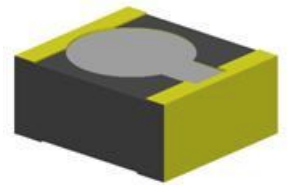


### Technical Data Sheet Infrared MIDLED LED IR91-01C/L491/2R

#### Features

- Low forward voltage.
- View angle 40° (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

IR91-01C/L491/2R is an infrared emitting diode with miniature MIDLED package. The device is spectrally matched with silicon photodiode and phototransistor.

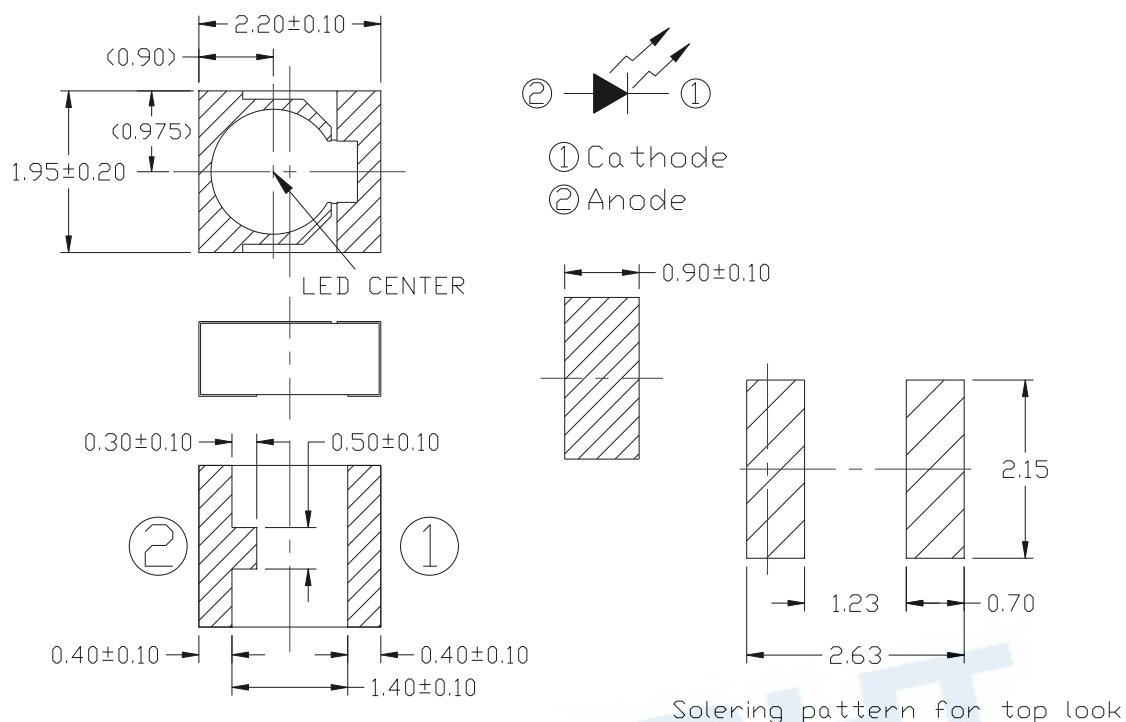
#### Applications

- Infrared applied system

#### Device Selection Guide

Device No.	Chip Material	Lens Color
IR91-01C/L491/2R	GaAlAs	Water Clear

## Package Dimensions



- Notes:** 1.All dimensions are in millimeters  
2.Tolerances unless dimensions  $\pm 0.1\text{mm}$

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

Parameter	Symbol	Rating	Unit
Continuous Forward Current	$I_F$	70	mA
Peak Forward Current *1	$I_{FP}$	500	mA
Reverse Voltage	$V_R$	5	V
Operating Temperature	$T_{opr}$	$-25 \sim +85$	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	$-40 \sim +100$	$^\circ\text{C}$
Soldering Temperature *2	$T_{sol}$	260	$^\circ\text{C}$
Power Dissipation at(or below) 25 $^\circ\text{C}$ Free Air Temperature	$P_d$	130	mW

