DATASHEET

Technical Data Sheet
Infrared MIDLED LED
IR89-01C/L447/1R

Features

- Low forward voltage.
- View angle 30°(Typ.)
- 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

- IR89-01C/L447/1R is an infrared emitting diode with miniature MIDLED package. The device is spectrally matched with silicon photodiode and phototransistor

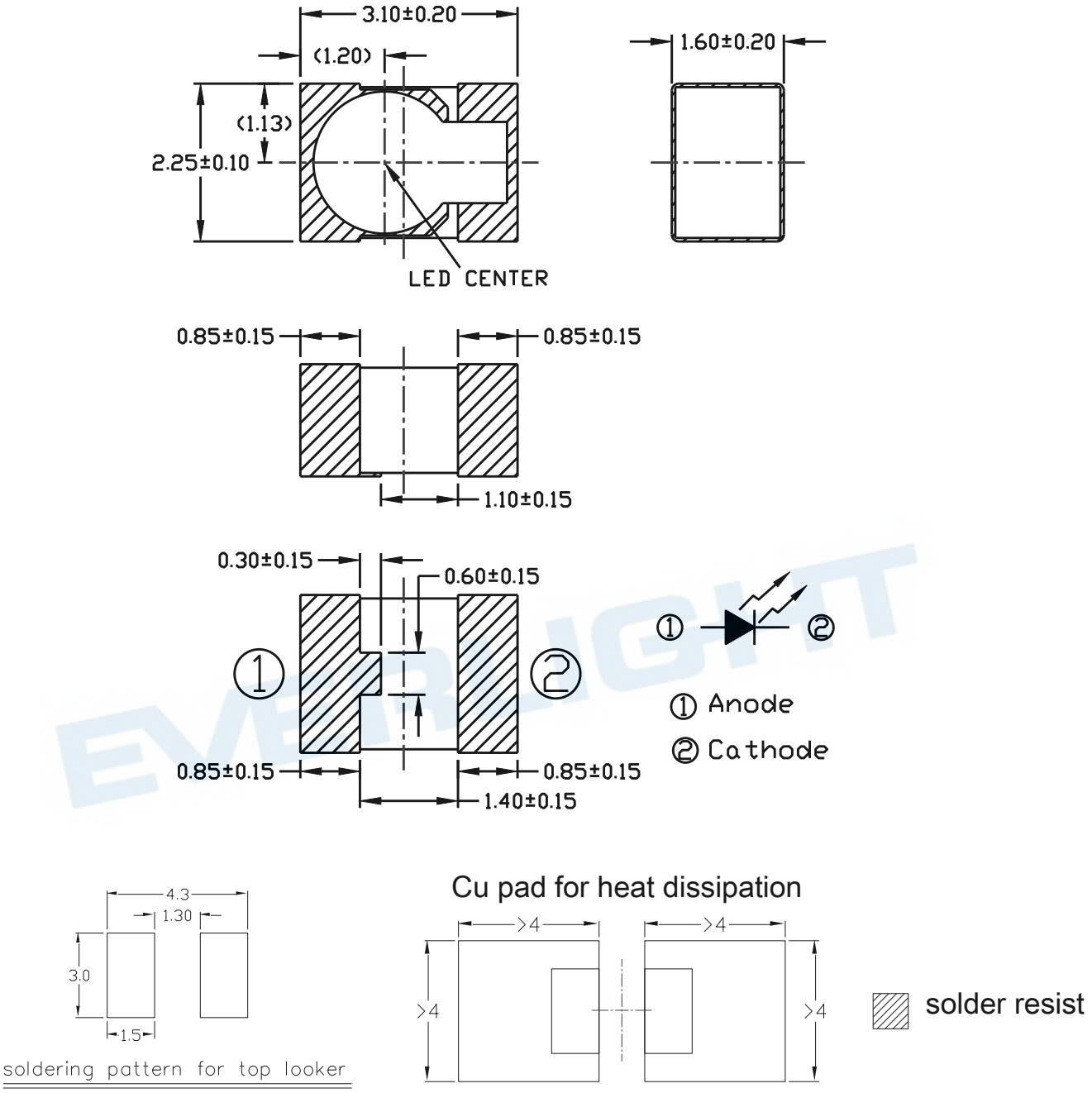
Applications

- Infrared applied system

Device Selection Guide

Device No.	Chip Material	Lens Color
IR89-01C/L447/1R	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	80	mA
Peak Forward Current *1	I_{FP}	800	mA
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-40 ~ +100	℃
Storage Temperature	T_{stg}	-40 ~ +100	℃
Soldering Temperature *2	T_{sol}	260	℃
Power Dissipation at(or below) 25℃ Free Air Temperature	P_d	170	mW

