DATASHEET

Technical Data Sheet
Infrared MIDLED LED
HIR91-01C/L297/2T

Features

- Low forward voltage.
- View angle 40° (Typ.).
- Compatible with infrared and vapor phase reflow solder process.
- Taping as Top view.
- Pb free.
- The product itself will remain within RoHS compliant version.
- Compliance with EU REACH.
- Compliance Halogen Free .(Br <900 ppm ,Cl <900 ppm , Br+Cl < 1500 ppm)

Description

- HIR91-01C/L297/2T is an infrared emitting diode with miniature MIDLED package. The device is spectrally matched with silicon photodiode and phototransistor.

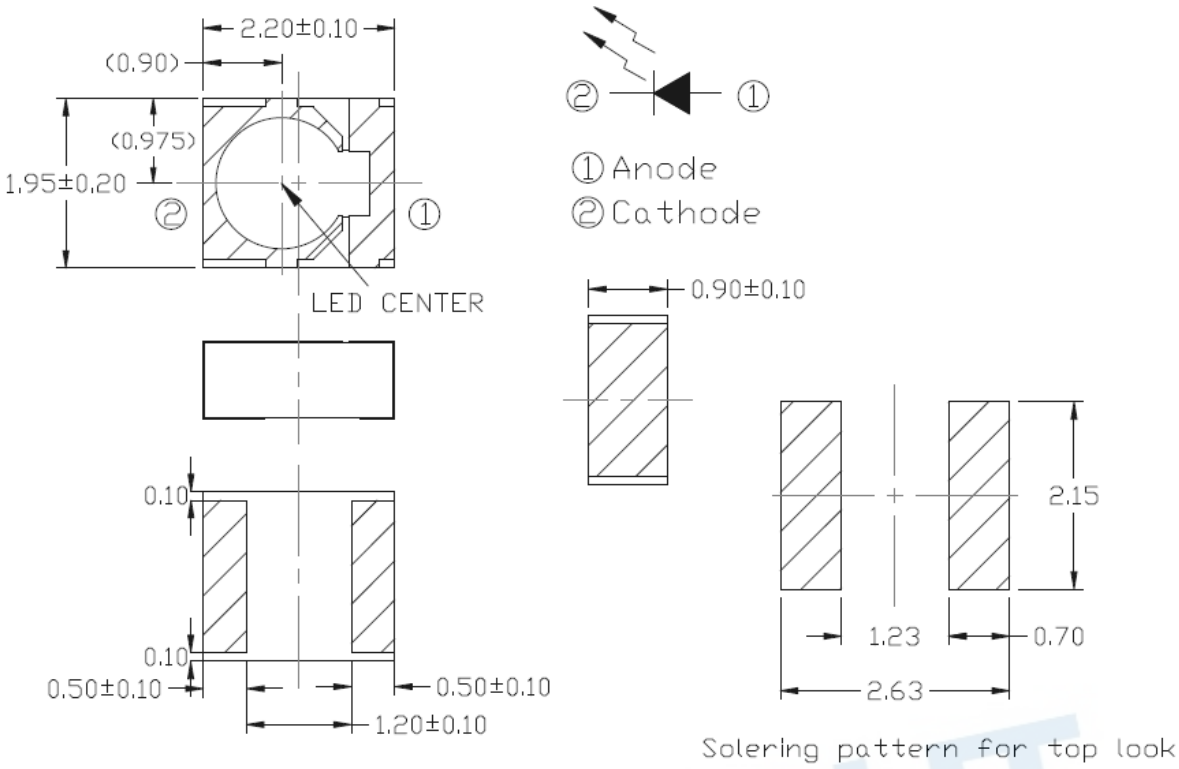
Applications

- Infrared applied system

Device Selection Guide

Device No.	Chip Material	Lens Color
HIR91-01C/L297/2T	GaAlAs	Water Clear

Package Dimensions



Notes: 1.All dimensions are in millimeters
2.Tolerances unless dimensions ±0.1mm

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Continuous Forward Current	I_F	70	mA
Peak Forward Current *1	I_{FP}	200	mA
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-40 ~ +85	°C
Storage Temperature	T_{stg}	-40 ~ +100	°C
Soldering Temperature *2	T_{sol}	260	°C
Power Dissipation at(or below) 25℃ Free Air Temperature	P_c	140	mW
ESD	HBM	Min. 2	KV