**Notes:** Notes: \*1: $I_{FP}$  Conditions--Pulse Width  $\leq 100\mu\text{s}$  and Duty  $\leq 1\%$ .

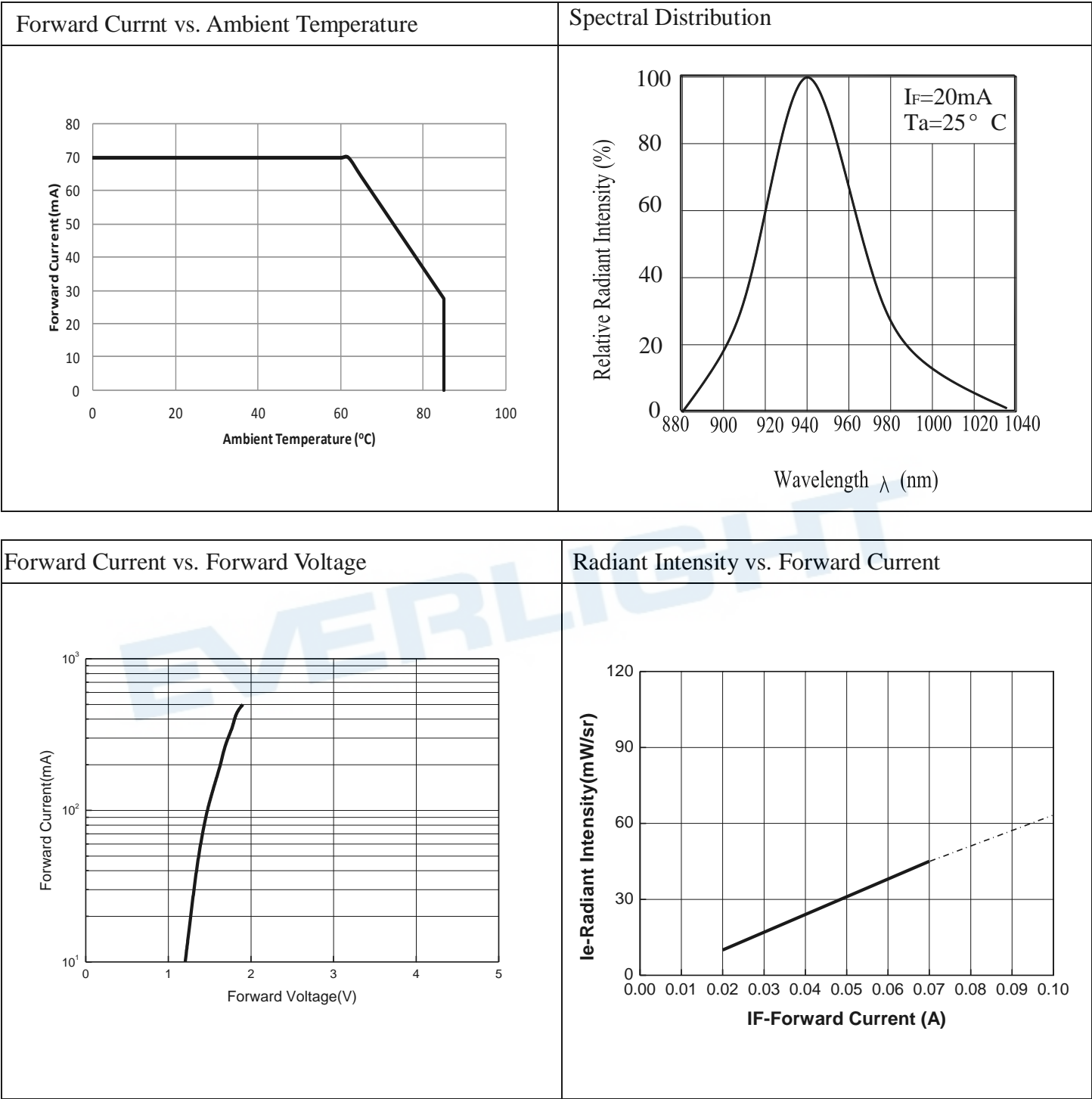
\*2:Soldering time  $\leq 5$  seconds.