Notes: *1: I_{FP} Conditions--Pulse Width≦100μ s and Duty≦1%.
*2: Soldering time≦5 seconds.

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Radiant Intensity	Ie	40	60	125	mW /sr	I_F=70mA
		45	70	--		. I_F=100mA Pulse Width≦100μ s ,Duty≦1%
Peak Wavelength	λ p	--	940	--	nm	I_F=100mA
Spectral Bandwidth	Δ λ	--	40	--	nm	I_F=100mA
Forward Voltage	V_F	--	1.75	2.2	V	I_F=100mA
Reverse Current	I_R	--	--	10	μ A	V_R=5V
View Angle	2θ1/2	--	30	--	deg	I_F=20mA

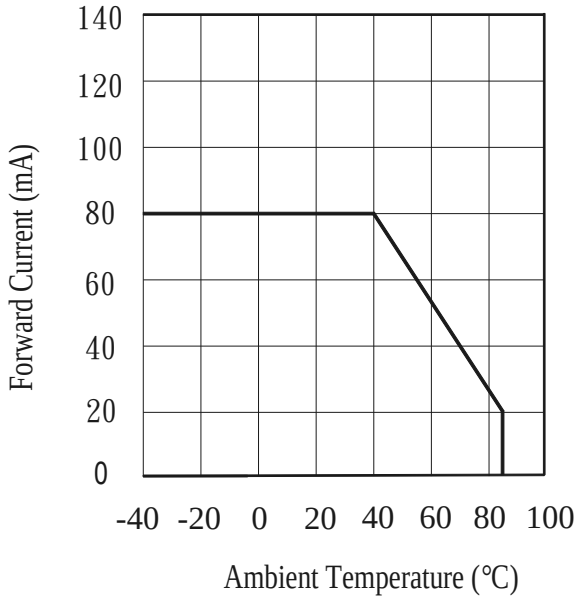
Rank

Condition：I_F=70mA
Unit：mW/sr

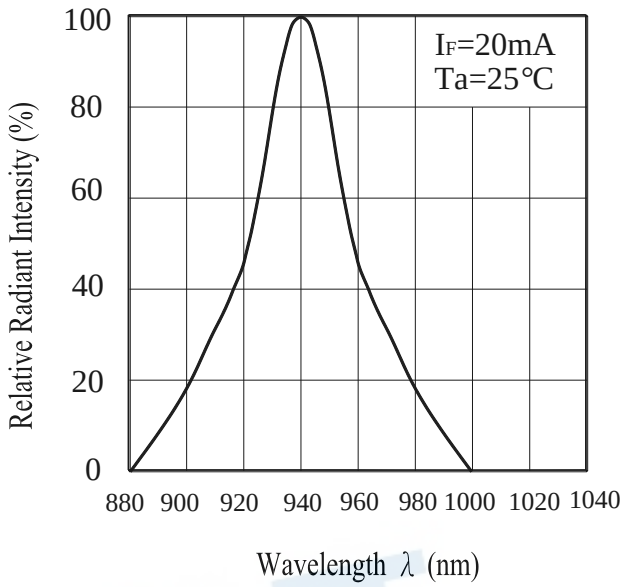
Bin Number	C	D
Min	40	63
Max	80	125

Typical Electrical/Optical/Characteristics Curves for IR

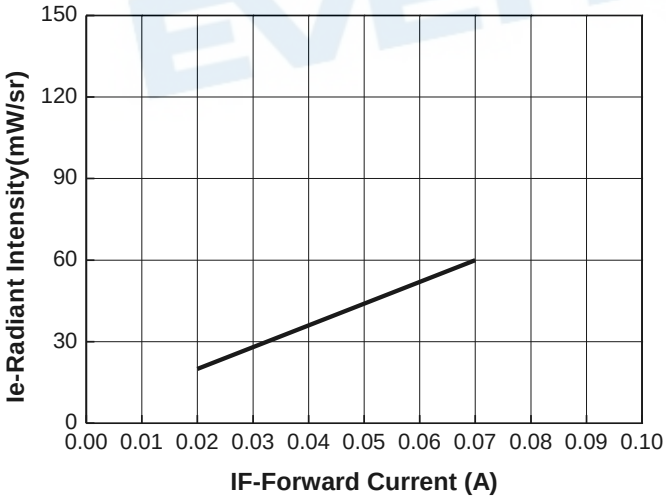
Forward Current vs. Ambient Temperature



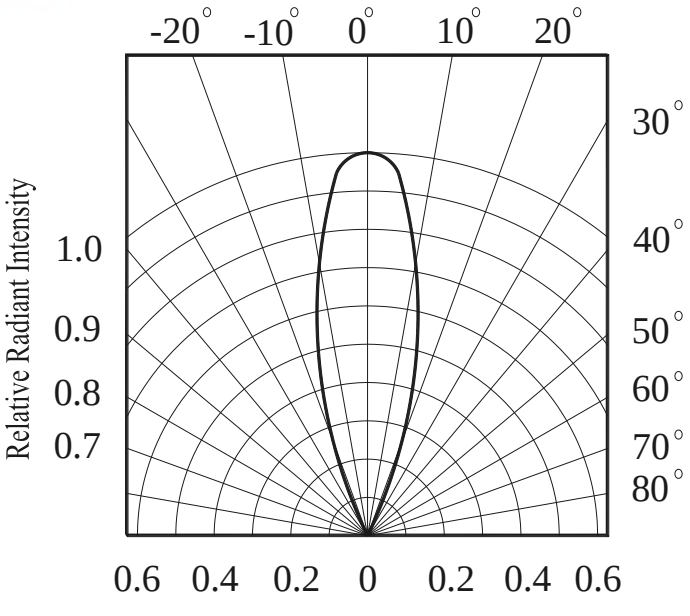
Spectral Distribution

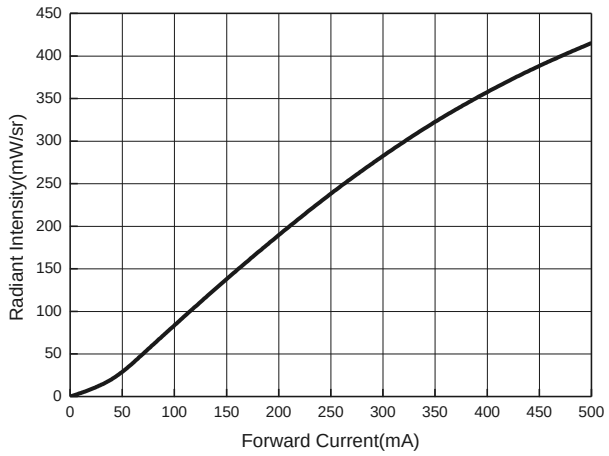
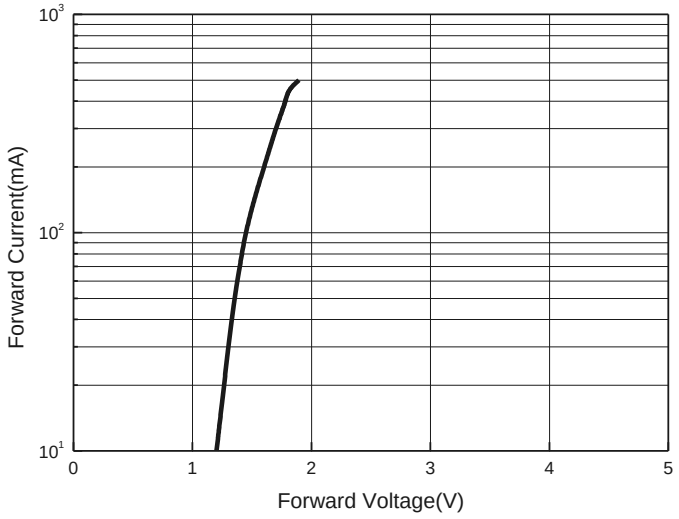


