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DATASHEET

Technical Data Sheet

High Power Infrared LED

HIR-C16/L572-P01/TR



Features

- Small package with high efficiency
- Soldering methods:SMT
- Pb free
- The product itself will remain within RoHS compliant version.
- Compliance with EU REACH
- Compliance Halogen Free(Br < 900ppm, Cl < 900ppm, Br+Cl < 1500ppm)
- Peak wavelength $\lambda_p=850\text{nm}$
- Thermal resistance (junction to lead): 18°C/W .

Description

- HIR-C16/L572-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
HIR-C16/L572-P01/TR	GaAlAs

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Continuous Forward Current	I _F	350	mA
Peak Forward Current *1	IFP	1.0	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)}	18	°C/W
Power Dissipation @I _F =500mA	P _d	1	W

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

*2Note: We suggest that customer should add the heat sink with HIR-C16/L572-P01/TR to exclude the heat.

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Total Radiated Power	P _o	150	210	--	mW	I _F =350mA
		200	270	--		I _F =500mA
		400	500	--		I _F =1000mA
Radiant Intensity	I _E	--	65	--	mWsr	I _F =350mA
Peak Wavelength	λ _p	--	850	--	nm	I _F =350mA
Spectral Bandwidth	Δλ	--	40	--	nm	I _F =350mA
Forward Voltage	V _F	1.4	2.0	--	V	I _F =350mA
		1.6	2.2	--		I _F =500mA
Reverse Current	I _R	--	--	10	μA	V _R =5V
View Angle	2θ1/2	--	130	--	deg	I _F =20mA