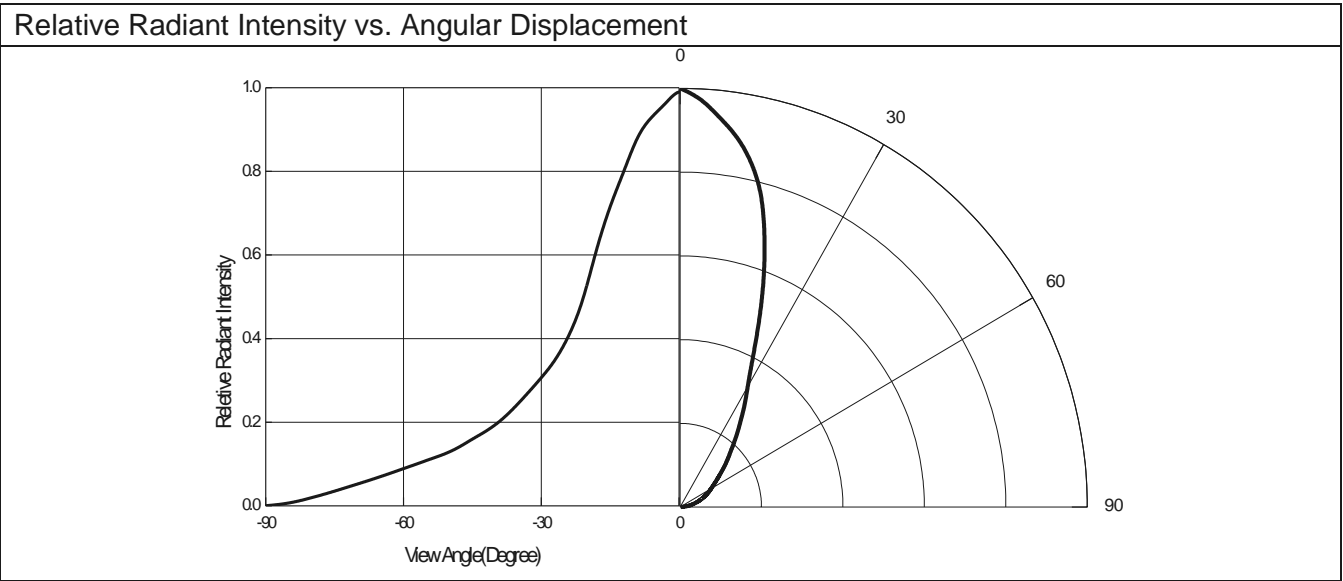
\*3: Power Dissipation= Continuous Forward Current( $I_F$ )  $\times$  Forward Voltage( $V_{Fmax}$ )

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Radiant Intensity	I <sub>e</sub>	25	50	--	mW /sr	I <sub>F</sub> =70mA ,tp=20ms
		--	65	--		I <sub>F</sub> =100mA ,tp=20ms
Peak Wavelength	λ <sub>p</sub>	930	940	960	nm	I <sub>F</sub> =20mA
Spectral Bandwidth	Δλ	--	40	--	nm	I <sub>F</sub> =20mA
Forward Voltage	V <sub>F</sub>	1.20	1.40	1.70	V	I <sub>F</sub> =20mA
		--	1.40	1.90		I <sub>F</sub> =100mA Pulse Width ≤ 100μs ,Duty ≤ 1%
Reverse Current	I <sub>R</sub>	--	--	10	μA	V <sub>R</sub> =5V
View Angle	2θ1/2	--	40	--	deg	I <sub>F</sub> =20mA

Typical Electrical/Optical/Characteristics Curves for IR





EVERLIGHT

## ● 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 months at 10°C~30°C 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 :

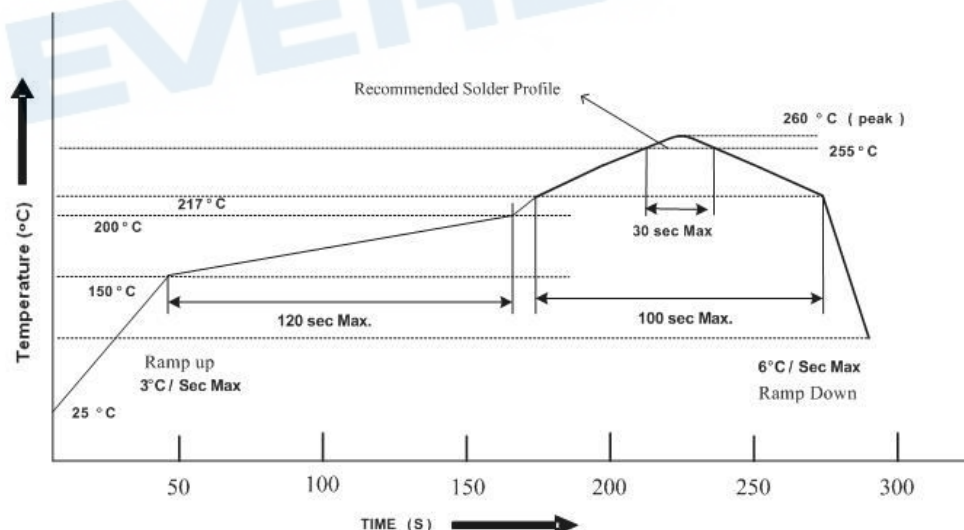
192 hours at 40°C +5/-0°C and < 5 % RH (reeled/tubed/loose units) or

96 hours at 60°C ± 5°C and < 5 % RH (reeled/tubed/loose units) or

24 hours at 125°C ± 5°C, 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.

