{nm}$
- Soldering methods : SMT
- Narrow half angle (+/- 10°)
- 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

- EAIST3535A5 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

- Infrared Illumination
- Infrared applied system

Notes

- The product contains trace amounts of Sb compounds.

Device Selection Guide

| | |
|--------------|---------------|
| LED Part No. | Chip Material |
| EAIST3535A5 | GaAlAs |

Absolute Maximum Ratings (Ta=25°C)

| Parameter | Symbol | Rating | Unit |
|---|----------------|-----------|------|
| Continuous Forward Current | I _F | 500 | mA |
| Peak Forward Current*1 | IFP | 1.0 | A |
| Reverse Voltage | VR | 5 | V |
| Operating Temperature | Topr | -25~ +85 | °C |
| Storage Temperature | Tstg | -25 ~ +85 | °C |
| Junction temperature | Tj | 115 | °C |
| Thermal resistance (junction to leadframe) | Rth(j-L) | 10 | °C/W |
| Power Dissipation @IF=500mA | Pd | 1 | W |

Notes: *1: I_{FP} Conditions--Pulse Width ≤ 100μs and Duty ≤ 1%.

*2We suggest that customer should add the heat sink with NIR-C19M-A20/L763-P03/TR to exclude the heat.

Electro-Optical Characteristics (Ta=25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Condition |
|---|----------------|------|------|------|-------|-----------|
| Total Radiated Power (Pulse Mode) (IF = 1 A, tp = 10 ms) | Po | 420 | 470 | 520 | mW | IF=500mA |
| Radiant Intensity (Pulse Mode) | I _E | --- | 2700 | --- | mW/sr | IF=1000mA |
| Peak Wavelength | λ _p | --- | 820 | --- | nm | IF=1000mA |
| Centroid Wavelength | λ _c | --- | 810 | --- | nm | IF=1000mA |
| Spectral Bandwidth | Δλ | --- | 30 | --- | nm | IF=1000mA |
| Forward Voltage | V _F | --- | 4.2 | --- | V | IF=1000mA |
| Reverse Current | I _R | --- | -- | 10 | μA | VR=5V |
| View Angle | 2θ1/2 | --- | 20 | --- | deg | IF=20mA |