Bin Code List

Condition : $I_F=350\text{mA}$

Unit : mW

Radiated Power

Bin Number	A	B	C
Min	150	200	250
Max	200	250	300

Including test tolerance $\pm 10\%$

Fig.1 Forward Current vs. Ambient Temperature

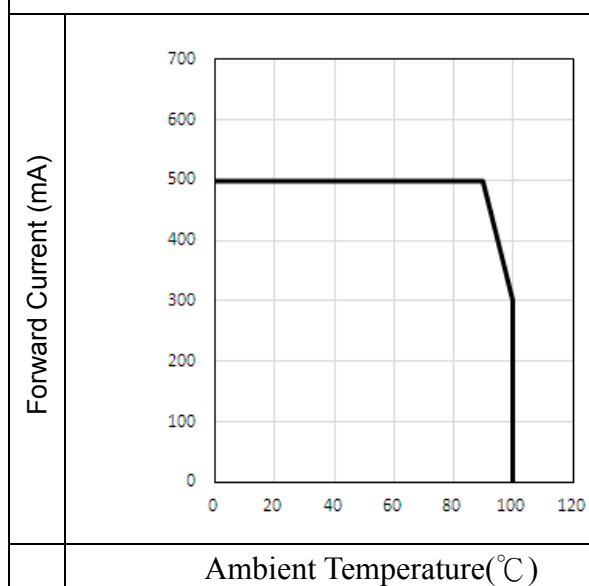


Fig.2 Spectral Distribution

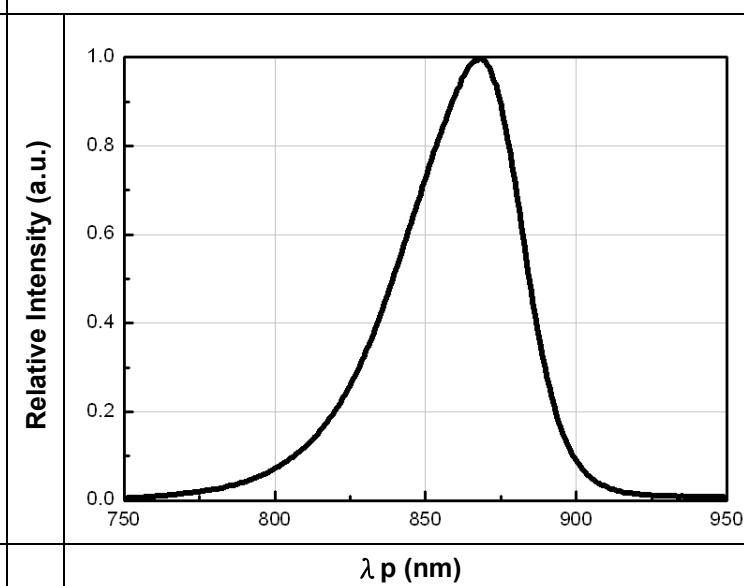


Fig.3 Radiant Intensity vs. Forward Current

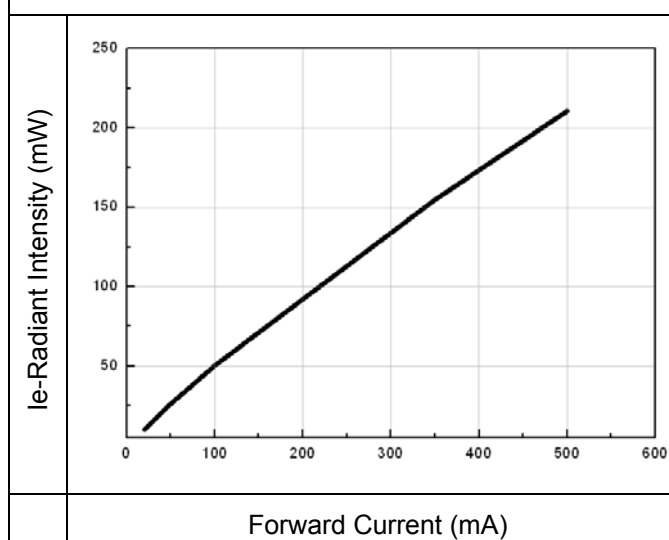
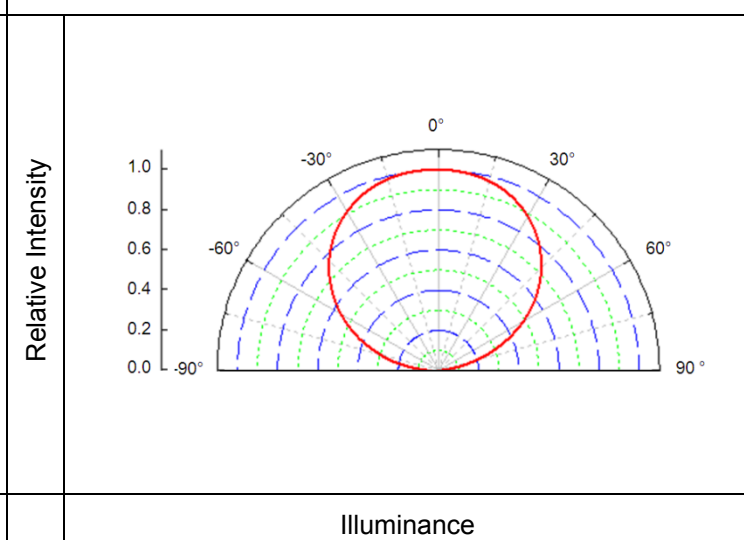
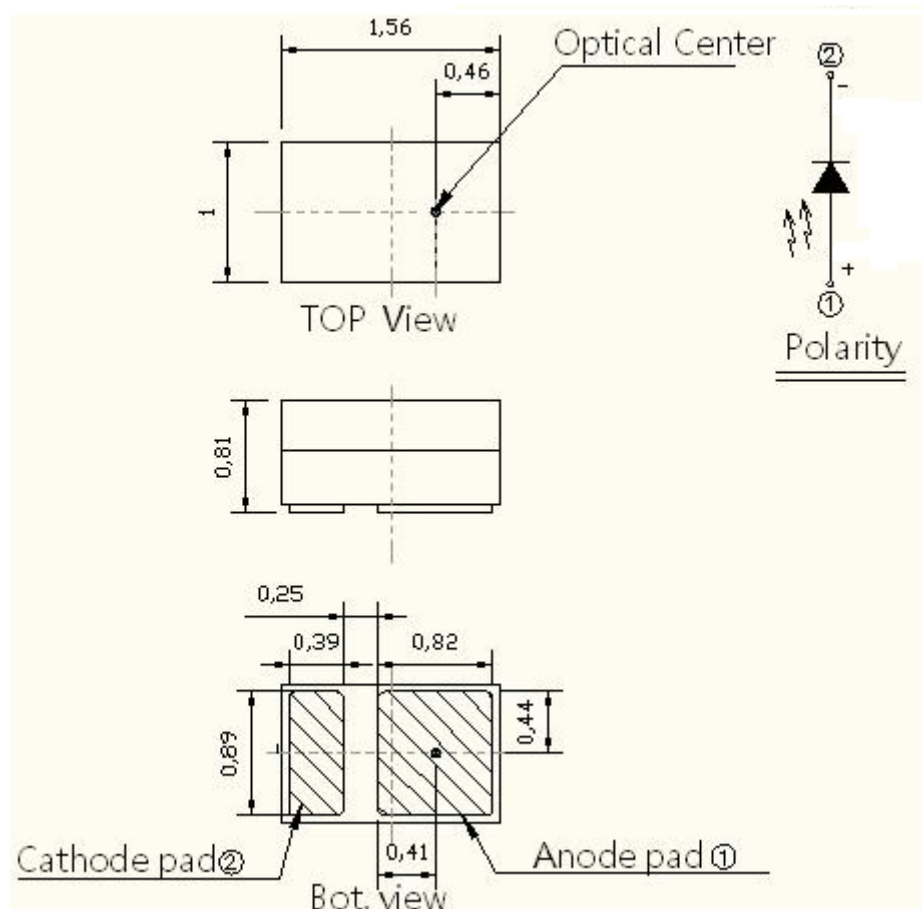