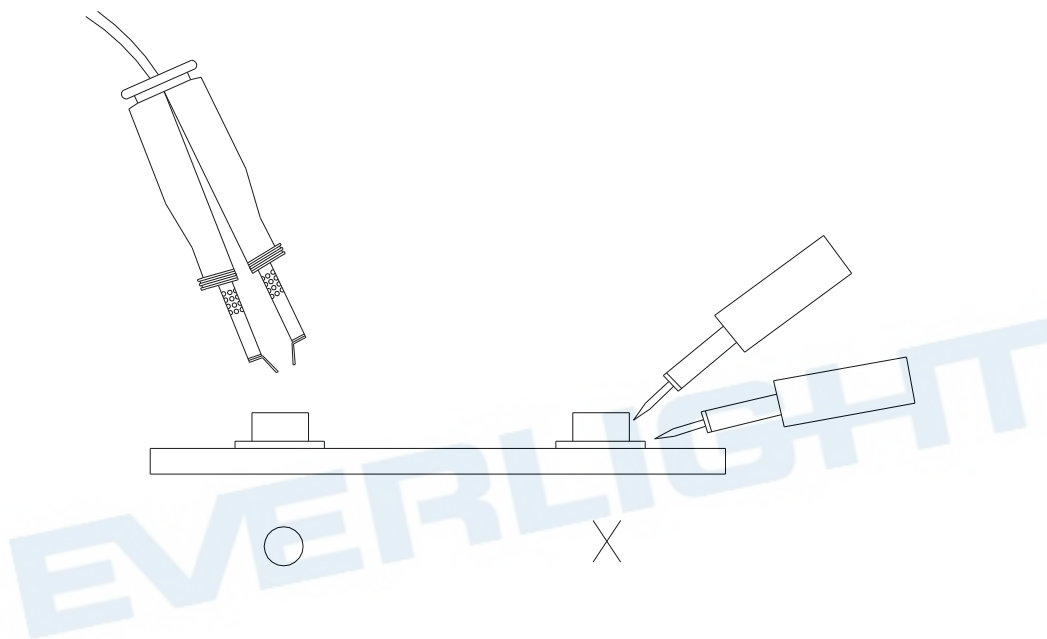
3.4 After soldering, do not warp the circuit board.

#### 4. Soldering Iron

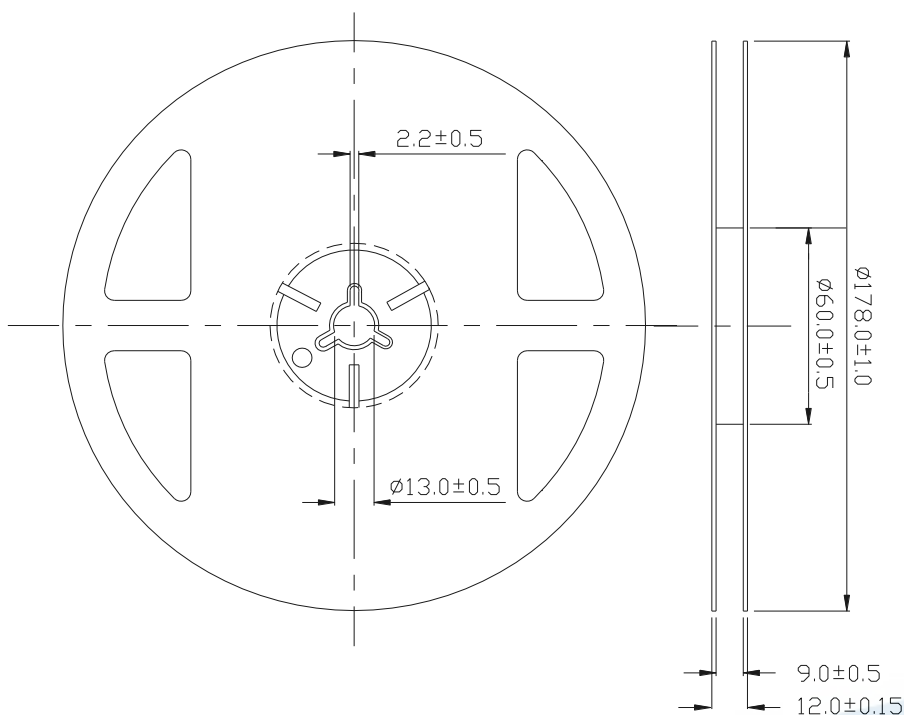
Each terminal is to go to the tip of soldering iron temperature less than  $350^{\circ}\text{C}$  for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started 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.

