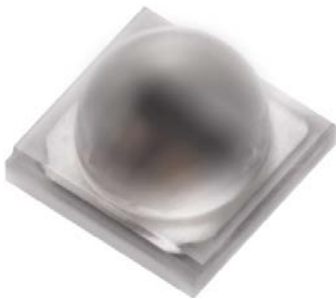


Technical Data Sheet

High Power Infrared LED

IR-C19D-N90/L562-P03/TR



Features

- Small package with high efficiency
- Peak wavelength $\lambda_p=940\text{nm}$
- Soldering methods:SMT
- Thermal resistance (junction to lead): 11°C/W .
- Pb free
- Compliance with EU REACH
- Compliance Halogen Free(Br < 900ppm, Cl < 900ppm, Br+Cl < 1500ppm)
- The product itself will remain within RoHS compliant version.

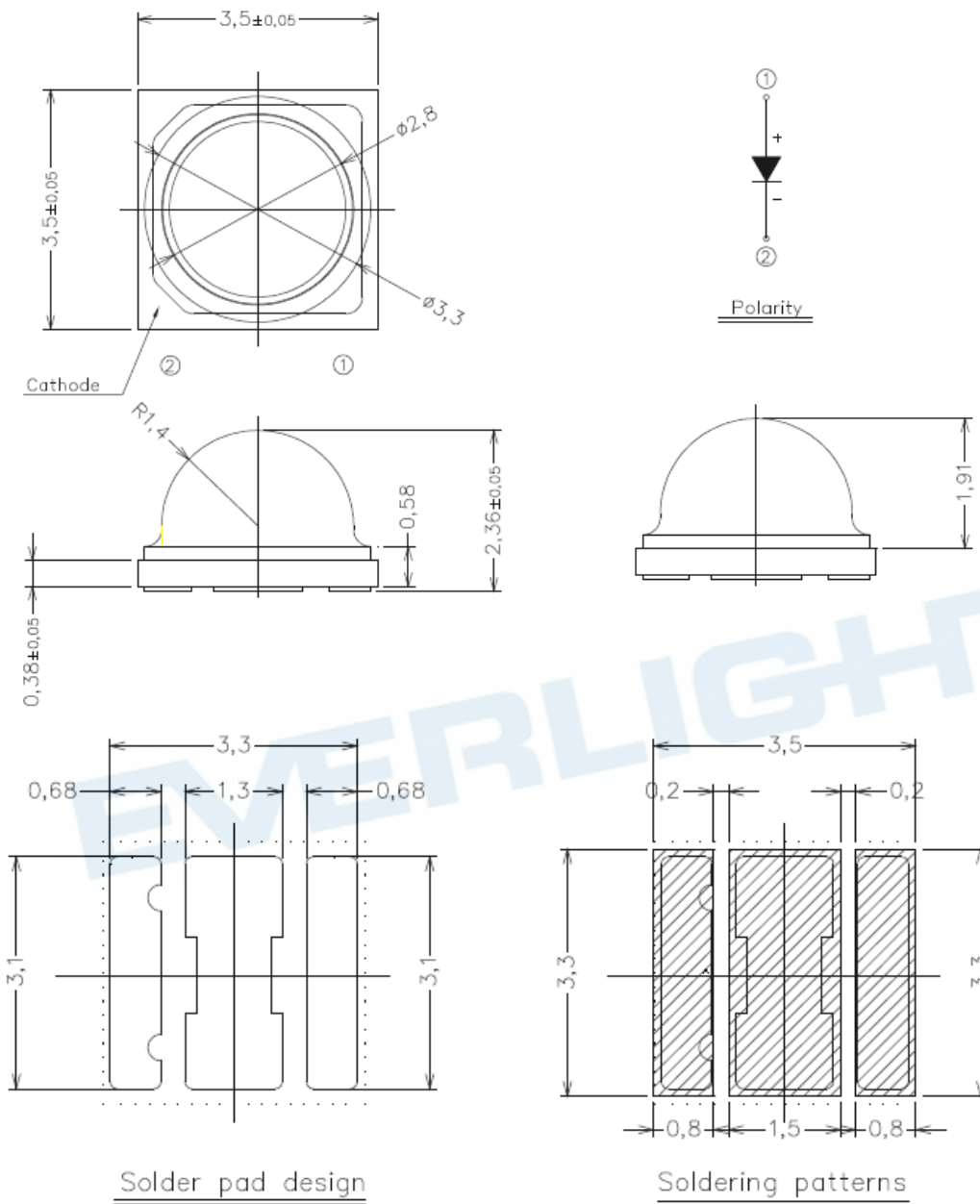
Descriptions

- IR-C19D-N90/L562-P03/TR 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

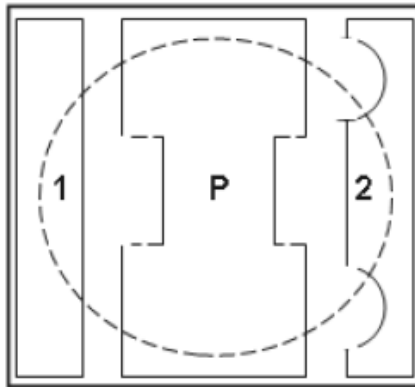
- CCD Camera
- Infrared applied system

Package Dimensions

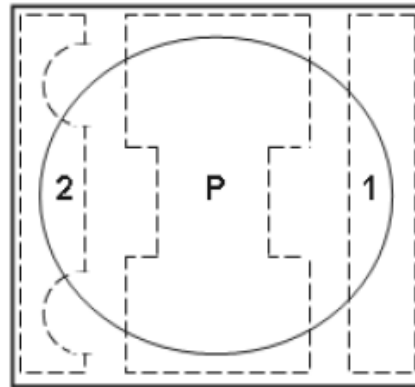


1. Dimensions are in millimeters.
2. Tolerances unless mentioned are ± 0.1 mm.
3. Do not handle the device by the lens. Incorrect force applied to the lens may lead to the failure of devices.

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 ~ +125 | °C |
| Storage Temperature | T_{stg} | -40 ~ +125 | °C |
| Junction temperature | T_j | 115 | °C |
| Thermal resistance (junction to leadframe) | $R_{th(j-L)}$ | 11 | °C/W |
| Power Dissipation @ $I_F=1000mA$ | P_d | 3.7 | W |

Note: We suggest that customer should add the heat sink with IR-C19D-N90/L562-P03/TR to exclude the heat.

Electro-Optical Characteristics (Ta=25°C)

| 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 | λ_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 | μ A |
| View Angle | 2 θ 1/2 | IF=20mA | -- | 90 | -- | deg |