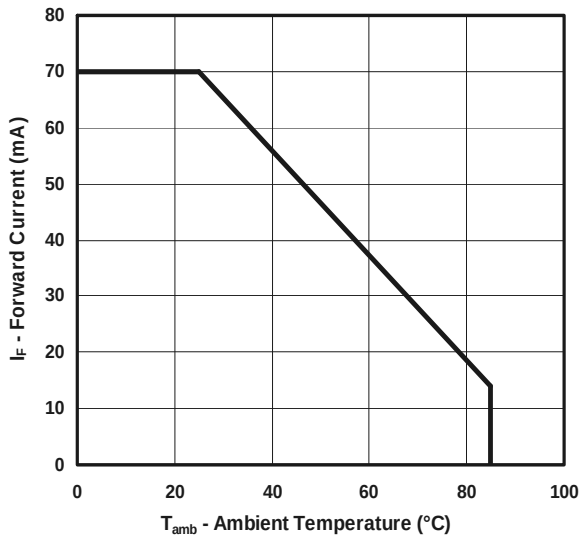
Notes: *1: I_{FP} Conditions--Pulse Width≦500 μs and Duty≦5%.
***2: Soldering time≦5 seconds.**

Electro-Optical Characteristics (Ta=25℃ unless specified otherwise)

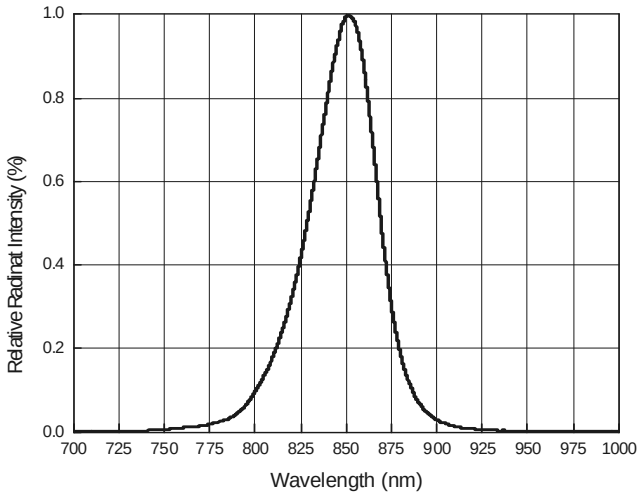
Parameter	Symbol	Min.	Typ.*	Max.	Unit	Condition
Radiant Intensity	I_E	25	40	60	mW/sr	I_F=70mA, tp=20ms
		--	60	--		I_F=100mA, tp=20ms
Peak Wavelength	λ_p	--	850	--	nm	I_F=20mA
Spectral Bandwidth	$\Delta\lambda$	--	40	--	nm	I_F=20mA
Forward Voltage	V_F	1.20	1.40	1.70	V	I_F=20mA
		1.40	1.60	2.00	V	I_F=70mA, tp=20ms
Reverse Current	I_R	--	--	10	μA	V_R=5V
View Angle	$2\theta_{1/2}$	--	40	--	Deg.	I_F=20mA