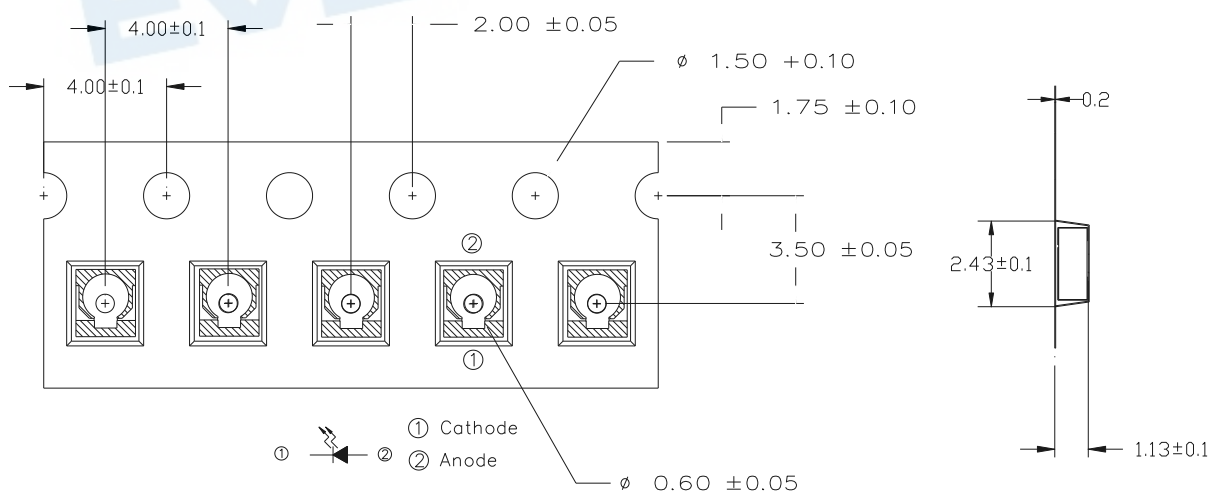


## Package Dimensions



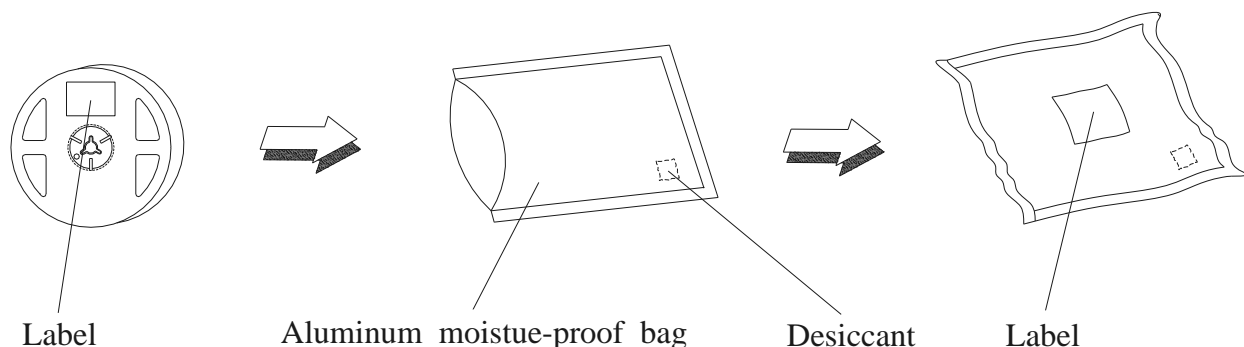
**Note:** The tolerances unless mentioned is  $\pm 0.1\text{mm}$ , Unit = mm

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



**Note:** The tolerances unless mentioned is  $\pm 0.1\text{mm}$ , Unit = mm

## Packing Procedure



## Label Form Specification

RoHS		<b>EVERLIGHT</b>	
CPN:			
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX			
P/N:			
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX			
LOT NO:			
QTY:			
HUE:			
CAT:			
REF:			
REFERENCE:			

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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