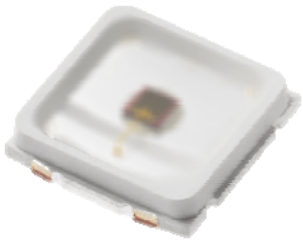
DATASHEET

Technical Data Sheet

High Power Infrared LED



HC-HIR3030/L836-U120-P01/TR

Features

- Small package with high efficiency
- Peak wavelength λp =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.

Description

- The device is spectrally matched with silicon photo diode and phototransistor.

Applications

- Infrared applied system

Device Selection Guide

LED Part No.	Chip Material	Lens Color
HC-HIR3030/L836-U120-P01/TR	GaAlAs	Water clear

Absolute Maximum Ratings (T_A=25˚C)

Parameter	Symbol	Rating	Unit
Continuous Forward Current	I_F	500	mA
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-40 ~ +100	°C
Storage Temperature	T_{stg}	-40 ~ +100	°C
Junction temperature	T_j	115	°C

Notes: We suggest that customer should add the heat sink with HC-HIR3030/L836-U120-P01/TR to exclude the heat.

Electro-Optical Characteristics (T_A=25˚C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Total Radiated Power	Po	205	290		mW	I_F=500 mA
Radiant Intensity	I_E	55	90		mW/sr	I_F=500 mA
Peak Wavelength	λ_P	--	850	--	nm	I_F=350 mA
Spectral Bandwidth	$\Delta\lambda$	--	25	--	nm	I_F=350 mA
Forward Voltage	V_F	1.60	1.80	2.40	V	I_F=500 mA
Reverse Current	I_R	--	--	10	μA	V_R=5 V
View Angle	$2\theta_{1/2}$	--	120	--	deg	I_F=20 mA

