

Technical Data Sheet

High Power Infrared LED

Preliminary

HIR-S06-P120/L649-P03/TR

Features

- Small package with high efficiency
- Peak wavelength $\lambda_p = 850$ nm
- Soldering methods: SMT
- 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.
- ESD : 2kV



Description

- HIR-S06-P120/L649-P03/TR series is an infrared emitting diode in miniature SMD package which is molded in a water clear epoxy with flat top view lens.
- The device is spectrally matched with silicon photo diode, phototransistor.

Applications

- CCD Camera
- Infrared applied system

Device Selection Guide

LED Part No.	Chip Material	Lens Color
HIR-S06-P120/L649-P03/TR	GaAIAs	Water clear

Absolute Maximum Ratings ($T_A=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Continuous Forward Current	I_F	1000	mA
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-40 ~ +100	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 ~ +100	$^\circ\text{C}$
Junction temperature	T_j	115	$^\circ\text{C}$
Power Dissipation @ $I_F=700\text{mA}$	P_d	3	W

Notes: We suggest that customer should add the heat sink with HIR-S06-P120/L649-P03/TR to exclude the heat.

Electro-Optical Characteristics ($T_A=25^\circ\text{C}$)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Total Radiated Power	P_o	--	340	--	mW	$I_F=350\text{ mA}$
		--	650	--		$I_F=700\text{ mA}$
		--	890	--		$I_F=1\text{ A}$
Radiant Intensity	I_E	--	115	--	mW/sr	$I_F=350\text{ mA}$
		--	220	--		$I_F=700\text{ mA}$
		--	290	--		$I_F=1\text{ A}$
Peak Wavelength	λ_P	--	850	--	nm	$I_F=350\text{ mA}$
Spectral Bandwidth	$\Delta\lambda$	--	25	--	nm	$I_F=350\text{ mA}$
Forward Voltage	V_F	--	3.10	--	V	$I_F=350\text{ mA}$
		--	3.25	--		$I_F=700\text{ mA}$
		--	3.45	--		$I_F=1\text{ A}$
Reverse Current	I_R	--	--	10	μA	$V_R=5\text{ V}$
View Angle	$2\theta_{1/2}$	--	120	--	deg	$I_F=20\text{ mA}$