Radiant Intensity vs Forward Current



Relative Radiant Intensity vs. Angular Displacement



Radiant Intensity vs Forward Current (pulse)	Forward Current vs Forward Voltage
	

● Precautions For Use

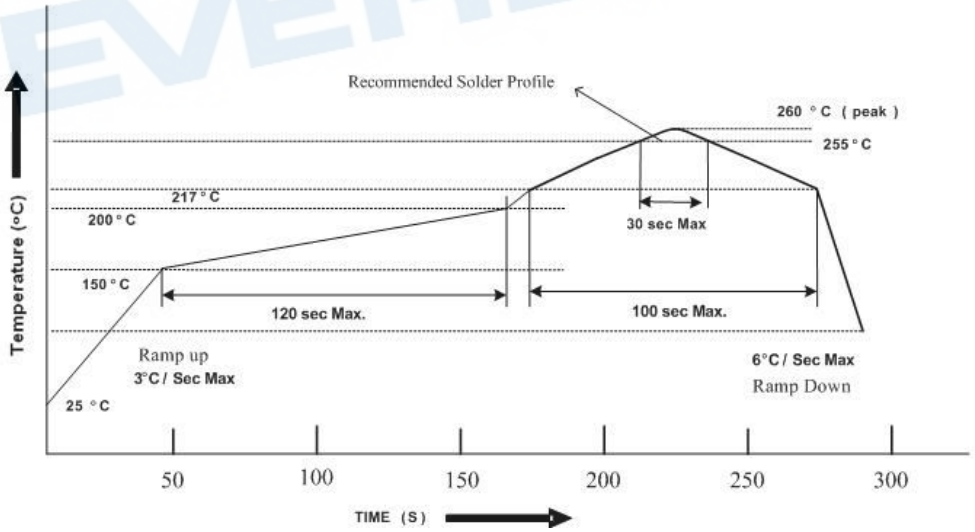
1. Over-current-proof

   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 devices are ready to use.
   2.2 Shelf life in sealed bag from the bag seal date:
   18 onths at 10℃~30℃ and < 90% RH.
   2.3 After opening the package, the devices must be stored at 10˚C~30˚C and 60%RH,
   and used within 72 hours(floor life).
   2.4 If the moisture absorbent material(desiccant material) has faded or unopened bag has exceeded the shelf life or devices(out of bag) have exceeded the floor life, baking treatment is required.
   2.5 If baking is required, refer to IPC/JEDEC J-STD-033 for bake procedure or recommend the following conditions :
   192 hours at 40℃ +5/–0℃ and < 5 % RH (reeled/tubed/loose units) or
   96 hours at 60℃ ± 5℃ and < 5 % RH (reeled/tubed/loose units) or
   24 hours at 125℃ ± 5℃, not suitable for reel or tubes.

3. Soldering Condition
   3.1 Pb-free solder temperature profile



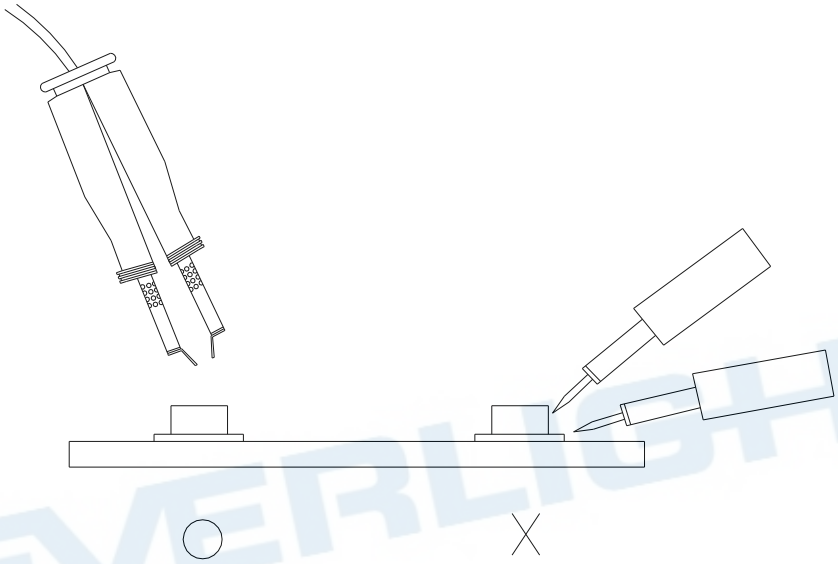
   3.2 Reflow soldering should not be done more than two times.
   3.3 When soldering, do not put stress on the LEDs during heating.
   3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

