DATASHEET

Technical Data Sheet
0.6mm Height Chip LED with Dual Wavelength
IRY19-22C/TR8

Features

- Package in 8mm tape on 7″ diameter reel.
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.
- Bi-color LED wavelength. (Y=595nm, IR= 940nm)
- Pb-free.
- The product itself will remain within RoHS compliant version.

Description

- IRY19-22C/TR8 consists of an infrared emitting diode and a 595nm led is molded in this PCB type. The package has a flat top-view lens which this epoxy color is water clear.

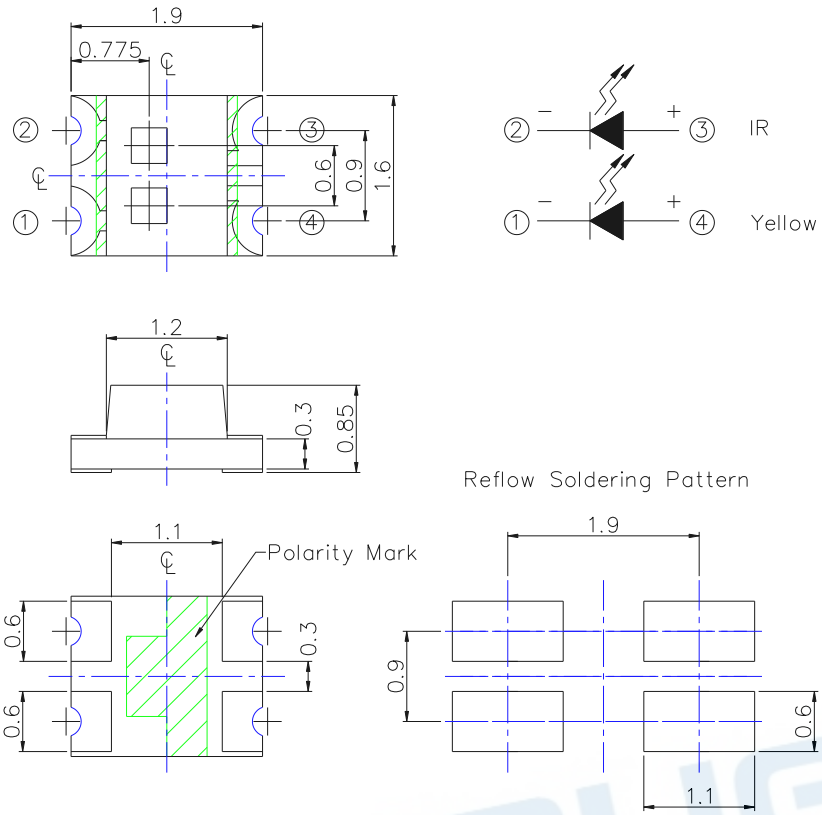
Applications

- Sensor

Device Selection Guide

Device No.	Chip Material	Lens Color
IR	GaAlAs	Water Clear
Y	AlGaInP	

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	Y	25	mA
		IR	65	
Peak Forward Current *Note 1	I_{FP}	Y	60	mA
		IR	1.0	A
Reverse Voltage	V_R	Y	5	V
		IR		
Operating Temperature	T_{opr}	Y	-25 ~ +85	℃
		IR		
Storage Temperature	T_{stg}	Y	-40 ~ +85	℃
		IR	-40 ~ +85	
Electrostatic Discharge	ESD	Y	2000	V
		IR		
Soldering Temperature *Note 2	T_{sol}	Y	260	℃
		IR		
Power Dissipation at(or below) 25℃ Free Air Temperature	Pd	Y	60	mW
		IR	100	mW

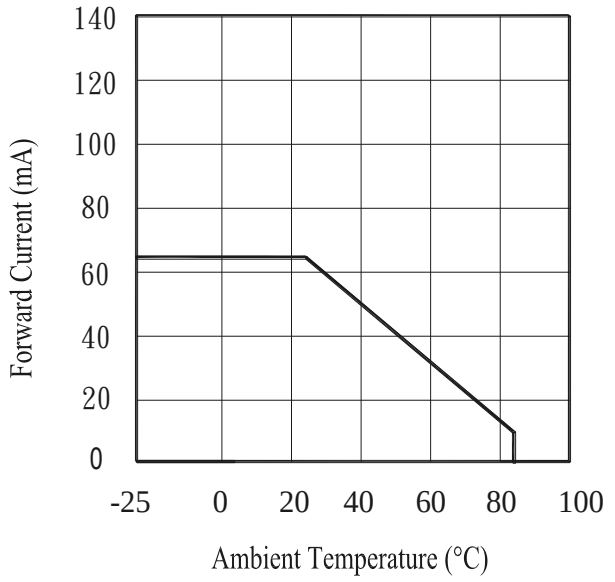
Notes: *1：I_{FP} Conditions--Pulse Width≦100μ s and Duty≦1%
*2：Soldering time≦5 seconds.

