

Technical Data Sheet

High Power Infrared LED

Preliminary

HIR-C19D/L298-P01/TR**Features**

- Small package with high efficiency
- Peak wavelength $\lambda_p=855\text{nm}$
- Soldering methods:SMT
- Thermal resistance (junction to lead): $40^\circ\text{C}/\text{W}$.
- Pb free
- The product itself will remain within RoHS compliant version.

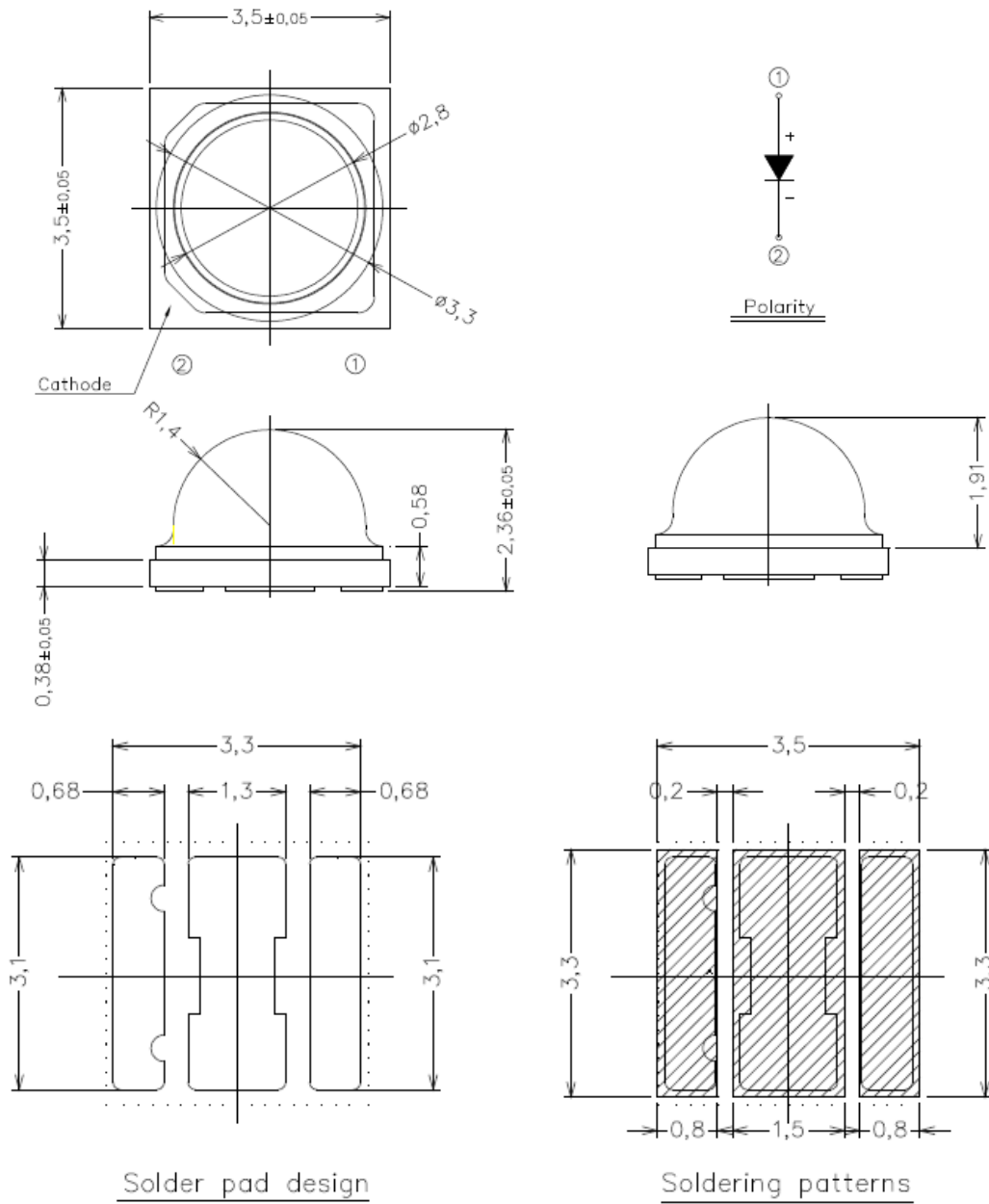
Descriptions

- HIR-C19D/L298-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

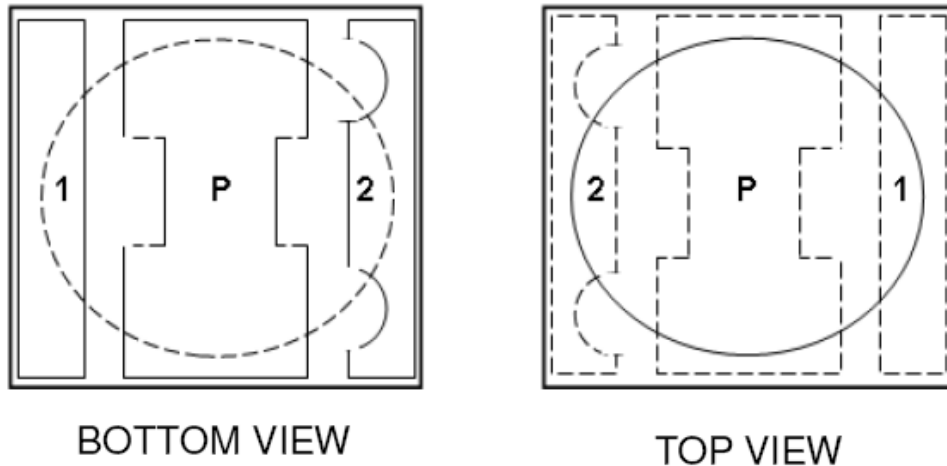
- CCD Camera
- Infrared applied system

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



PAD	FUNCTION
1	ANODE
2	CATHODE
P	THERMAL PAD

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Forward Current	I_F	700	mA
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)	$R_{th(j-L)}$	40	°C/W
Power Dissipation @ $I_F=700mA$	P_d	1	W

Note: We suggest that customer should add the heat sink with HIR-C19D/L298-P01/TR to exclude the heat.

HIR-C19D/L298-P01/TR

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Total Radiated Power	Po	I _F =350mA	200	260	--	mW
		I _F =700mA	400	500	--	
Radiant Intensity	I _E	I _F =350mA	60	85	--	mW/sr
		I _F =700mA	145	165	--	
Peak Wavelength	λ _p	I _F =350mA	--	855	--	nm
Spectral Bandwidth	Δ λ	I _F =350mA	--	25	--	nm
Forward Voltage	V _F	I _F =350mA	1.4	1.7	2.2	V
		I _F =700mA	1.5	1.9	2.5	
Reverse Current	I _R	V _R =5V	--	--	10	μ A
View Angle	2 θ 1/2	I _F =20mA	--	100	--	deg