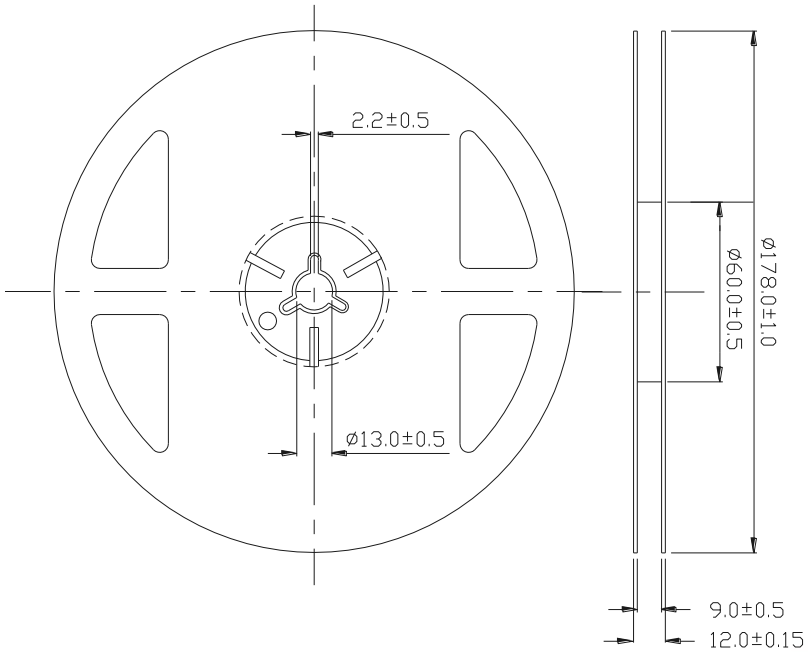
Each terminal is to go to the tip of soldering iron temperature less than 350℃ for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

5. Repairing

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.