Typical Electro-Optical Characteristics Curves

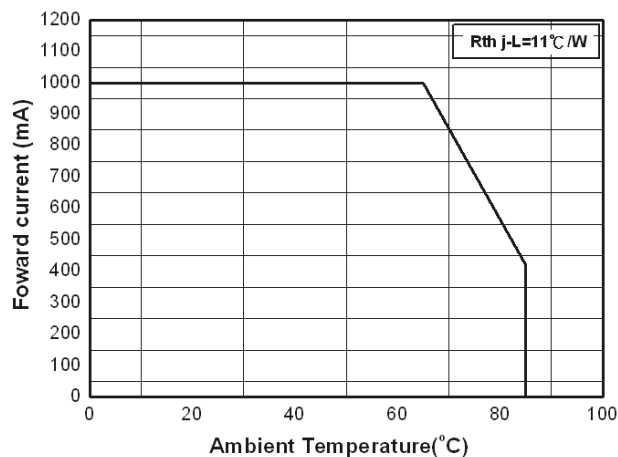
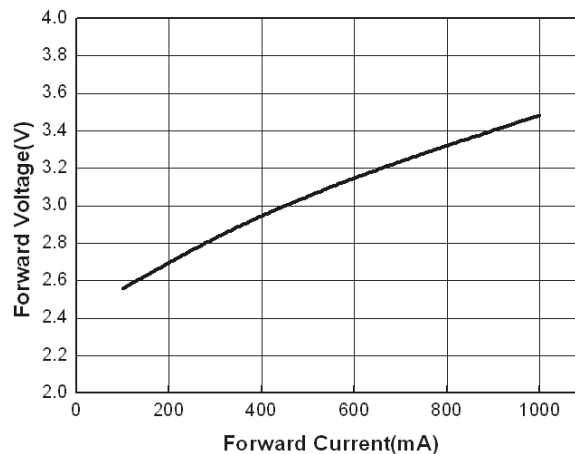
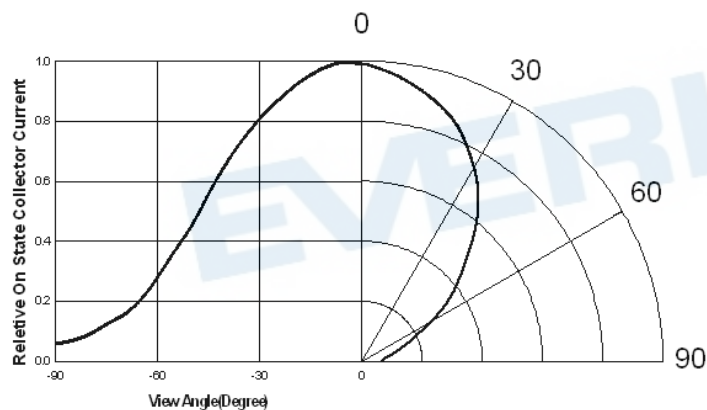
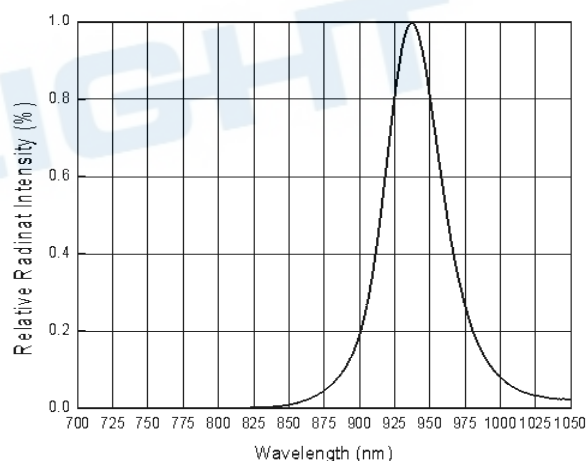
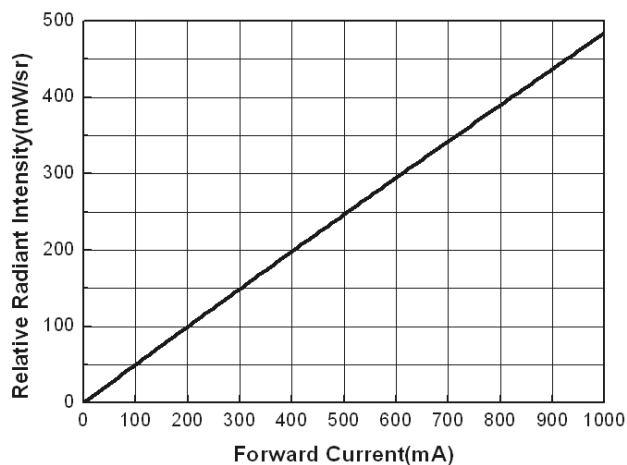
Fig.1 Ambient Temperature vs
Forward CurrentFig.2 Forward Current vs.
Forward VoltageFig.3 Angular Displacement
Relative Radiant Intensity