Typical Electro-Optical Characteristics Curves

Fig.1
Forward Current vs. Forward Voltage

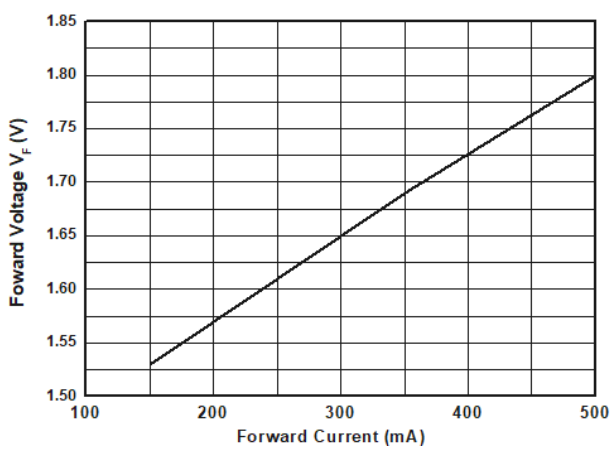


Fig.2
Forward Current vs. Intensity

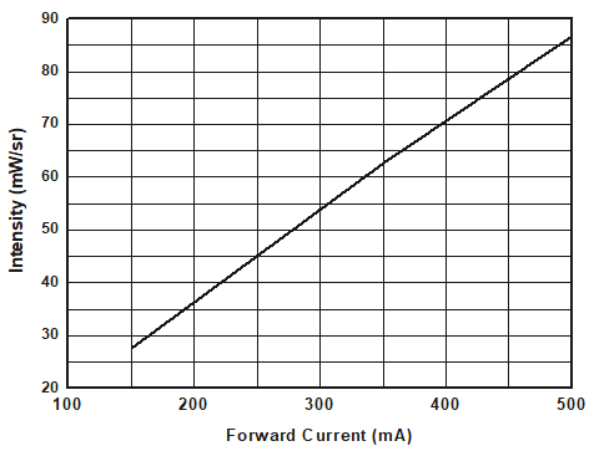


Fig.3
Forward Current vs. Total Power

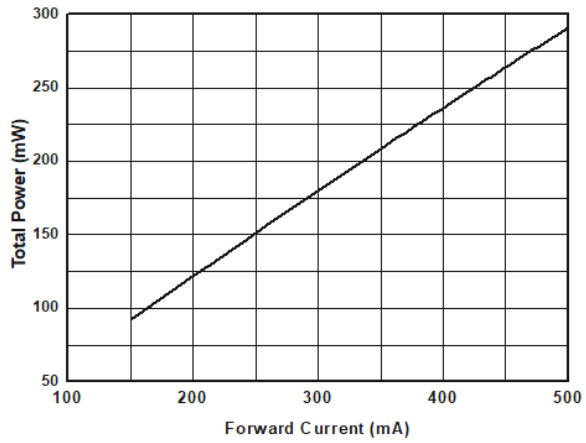


Fig.4
Relative Radiant Intensity vs. Angular Displacement

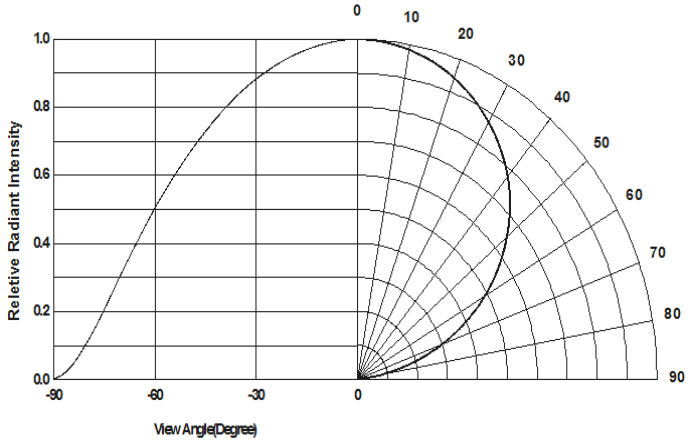


Fig.5
Relative Forward Voltage vs. Ambient Temperature

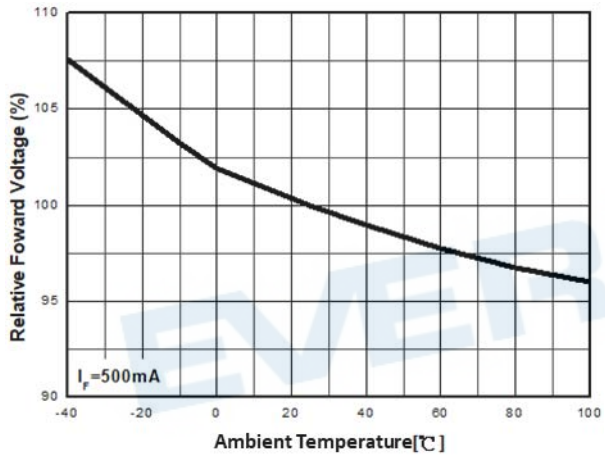


Fig.6
Relative Radiant Intensity vs. Ambient Temperature

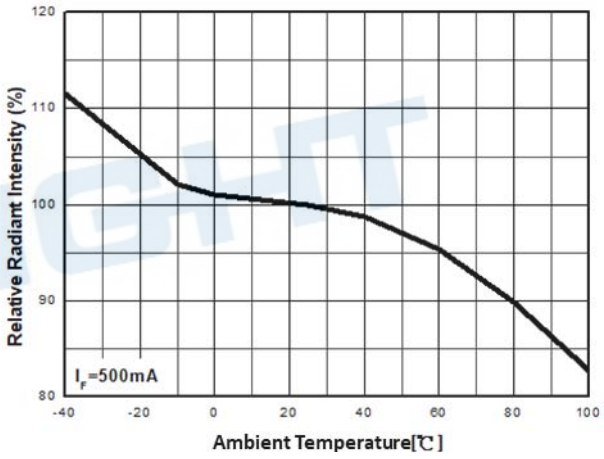
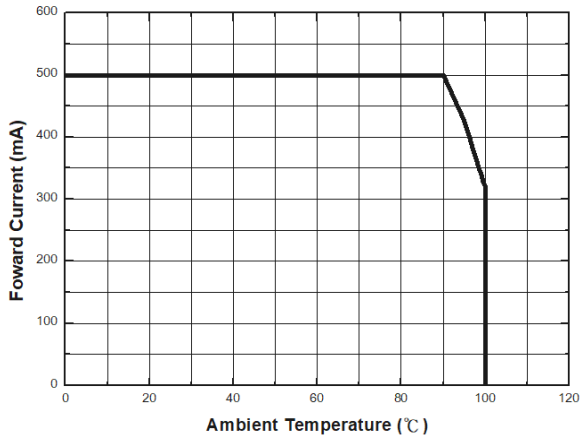


