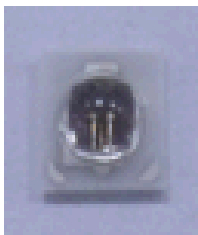


### Technical Data Sheet

### High Power Infrared LED

### IR-C19-N/L482-P01/TR



#### Features

- Small package with high efficiency
- Peak wavelength  $\lambda_p=940\text{nm}$
- Soldering methods:SMT
- Thermal resistance (junction to lead):  $20^\circ\text{C}/\text{W}$ .
- Pb free
- The product itself will remain within RoHS compliant version.

## Description

- IR-C19-N/L482-P01/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

## Device Selection Guide

LED Part No.	Chip Material	Lens Color
IR-C19-N/L482-P01/TR	GaAIAs	Water clear

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

Parameter	Symbol	Rating	Unit
Continuous Forward Current	$I_F$	1000	mA
Peak Forward Current *1	$I_{FP}$	1.2	A
Reverse Voltage	$V_R$	5	V
Operating Temperature	$T_{opr}$	-40~ +85	°C
Storage Temperature	$T_{stg}$	-40 ~ +100	°C
Junction temperature	$T_j$	115	°C
Thermal resistance (junction to leadframe)	$R_{th(j-L)}$	20	°C/W
Power Dissipation @ $I_F=700mA$	$P_d$	1	W

Notes: \*1: $I_{FP}$  Conditions--Pulse Width  $\leq 100\mu s$  and Duty  $\leq 1\%$ .

\*2Note: We suggest that customer should add the heat sink with IR-C19-N/L482-P01/TR to exclude the heat.

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Total Radiated Power	$P_o$	200	235	--	mW	$I_F=350mA$
		400	465	--		$I_F=700mA$
		600	660	--		$I_F=1000mA$
Radiant Intensity	$I_E$	40	75	--	mWsr	$I_F=350mA$
		100	155	--		$I_F=700mA$
		160	220	--		$I_F=1000mA$
Peak Wavelength	$\lambda_p$	925	940	955	nm	$I_F=350mA$
Spectral Bandwidth	$\Delta\lambda$	--	30	--	nm	$I_F=350mA$
Forward Voltage	$V_F$	--	1.6	1.9	V	$I_F=350mA$
		--	1.9	2.2		$I_F=700mA$
		--	2.1	2.4		$I_F=1000mA$
Reverse Current	$I_R$	--	--	10	$\mu A$	$V_R=5V$
View Angle	$2\theta_{1/2}$	--	105	--	deg	$I_F=20mA$