Electro-Optical Characteristics (Ta=25℃)

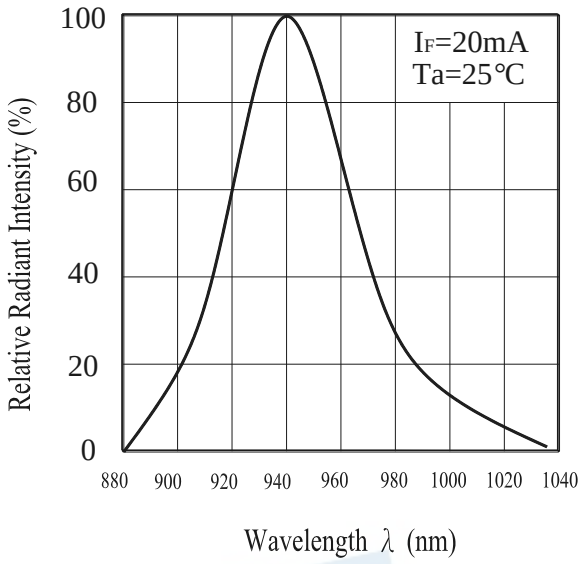
Parameter	Symbol		Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I_V	Y	45	--	110	mcd	I_F=20mA
Radiant Intensity	Ie	Y	--	0.2	--	mW/sr	I_F=20mA
		IR	0.2	0.7	--		
View Angle	$2\theta_{1/2}$	Y	--	110	--	Deg	I_F=20mA
		IR	--	110	--		
Peak Wavelength	λ p	Y	592	595	598	nm	I_F=20mA,tp=20ms
		IR	--	940	--		
Dominant Wavelength	λ d	Y	--	590	--	nm	I_F=20mA,tp=20ms
Spectral Bandwidth	△λ	Y	--	15	--	nm	I_F=20mA
		IR	--	45	--		
Forward Voltage	V_F	Y	--	2.0	2.4	V	I_F=20mA
		IR	--	1.2	1.6		
Reverse Current	I_R	Y	--	--	10	μ A	V_R=5V
		IR	--	--	10		
Share Secondary Emission	I_{SC}	Y	--	--	0.3	%	I_F=20mA,tp=20ms, Scan Range=850~900nm
			--	--	0.5	%	I_F=20mA,tp=20ms, Scan Range=700~850nm
			--	--	0.5	%	I_F=20mA,tp=20ms, Scan Range=850~1000nm

Typical Electrical/Optical/Characteristics Curves (For Infrared Chip)