Fig.4 Typical Polar Radiation Pattern for Lambertian



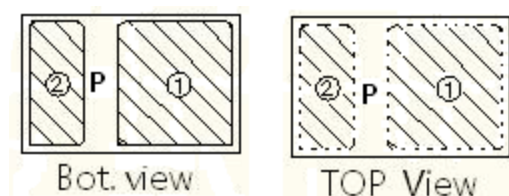
Package Dimension



Note:

1. Dimensions are in millimeters.
2. Tolerances unless mentioned are $\pm 0.1\text{mm}$.

Pad Configuration

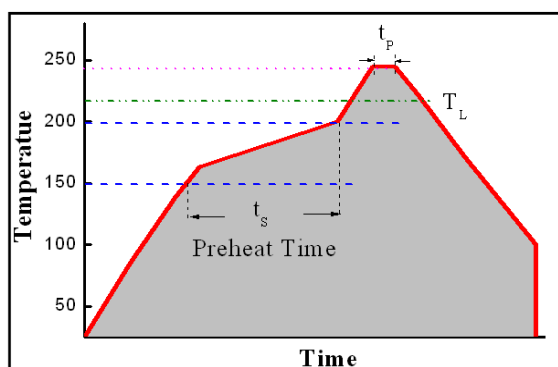


PAD	FUNCTION
1	ANODE
2	CATHODE
P	THERMAL PAD

Reflow Soldering Characteristics

For Reflow Process

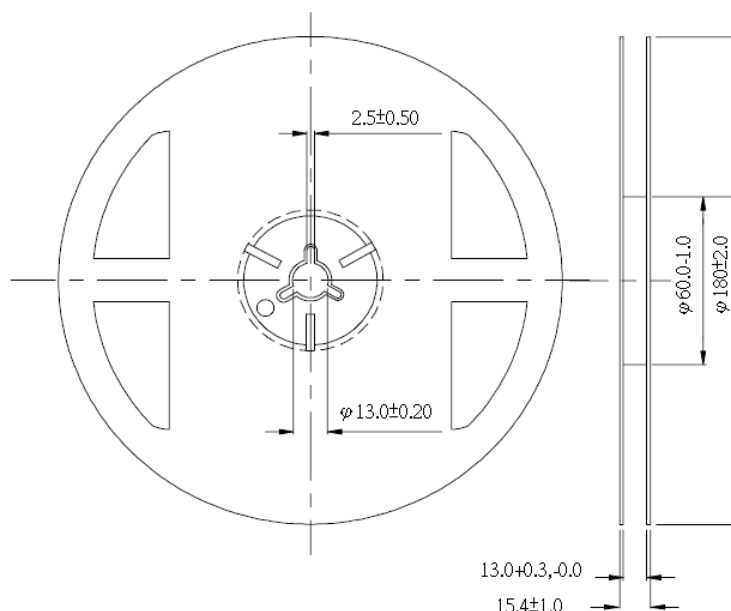
- C16 series are suitable for SMT processes.
- Curing of glue in oven must be according to standard operation flow processes.