Including test tolerance  $\pm 10\%$

Fig.1 Forward Current vs. Ambient Temperature

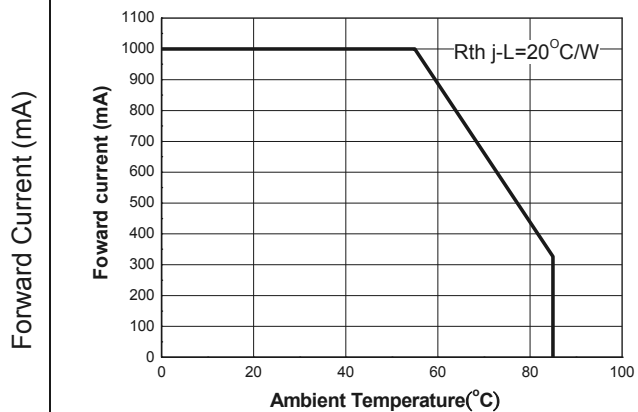


Fig.2 Spectral Distribution

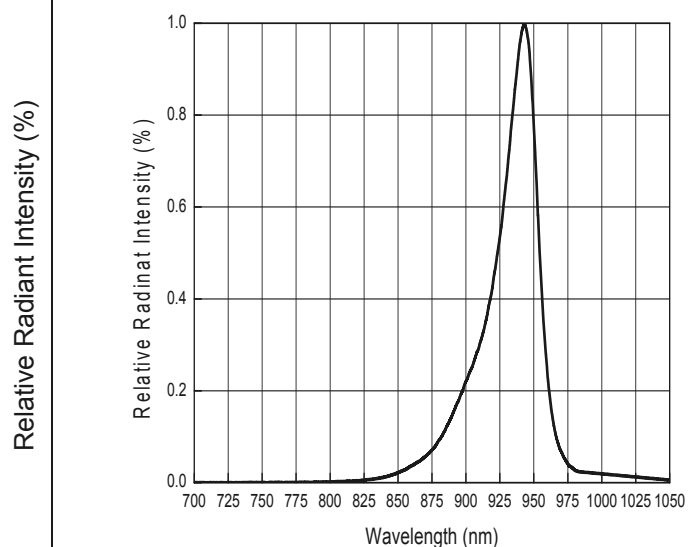


Fig.3 Total Radiated Power vs. Forward Current

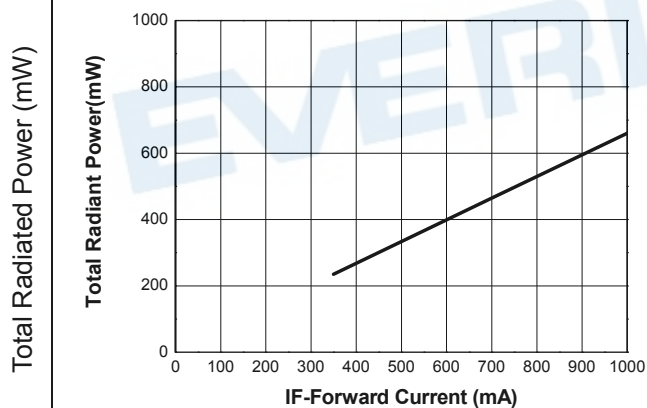
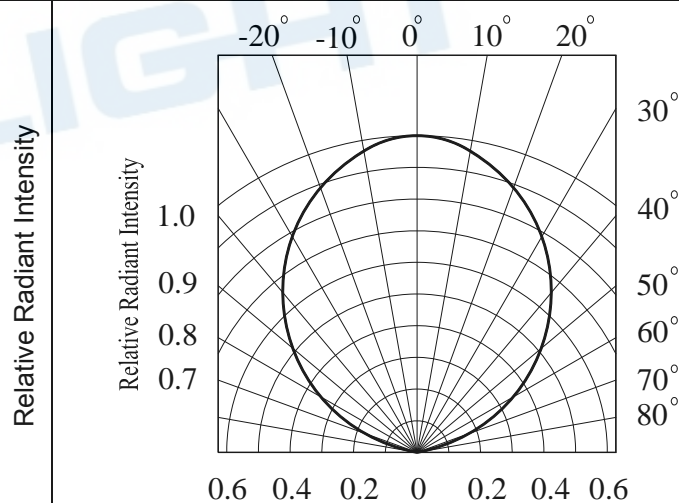
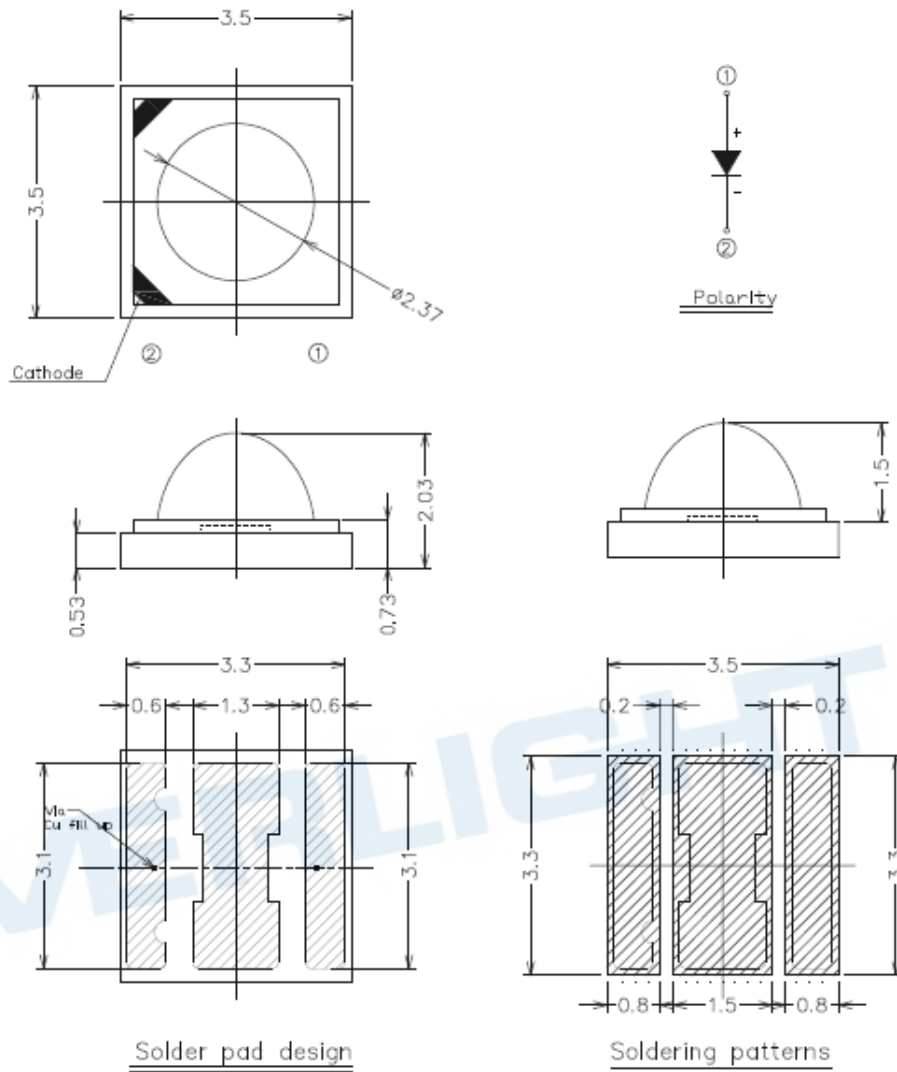