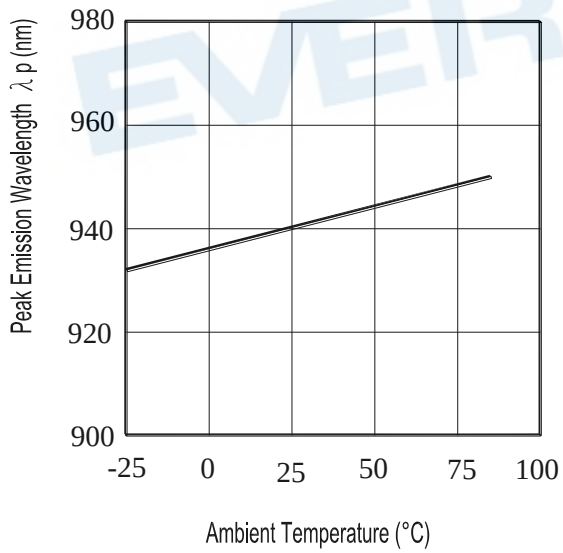
Forward Current vs. Ambient Temperature



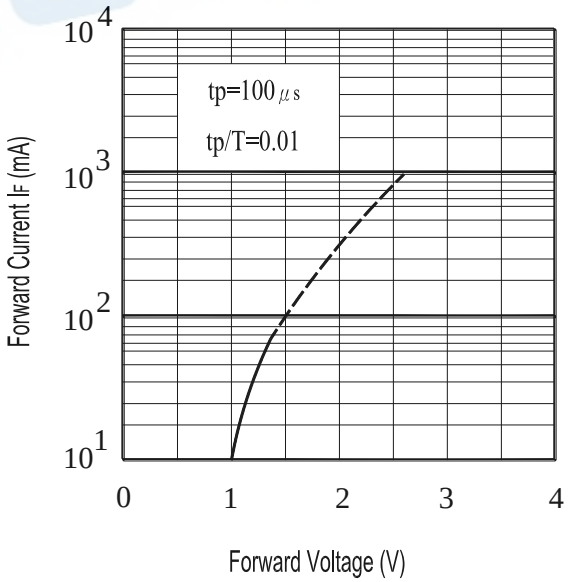
Spectral Distribution



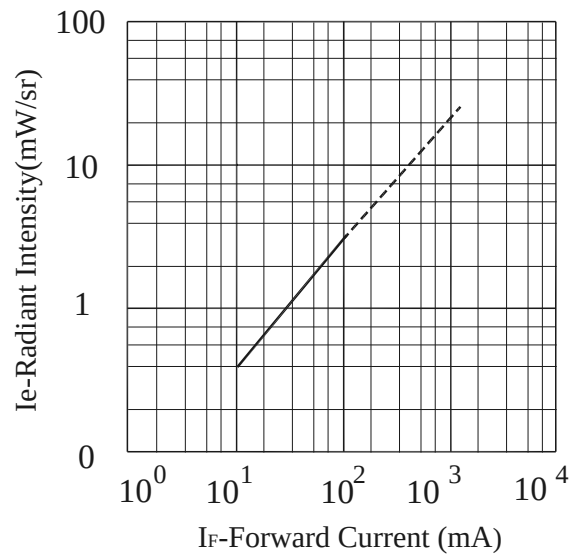
Peak Emission Wavelength vs. Ambient Temperature