Fig.7
Forward Current vs. Ambient Temperature



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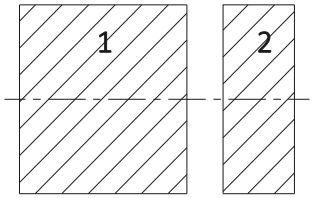
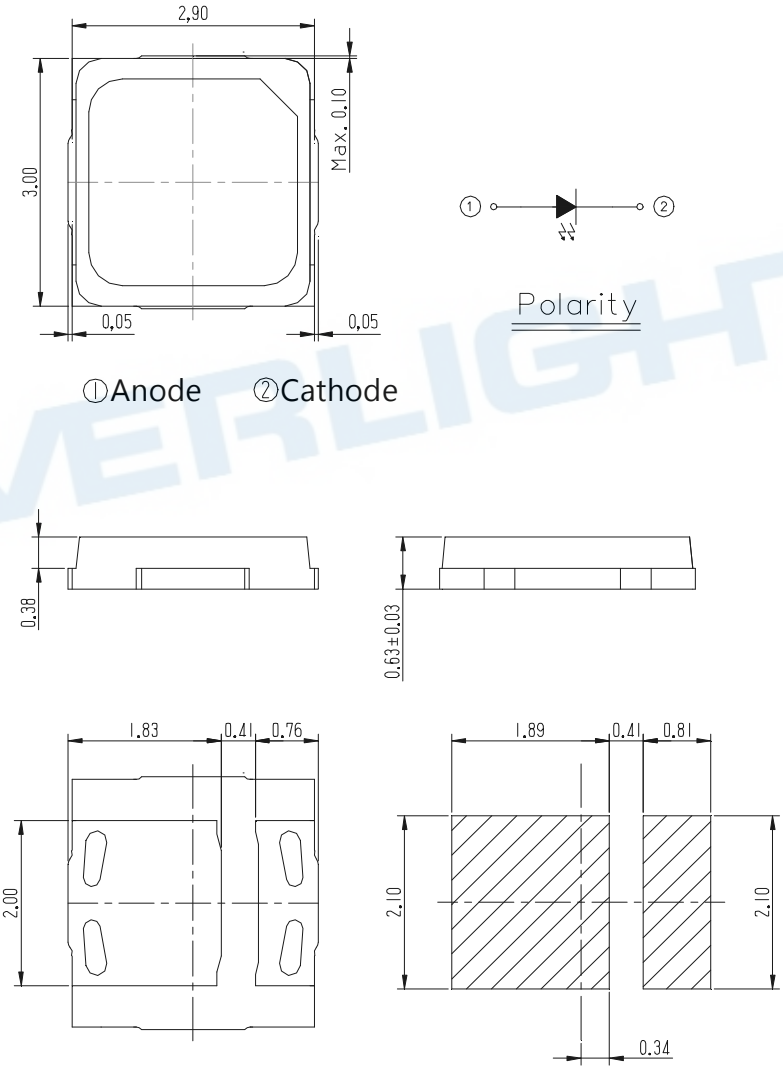
Pad Configuration