Typical Electrical/Optical/Characteristics Curves for HIR

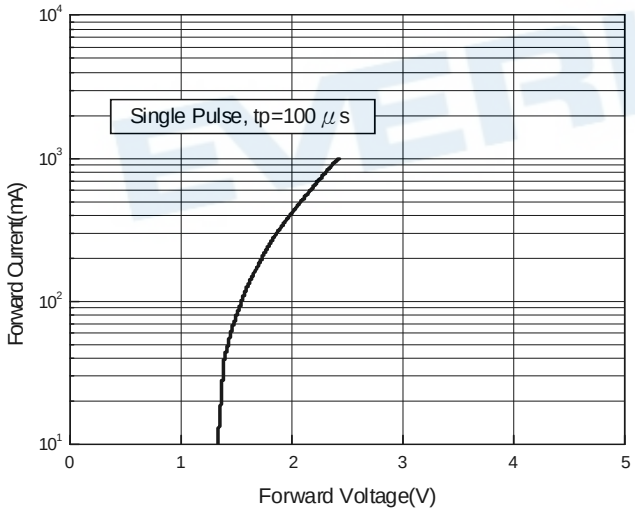
Forward Current vs. Ambient Temperature



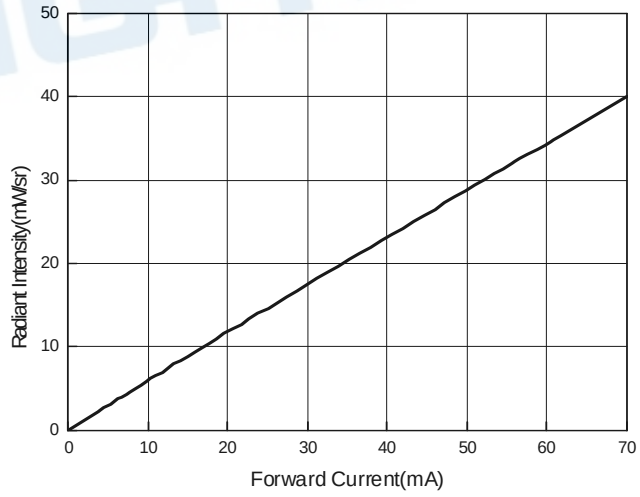
Spectral Distribution



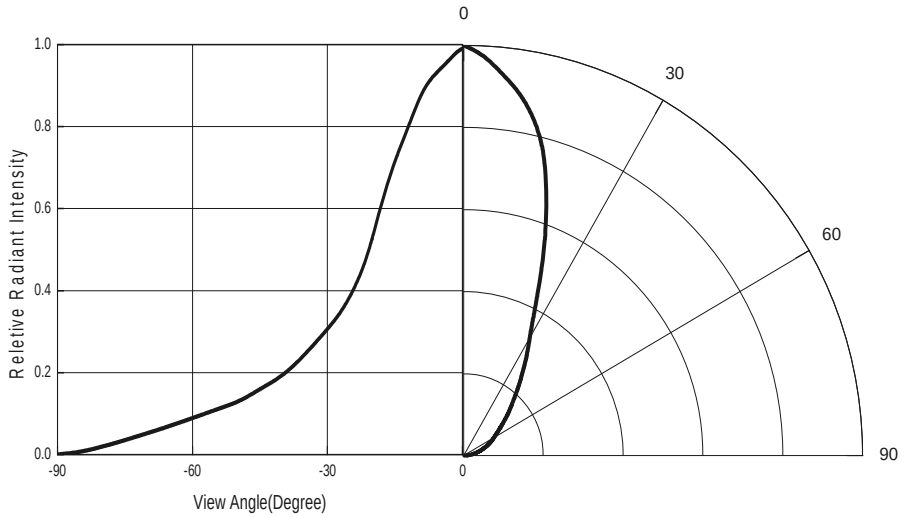
Forward Current vs. Forward Voltage



Radiant Intensity vs. Forward Current



Relative Radiant Intensity vs. Angular Displacement



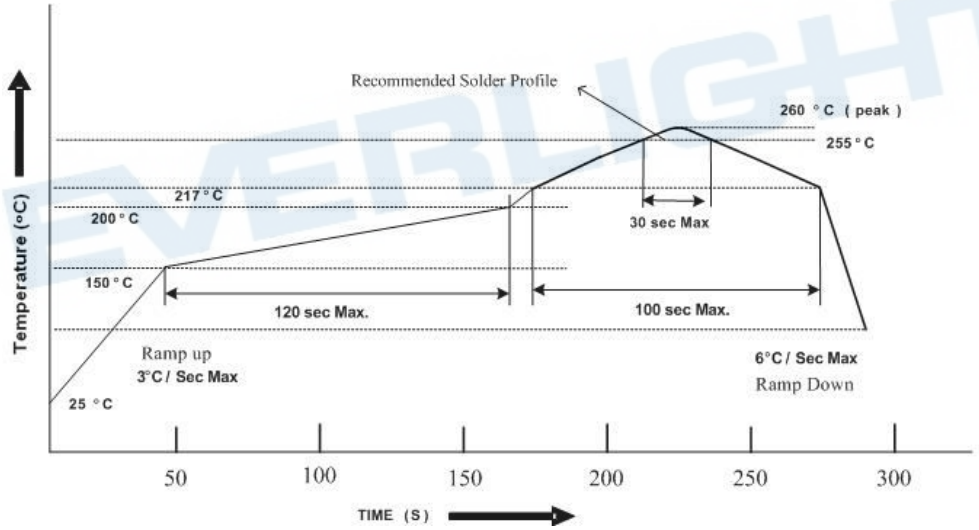
Precautions For Use

1. Over-current-proof

   Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).