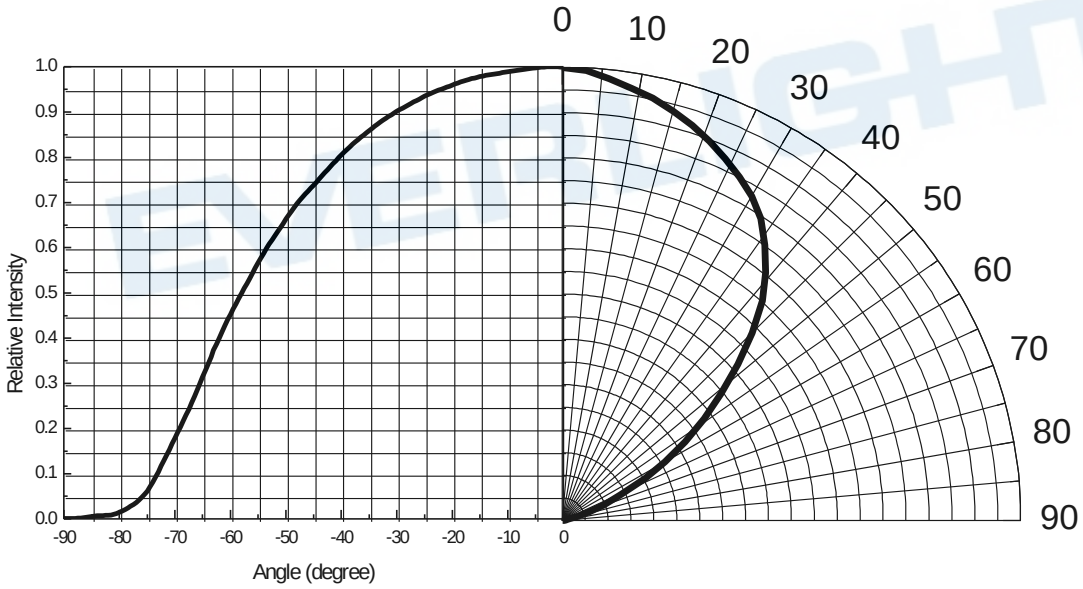
Forward Current vs. Forward Voltage



Relative Intensity vs. Forward Current

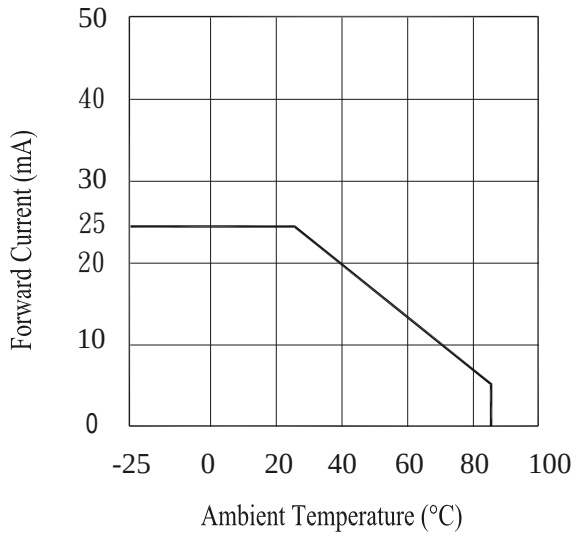


Relative Radiant Intensity vs. Angular Displacement

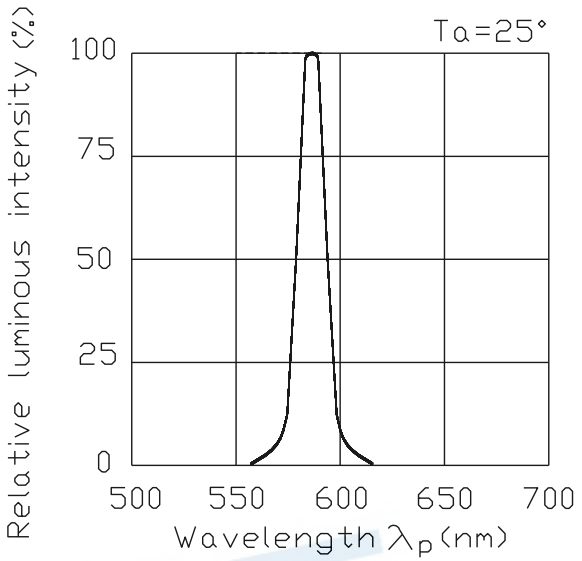


Typical Electrical/Optical/Characteristics Curves (For Yellow Chip))