Pad	1	2
Function	Anode	Cathode



Package Dimension



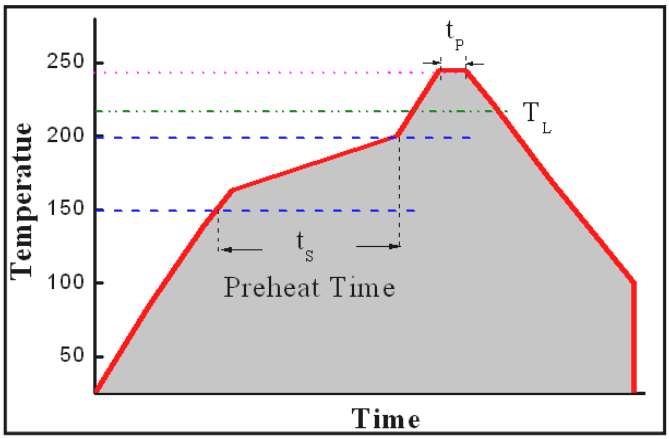
1. Dimensions are in millimeters.
2. Tolerances unless mentioned are ± 0.1mm.
3. Do not handle the device by the lens. Incorrect force applied to the lens may lead to the failure of devices.

Reflow Soldering Characteristics

For Reflow Process

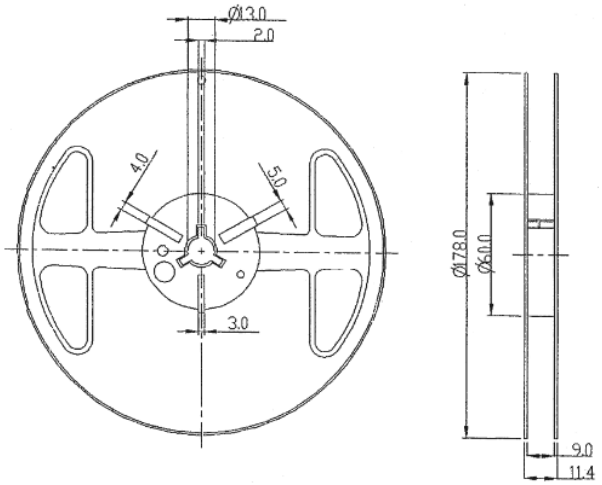
1. 3030 series are suitable for SMT processes.
2. Curing of glue in oven must be according to standard operation flow processes.

Profile Feature	Lead Free Assembly	Unit
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