Typical Electro-Optical Characteristics Curves

Fig.1

Forward Current vs. Forward Voltage

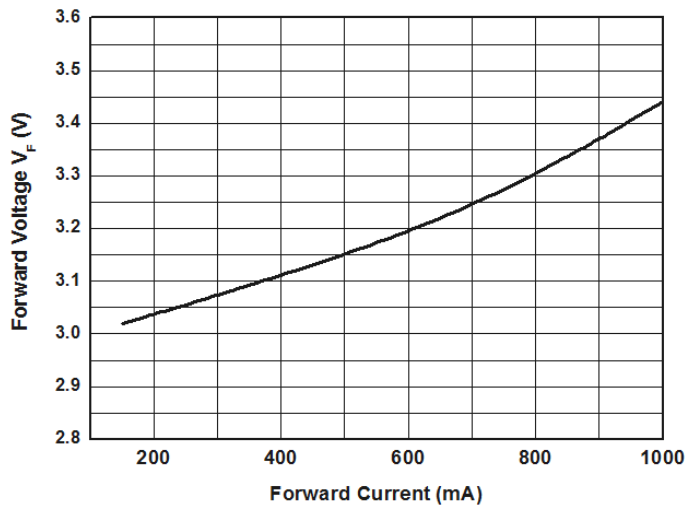


Fig.2

Forward Current vs. Intensity

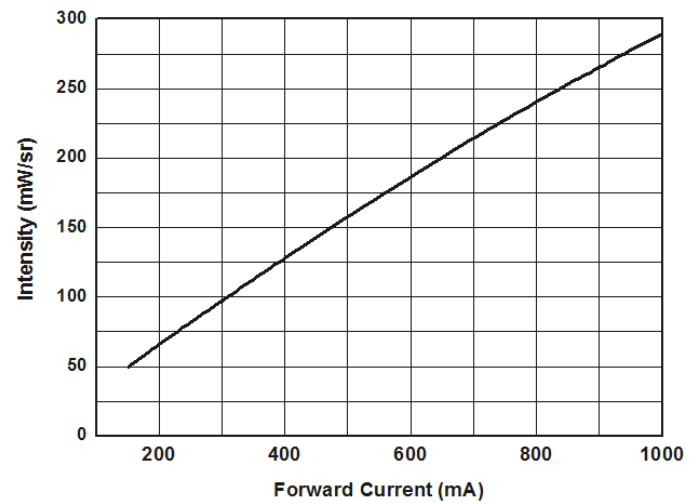
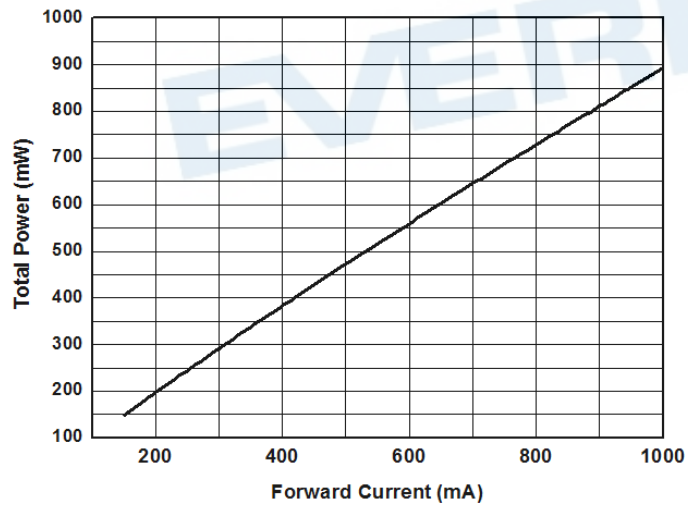
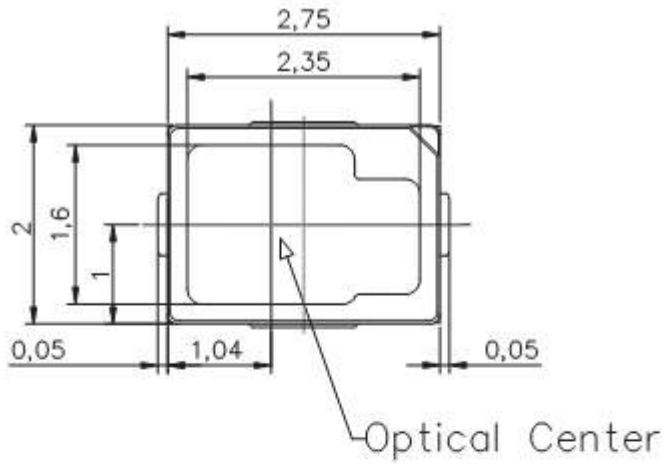


Fig.3

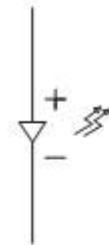
Forward Current vs. Total Power



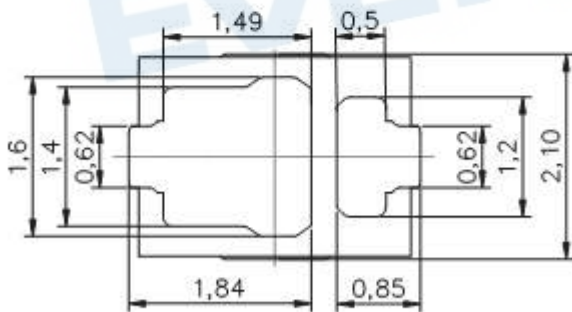
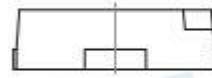
Package Dimension



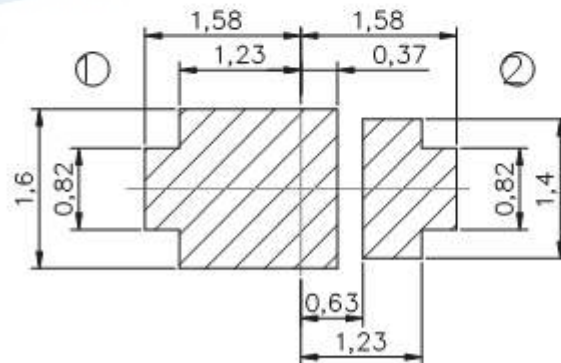
① Anode Pad



② Cathode Pad



Bot. view

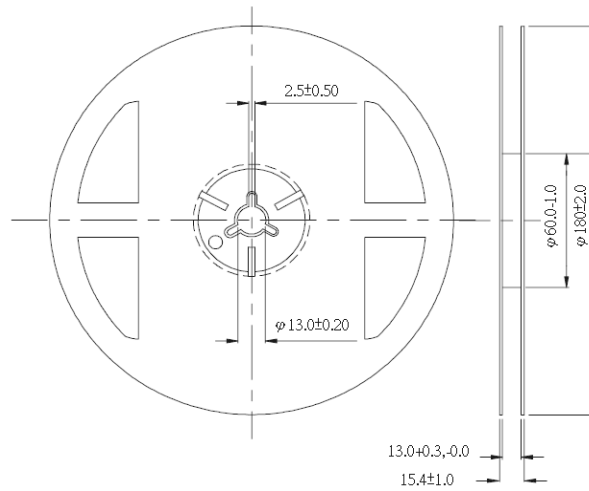


Soldering patterns

Suggested pad dimension is just reference only.
Please modify the pad dimension based on individual need.

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.