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

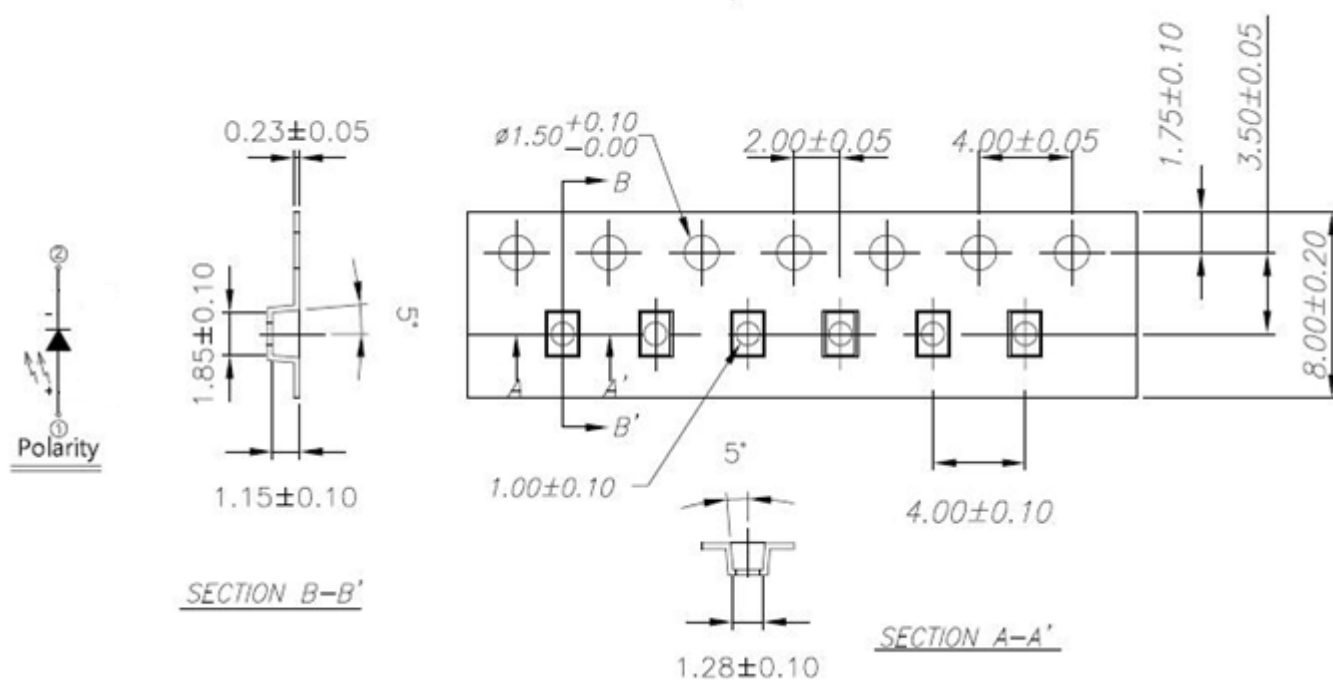
- Reflow soldering should not be done more than twice.
- In soldering process, stress on the LEDs during heating should be avoided.
- After soldering, do not bend the circuit board.

Package Dimensions



- Note: 1. Dimensions are in millimeters
2. The tolerances unless mentioned is ±0.1mm

Progress Direction



2. The tolerances unless mentioned is $\pm 0.1\text{mm}$

Label

Aluminum moisture-proof bag

Desiccant

Label

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

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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