Bin Code List

Condition : I_F=1000mA

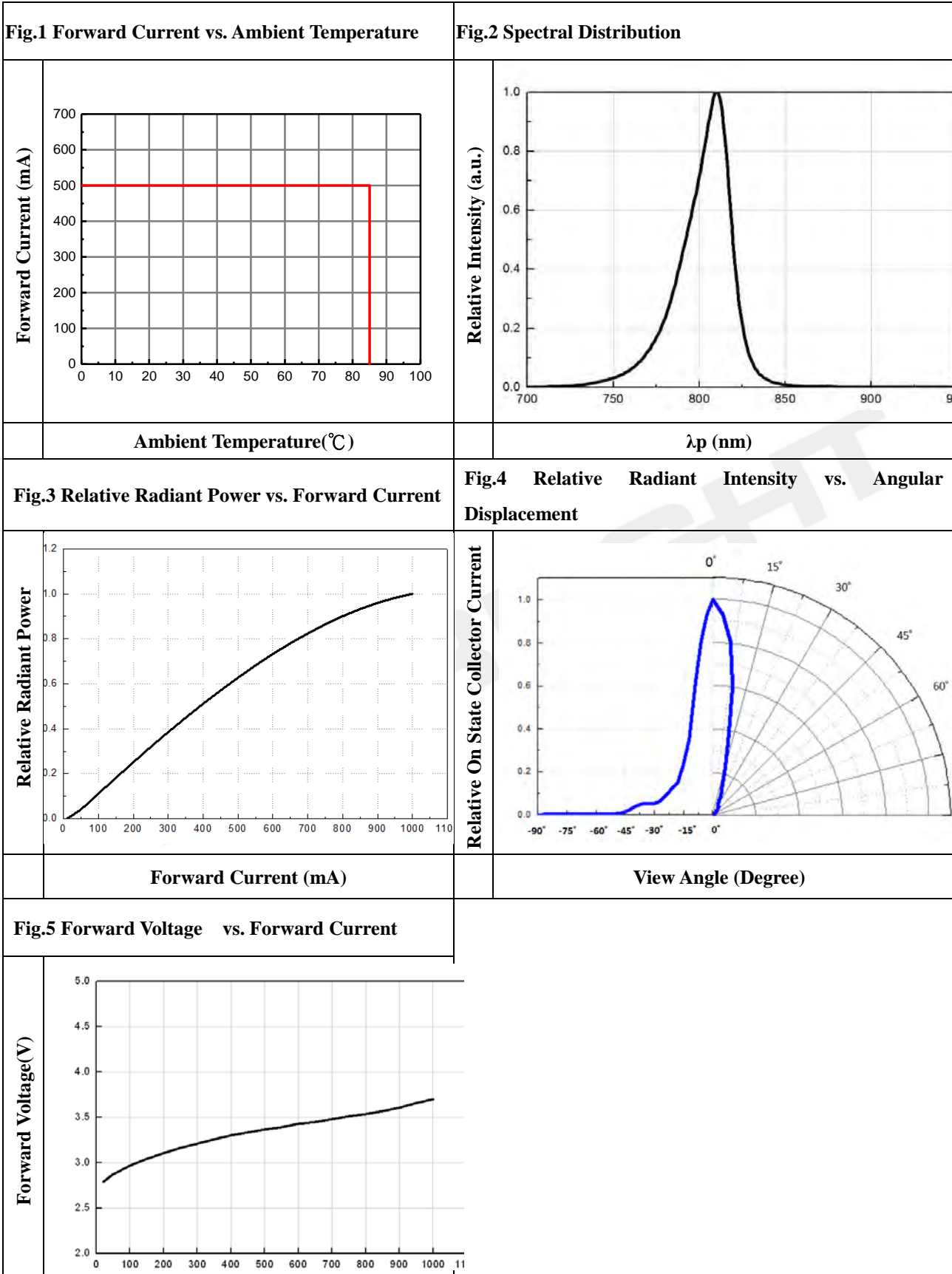
Unit : mW/sr

Radiated Power

| Bin Number | B | C | D |
|------------|------|------|------|
| Min | 2200 | 2600 | 3000 |
| Max | 2600 | 3000 | 3400 |