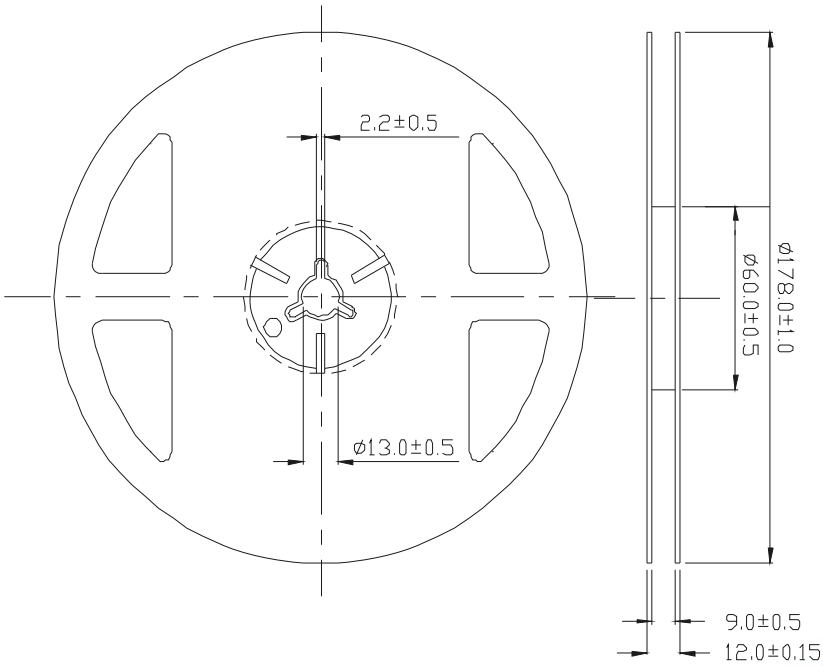
2. Storage
   2.1 Do not open moisture proof bag before the products are ready to use.
   2.2 Before opening the package, the LEDs should be kept at 30℃ or less and 90%RH or less.
   2.3 The LEDs should be used within a year.
   2.4 After opening the package, the LEDs should be kept at 30℃ or less and 60%RH or less.
   2.5 The LEDs should be used within 168 hours (7 days) (MSL-3) after opening the package
   2.6 If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions.
   Baking treatment : 60±5℃ for Min. Min. 24 hours.

3. Soldering Condition
   3.1 Pb-free solder temperature profile



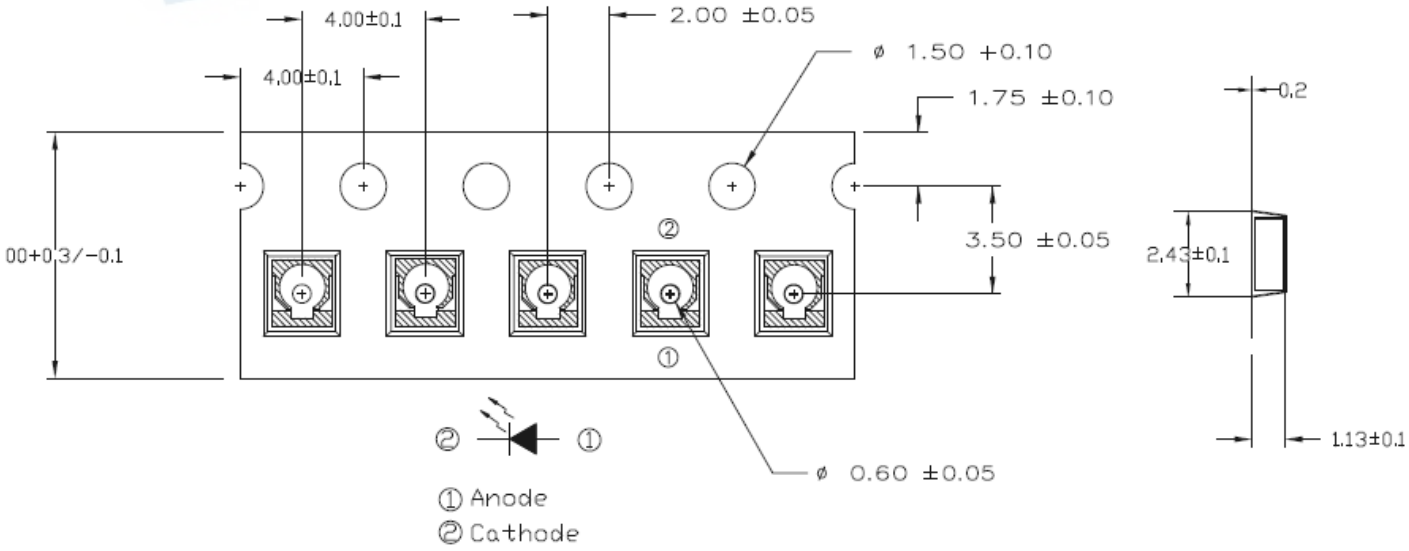
   3.2 Reflow soldering should not be done more than three times.
   3.3 When soldering, do not put stress on the LEDs during heating.
   3.4 After soldering, do not warp the circuit board.