Fig.4 Relative Radiant Intensity vs. Angular Displacement

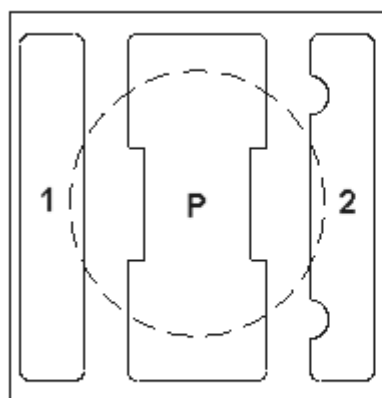


Package Dimension

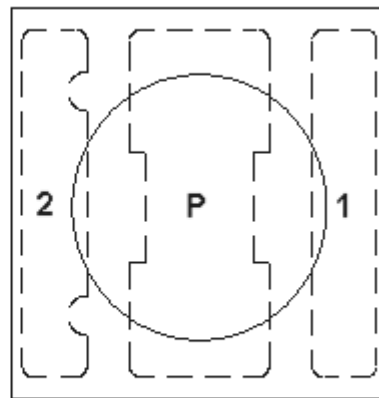


1. Dimensions are in millimeters.
2. Tolerances unless mentioned are  $\pm 0.1\text{mm}$ .
3. Do not handle the device by the lens. Incorrect force applied to the lens may lead to the failure of devices.