Package Dimensions

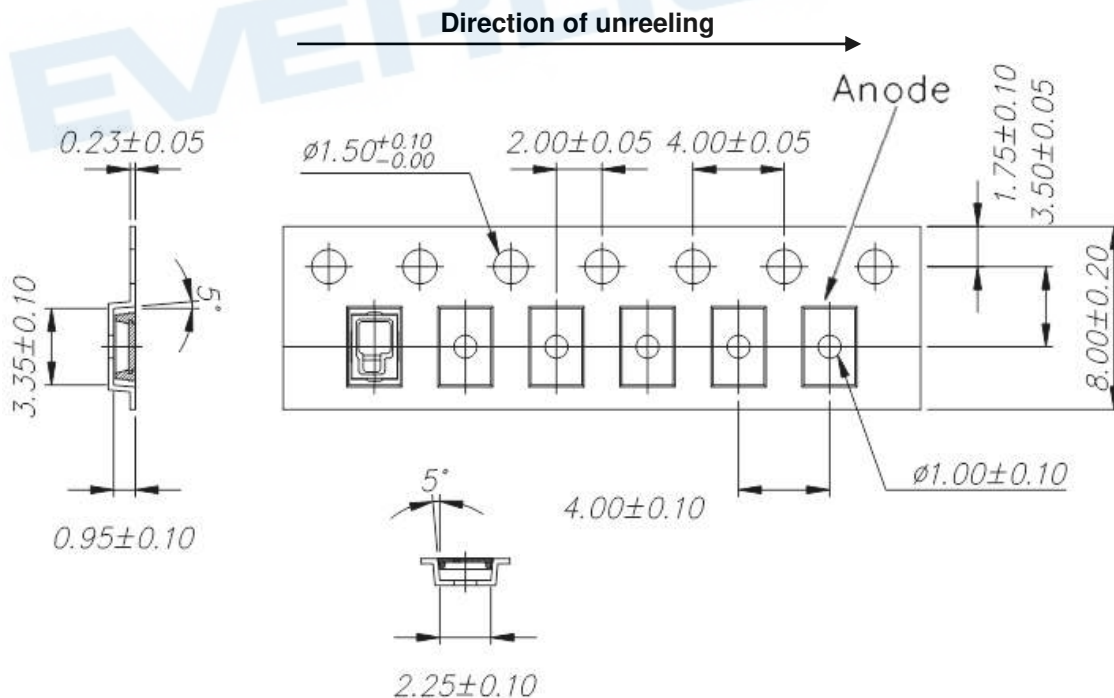


Note:

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

Carrier Tape Dimensions:

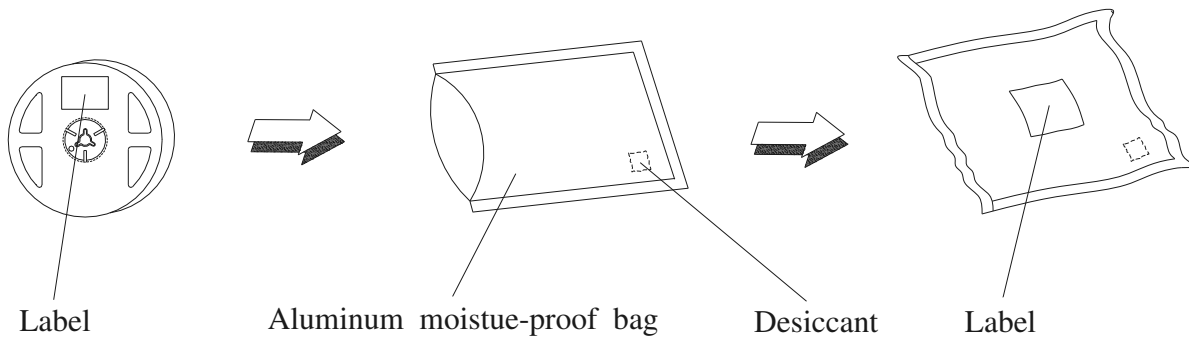
Loaded quantity 2000 pcs per reel.



Note:

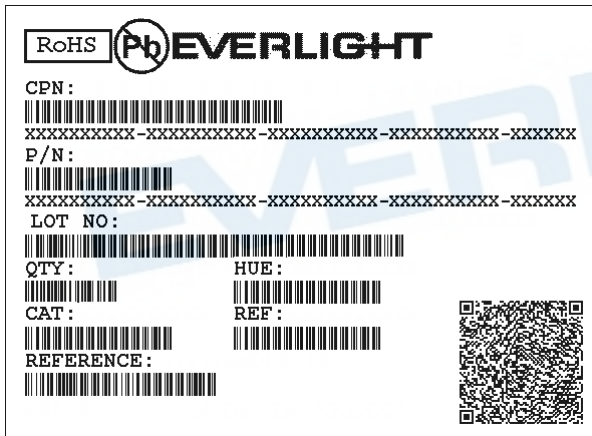
1. Dimensions are in millimeters
2. The tolerances unless mentioned is ± 0.1 mm

Moisture Resistant Packaging



Moisture Resistant Packing Materials

Label Form Specification



- 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

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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