Package Dimensions



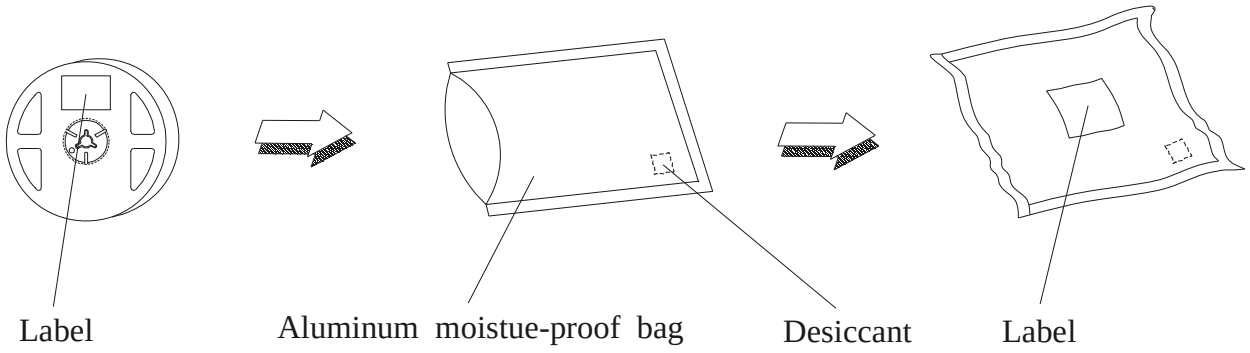
Note: The tolerances unless mentioned is ±0.1mm ,Unit = mm

Carrier Tape Dimensions:(Quantity: 2000pcs/reel)

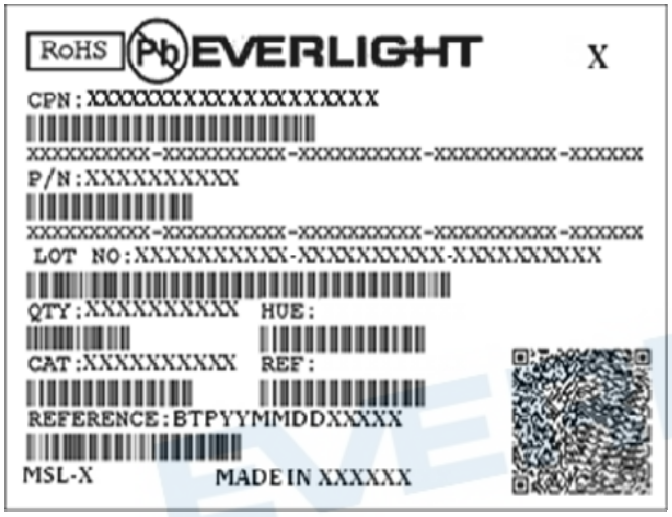


Note: The tolerances unless mentioned is ±0.1mm ,Unit = mm

Packing Procedure



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 XXXXXX: 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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