Including test tolerance ±10%

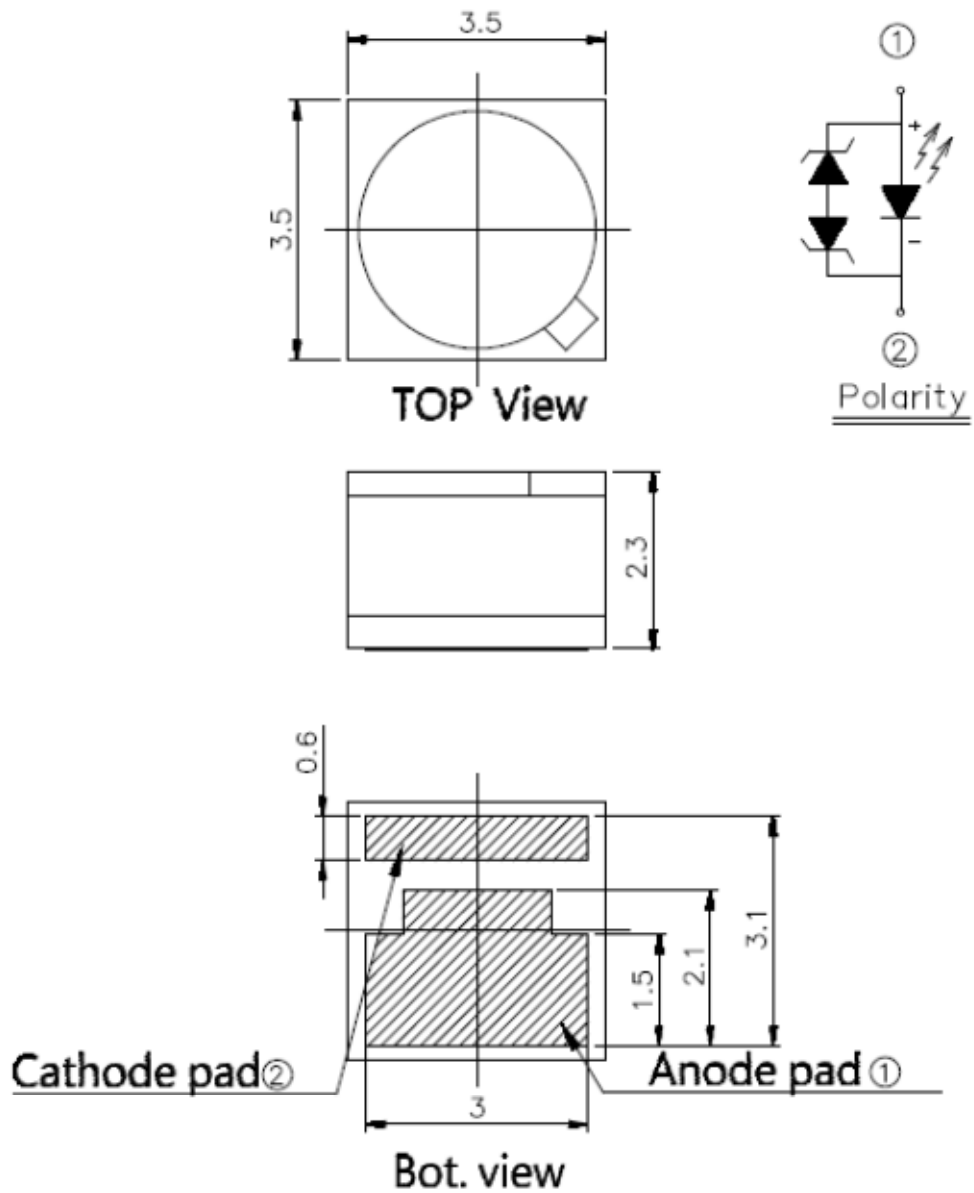
Typical Electro-Optical Characteristics Curves



Relative Radiant Intensity (%)

| | |
|--|----------------------|
| | Forward Current (mA) |
|--|----------------------|

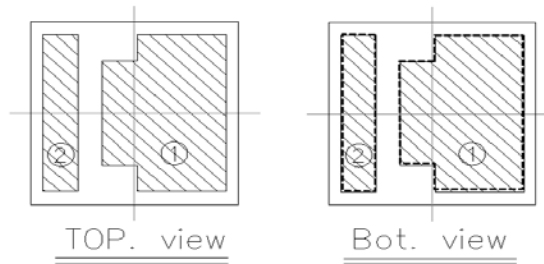
Package Dimension



Note:

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

Pad Configuration

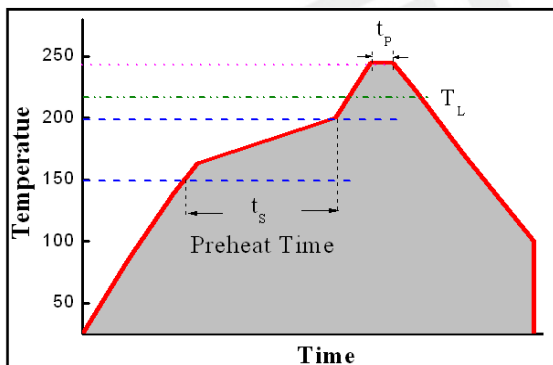


| PAD | FUNCTION |
|-----|----------------|
| 1 | ANODE |
| 2 | CATHODE |

Reflow Soldering Characteristics

For Reflow Process

- C19M series are suitable for SMT processes.
- 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 |