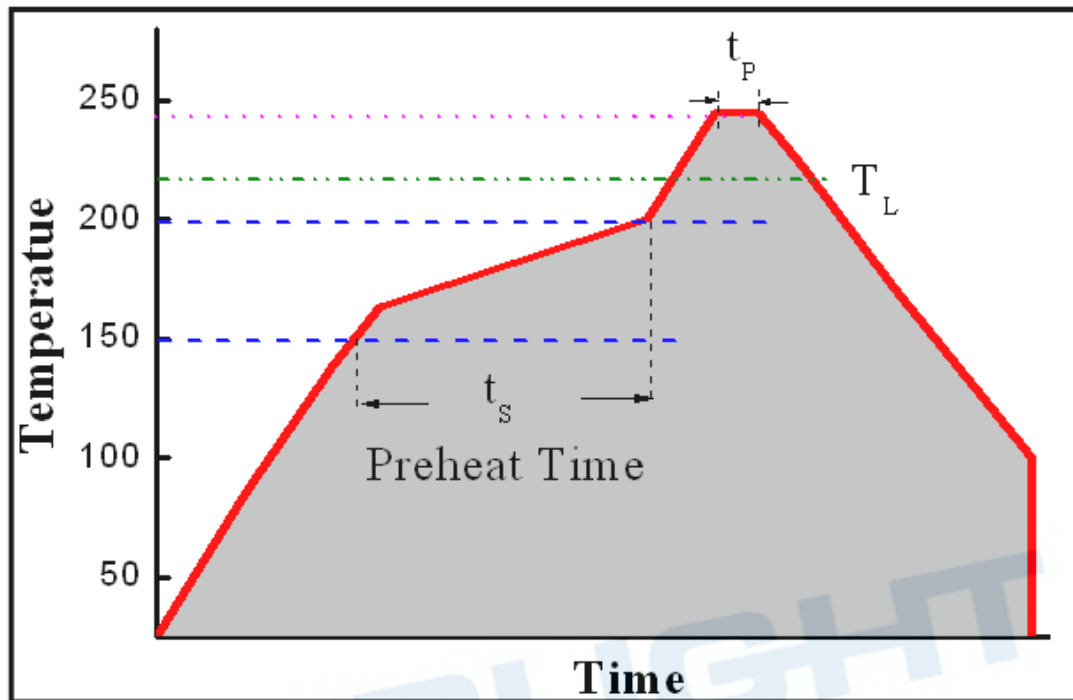
Fig.4 Spectral Distribution

Fig.5 Forward Current vs.
Radiant Intensity

Reflow Soldering Characteristics

For Reflow Process

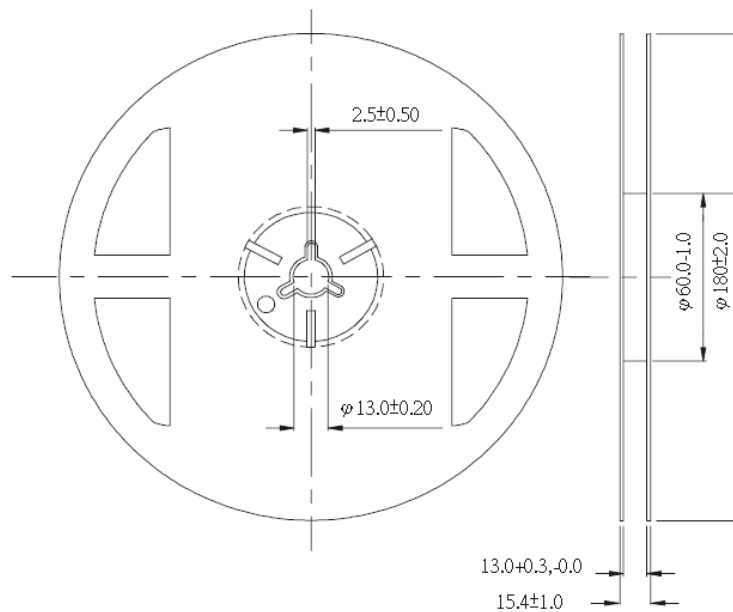
1. C19D series are suitable for SMT processes.
2. Curing of glue in oven must be according to standard operation flow processes.



| Profile Feature | Lead Free Assembly |
|------------------------------|------------------------------|
| Ramp-Up Rate | 2-3 $^\circ\text{C/S}$ |
| Preheat Temperature | 150-200 $^\circ\text{C}$ |
| Preheat Time (t_s) | 60-120 S |
| Liquid Temperature (T_L) | 217 $^\circ\text{C}$ |
| Time maintained above T_L | 60-90 S |
| Peak Temperature (T_p) | 240 \pm 5 $^\circ\text{C}$ |
| Peak Time (t_p) | Max 20 S |
| Ramp-Down Rate | 3-5 $^\circ\text{C/S}$ |