## Pad Configuration



BOTTOM VIEW



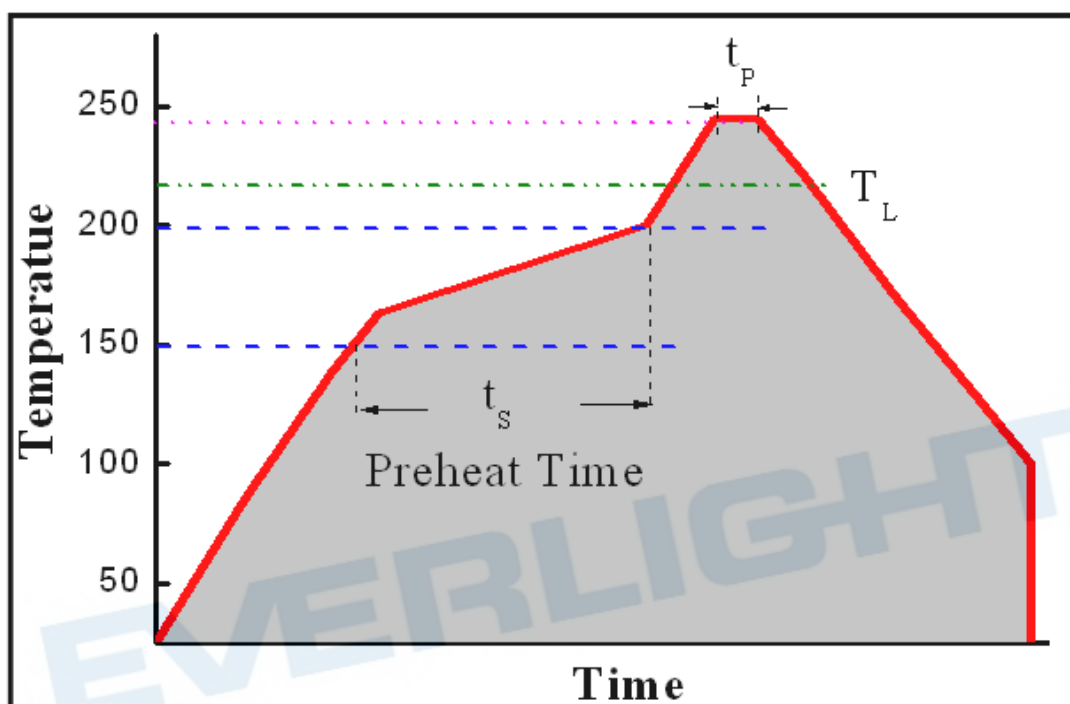
TOP VIEW

PAD	FUNCTION
1	<b>ANODE</b>
2	<b>CATHODE</b>
P	THERMAL PAD

## Reflow Soldering Characteristics

### For Reflow Process

- C19 series are suitable for SMT processes.
- Curing of glue in oven must be according to standard operation flow processes.

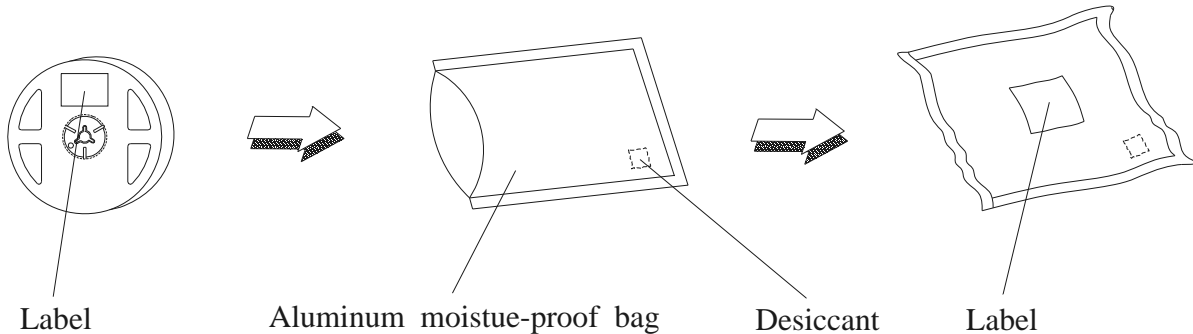


Profile Feature	Lead Free Assembly
Ramp-Up Rate	2-3 °C/S
Preheat Temperature	150-200 °C
Preheat Time ( $t_s$ )	60-120 S
Liquid Temperature ( $T_L$ )	217 °C
Time maintained above $T_L$	60-90 S
Peak Temperature ( $T_P$ )	240±5 °C
Peak Time ( $t_p$ )	Max 20 S
Ramp-Down Rate	3-5 °C/S

- 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.

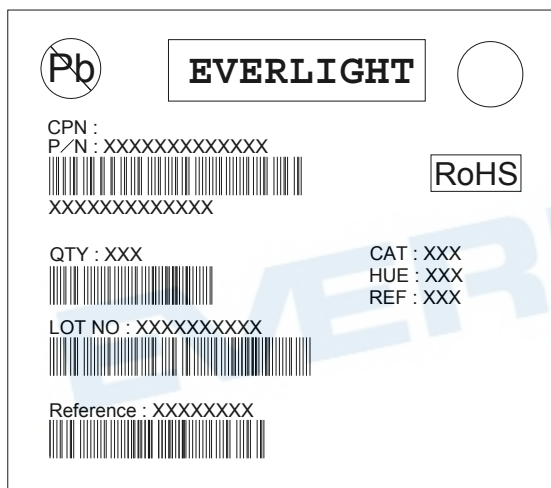


## Moisture Resistant Packaging



## Moisture Resistant Packing Materials

### 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 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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