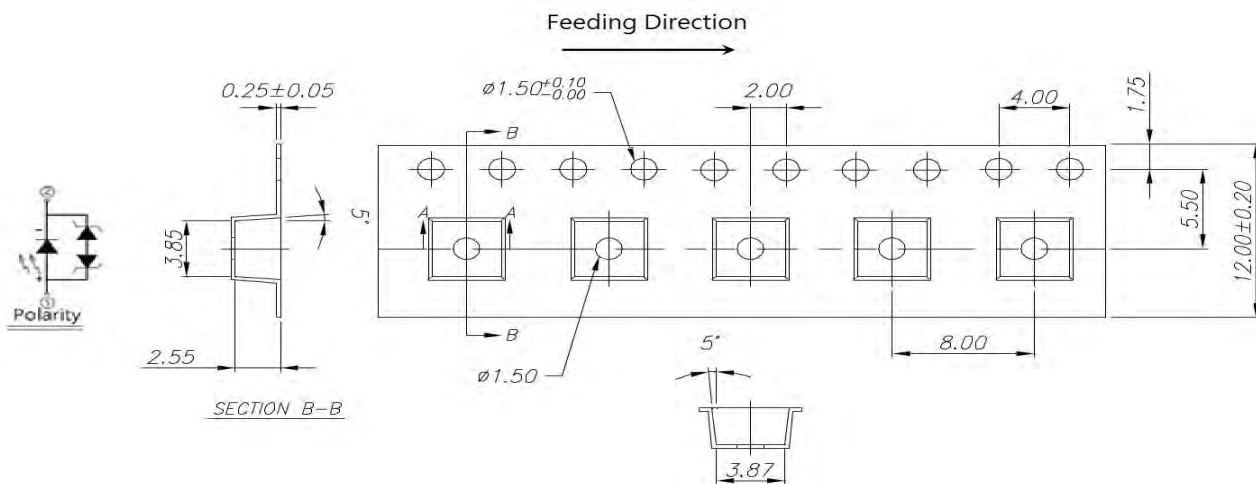
- Reflow soldering should not be done more than twice.
- In soldering process, stress on the LEDs during heating should be avoided.
- After soldering, do not bend the circuit board.

Moisture Resistant Packing Materials Product Labeling



- CPN : Customer's Product Number
- P/N : Everlight Product Number
- QTY : Packing Quantity
- CAT : Luminous Flux (Brightness) Bin
- HUE : Color Bin
- REF : Forward Voltage Bin
- LOT No : Lot Number

Carrier Tape Dimensions: Loaded Quantity 800 pcs Per Reel



Notes :

1. Dimensions are in millimeters.
2. Tolerances for fixed dimensions are $\pm 0.1\text{mm}$.

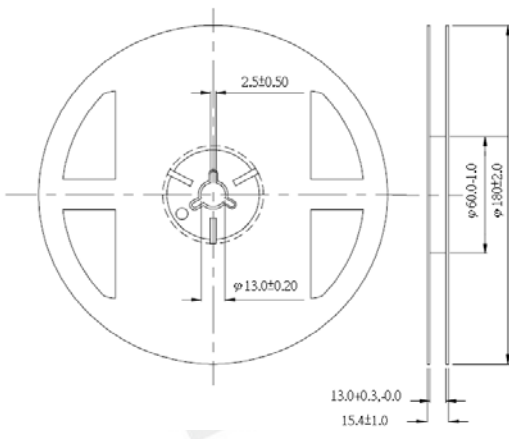
Moisture Resistant Packing Process



Notes:

1. Dimensions are in millimeters.
2. Tolerances unless mentioned are ± 0.1 mm.

Emitter Reel Dimensions



Notes:

1. Dimensions are in millimeters.
2. Tolerances unless mentioned are ± 0.1 mm.

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