Bin Code List

Radiated Power

Condition : I_F=350mA

Unit : mW

Bin Number	D	E	F
Min	200	275	350
Max	280	360	440

Including test tolerance ±10%

HIR-C19D/L298-P01/TR

Typical Electro-Optical Characteristics Curves

Fig.1 Forward Current vs. Ambient Temperature

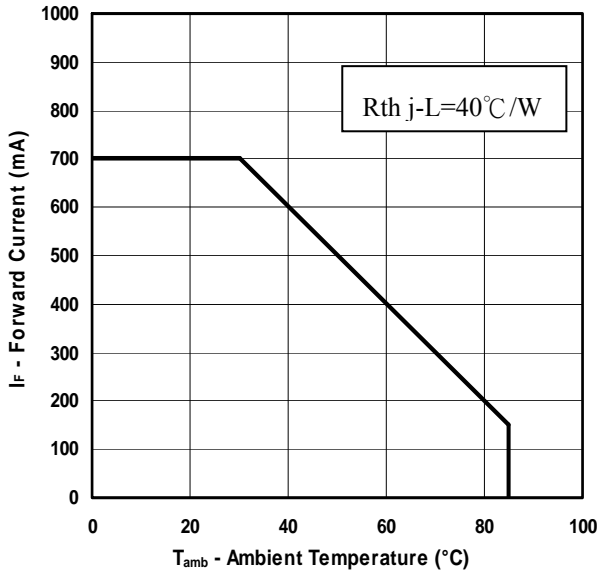


Fig.2 Spectral Distribution

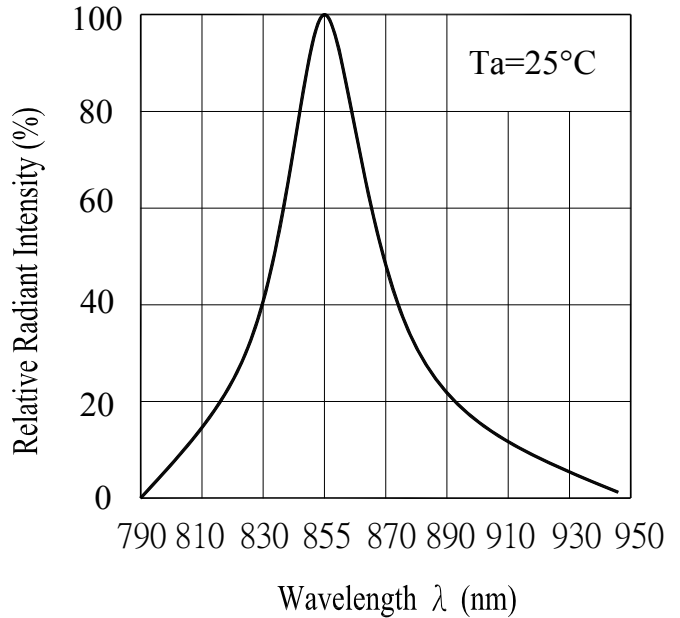


Fig.3 Total Radiated Power vs. Forward Current

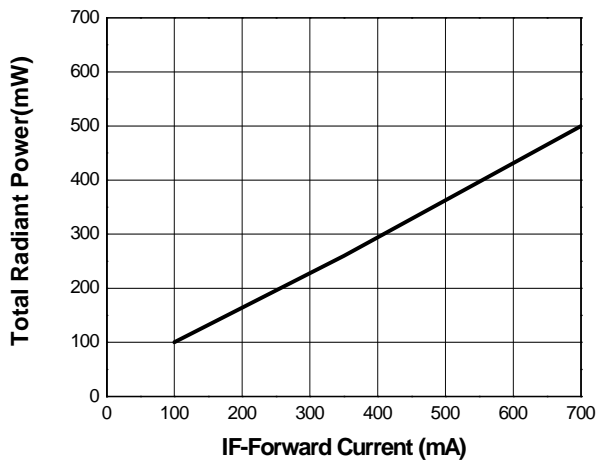
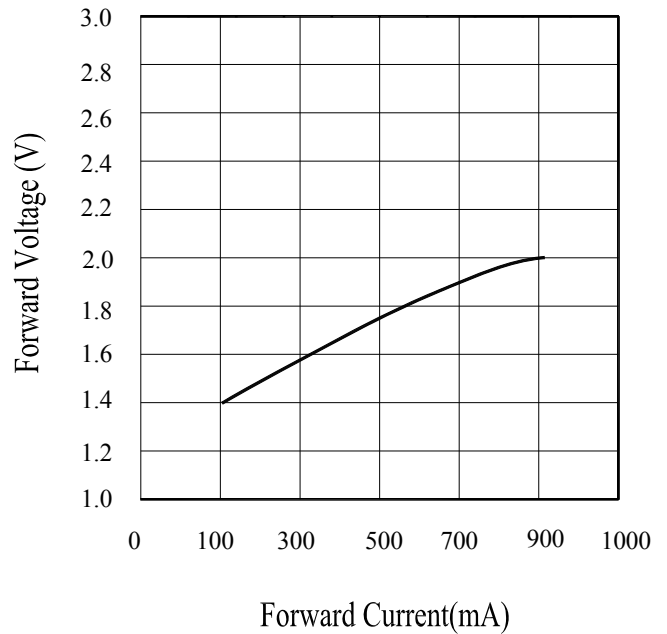
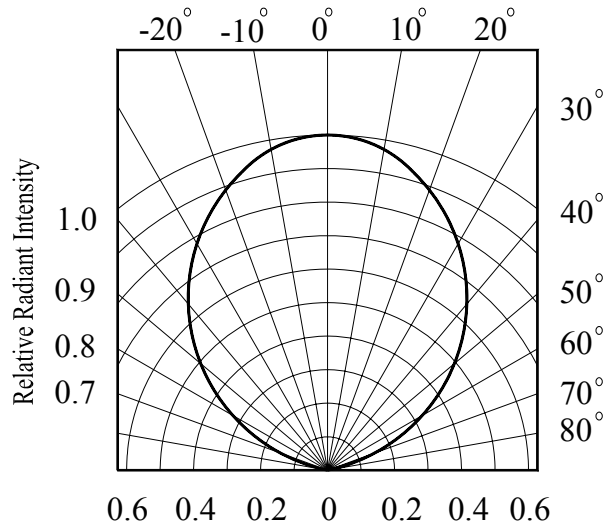