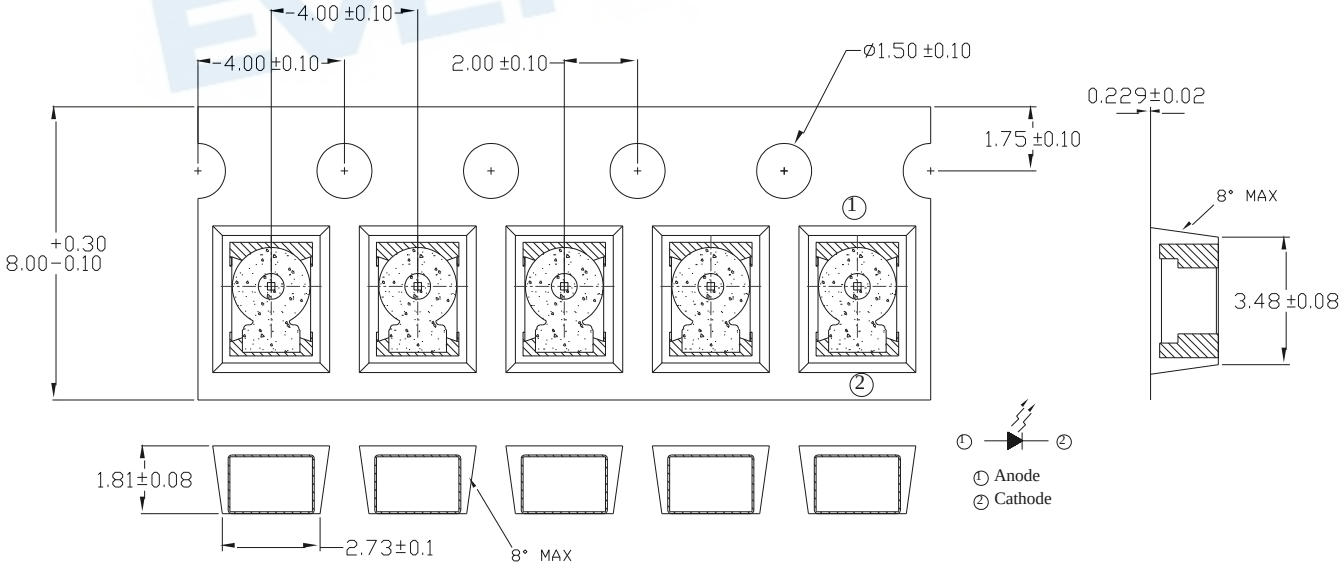


Package Dimensions



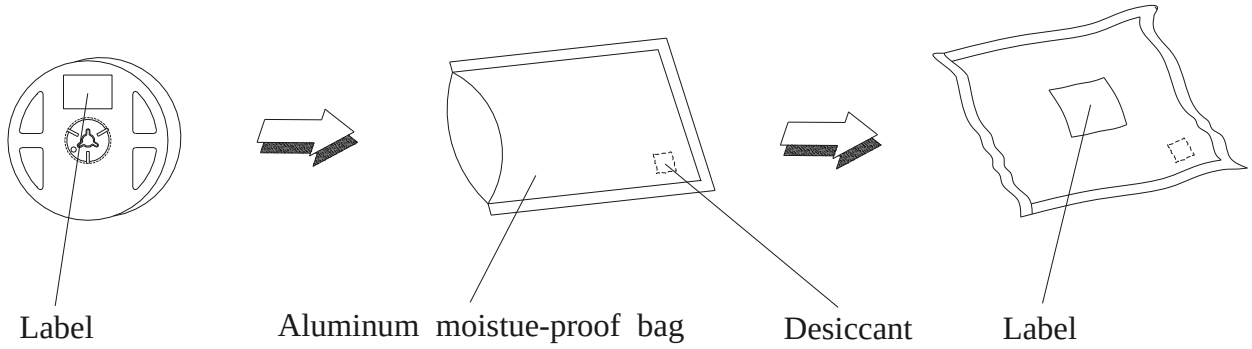
Note: The tolerances unless mentioned is ±0.1mm ,Unit = mm

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

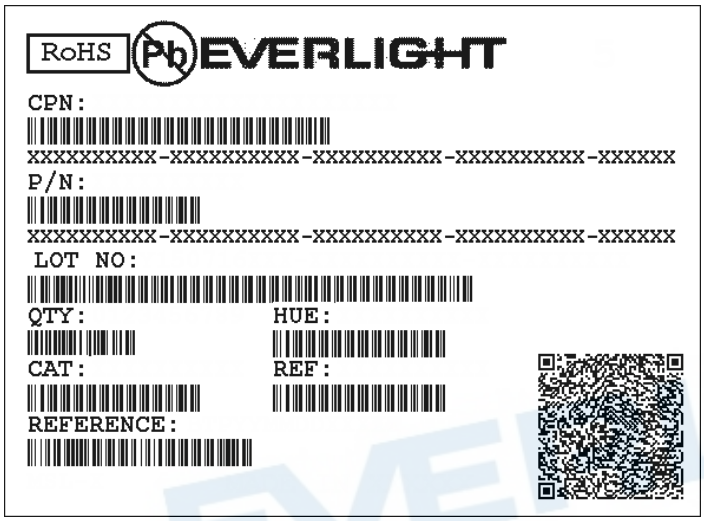


Note: The tolerances unless mentioned is ±0.1mm ,Unit = mm

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 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.
5. These specification sheets include materials protected under copyright of EVERLIGHT. Reproduction in any form is prohibited without obtaining EVERLIGHT's prior consent.
6. This product is not intended to be used for military, aircraft, automotive, medical, life sustaining or life saving applications or any other application which can result in human injury or death. Please contact authorized Everlight sales agent for special application request..