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

Package Dimensions

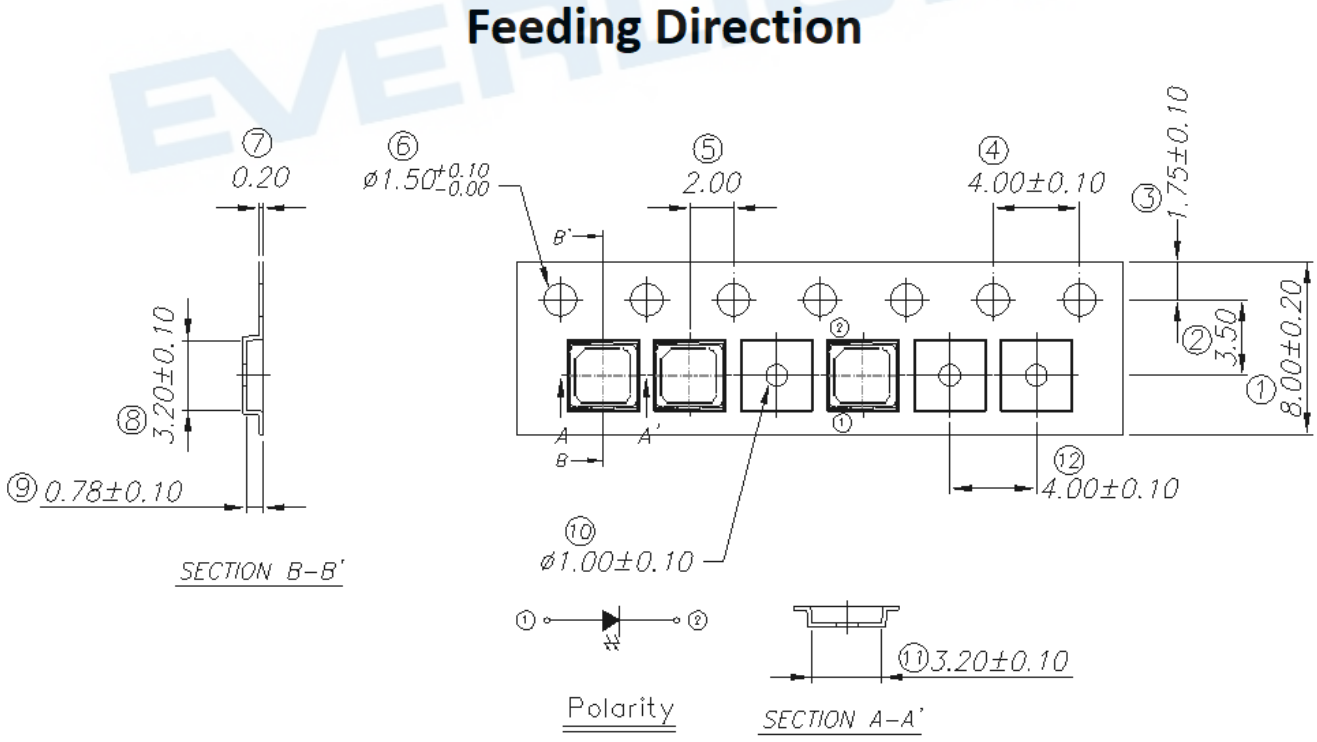


Note:

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

Carrier Tape Dimensions:

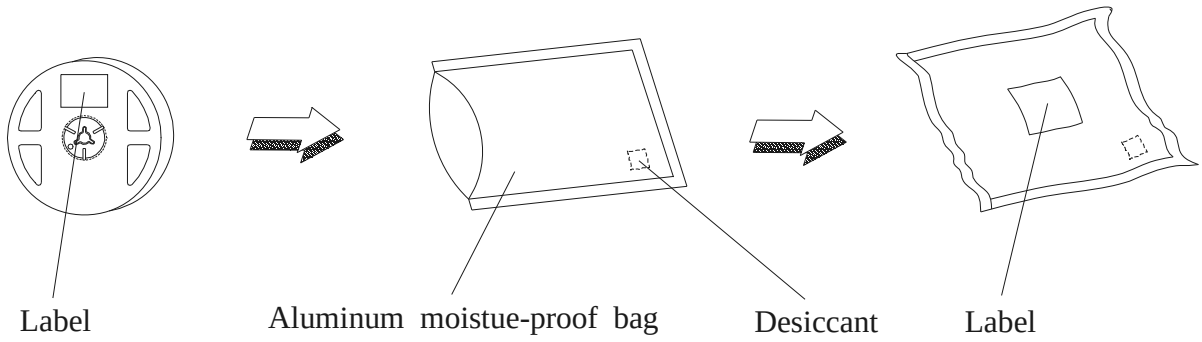
Loaded quantity 2000 pcs per reel.



Note:

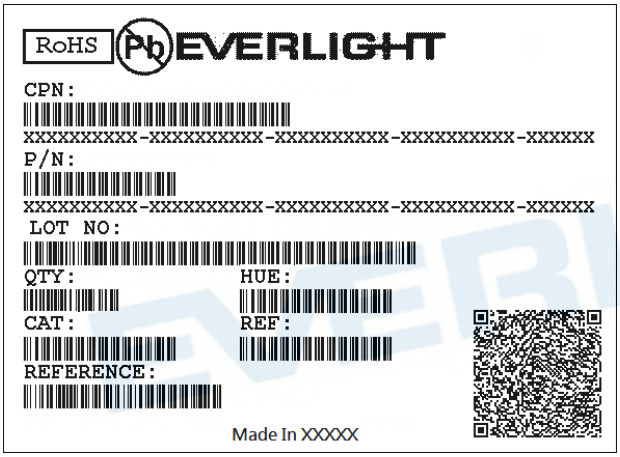
1. Dimensions are in millimeters
2. The tolerances unless mentioned is ±0.1mm

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

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3. The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
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