Fig.4 Forward Current vs. Forward Voltage



Typical Electro-Optical Characteristics Curves

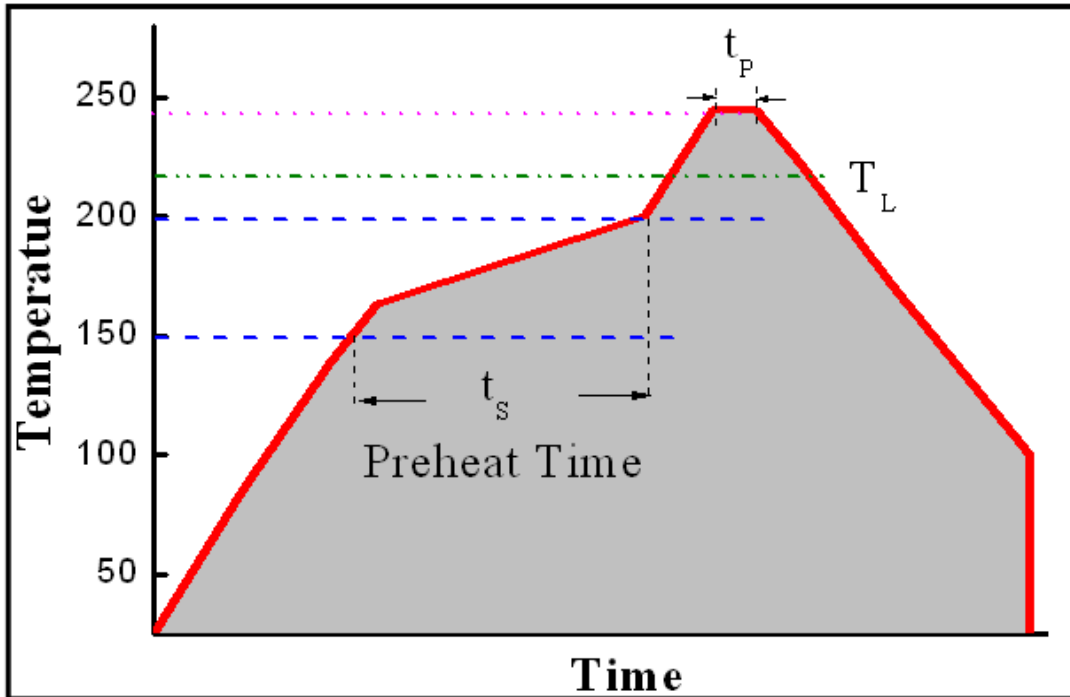
Fig.5 Relative Radiant Intensity vs. Angular Displacement



Reflow Soldering Characteristics

For Reflow Process

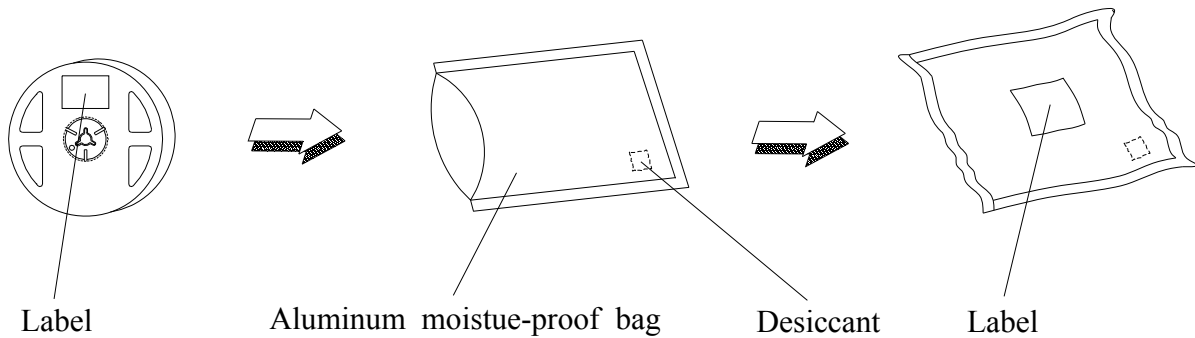
- a. C19 series are suitable for SMT processes.
- b. Curing of glue in oven must be according to standard operation flow processes.



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

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

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 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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