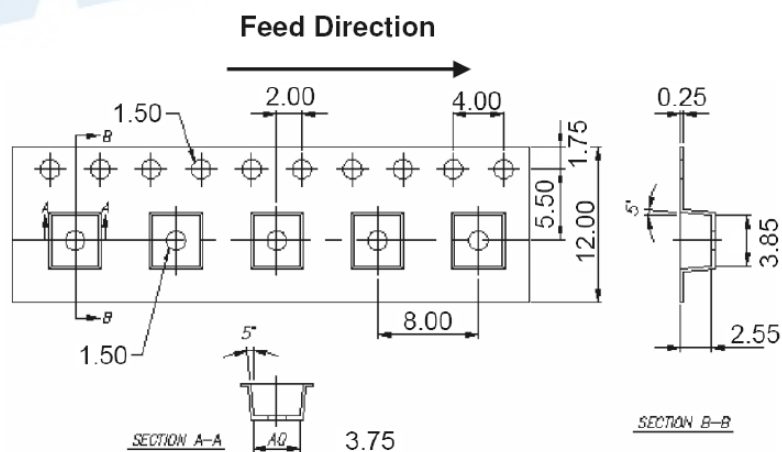
3. Reflow soldering should not be done more than twice.
4. In soldering process, stress on the LEDs during heating should be avoided.

Package Dimensions



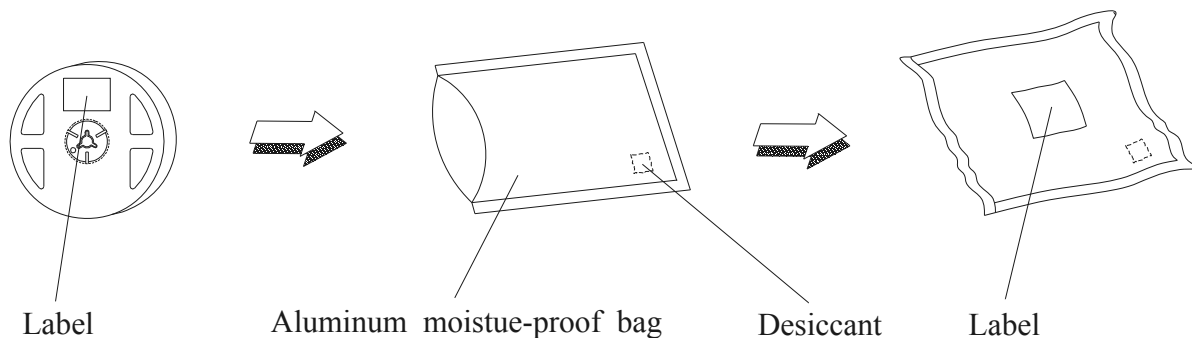
- Note:** 1. Dimensions are in millimeters
 2. The tolerances unless mentioned is $\pm 0.1\text{mm}$

Carrier Tape Dimensions:
 Loaded quantity 400 PCS per reel.



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

Moisture Resistant Packaging



Label Form Specification

| | | |
|--|------------------|---|
| RoHS | EVERLIGHT | 5 |
| CPN: XXXXXXXXXXXXXXXXXXXX | | |
| XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX | | |
| P/N: H21000003 IR-C19D-N90/L562-P03/TR | | |
| XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX | | |
| LOT NO: Y150716XXX-XXXXXXXXXX-XXXXXXXXXX | | |
| QTY: 400 HUE: XXXXXXXXXXXX | | |
| CAT: XXXXXXXXXXXX REF: XXXXXXXXXXXX | | |
| REFERENCE: BTPYYMMDDXXXXX | | |
| MADE IN TAIWAN | | |

- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number
- X: Month
- Reference: Identify Label Number

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DISCLAIMER

1. EVERLIGHT reserves the right(s) on the adjustment of product material mix for the specification.
2. The product meets EVERLIGHT published specification for a period of twelve (12) months from date of shipment.
3. The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
4. 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 the 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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