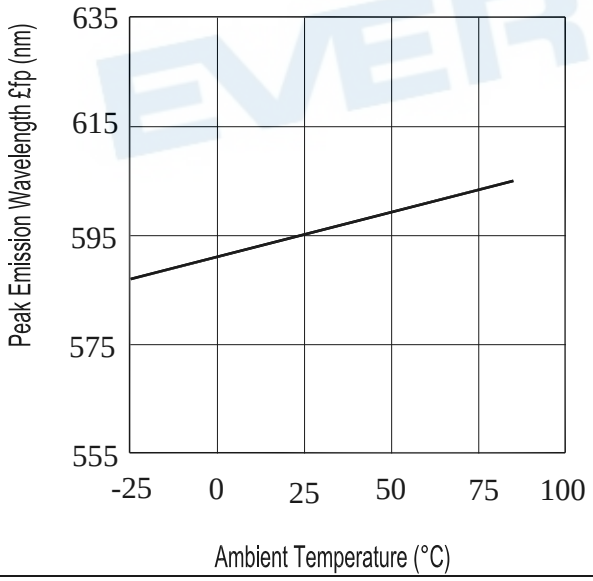
Forward Current vs. Ambient Temperature



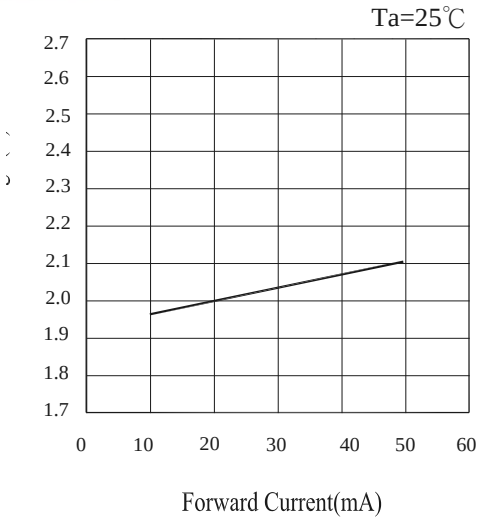
Spectral Distribution



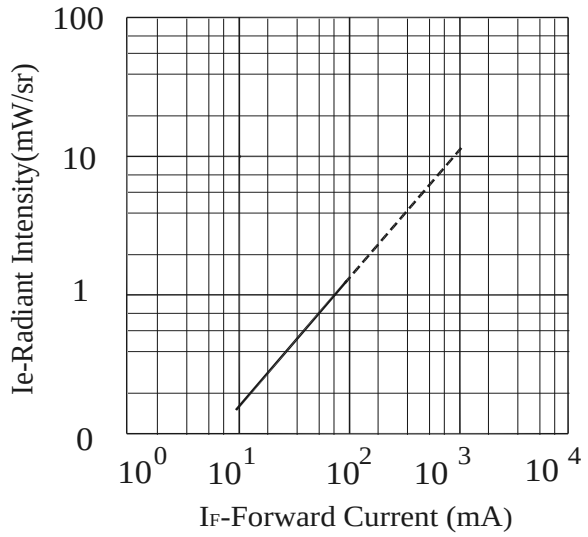
Peak Emission Wavelength vs. Ambient Temperature



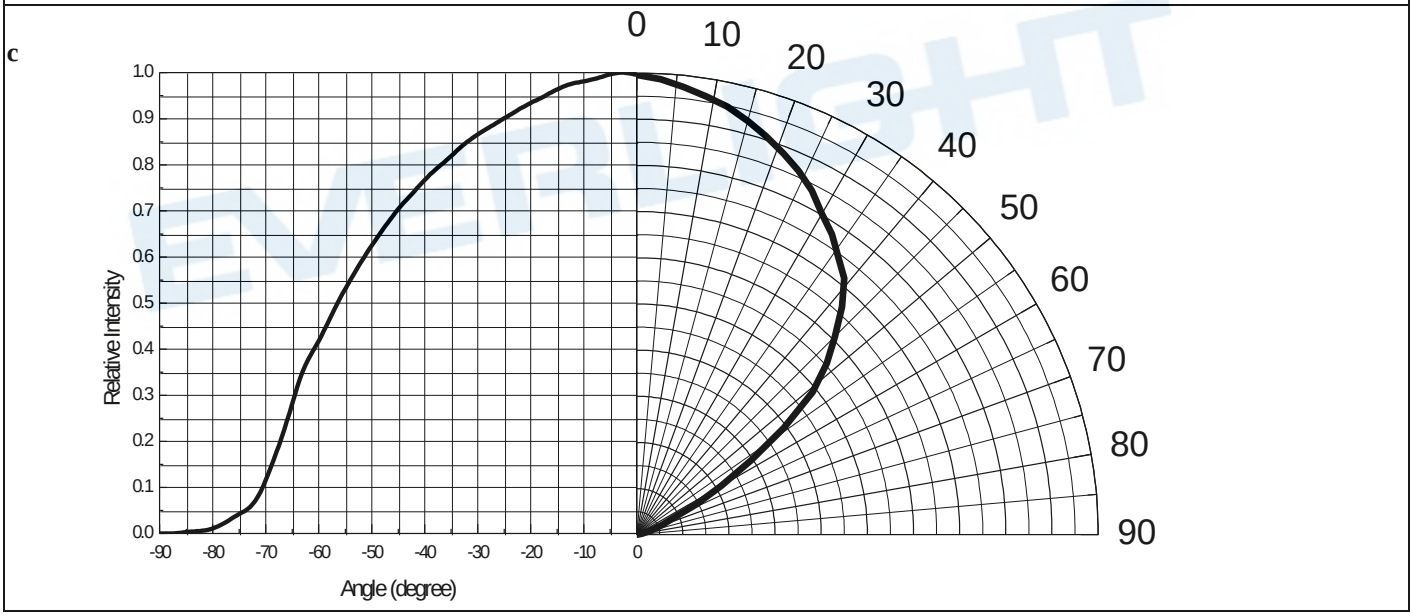
Forward Current vs. Forward Voltage



Relative Intensity vs. Forward Current



Relative Radiant Intensity vs. Angular Displacement



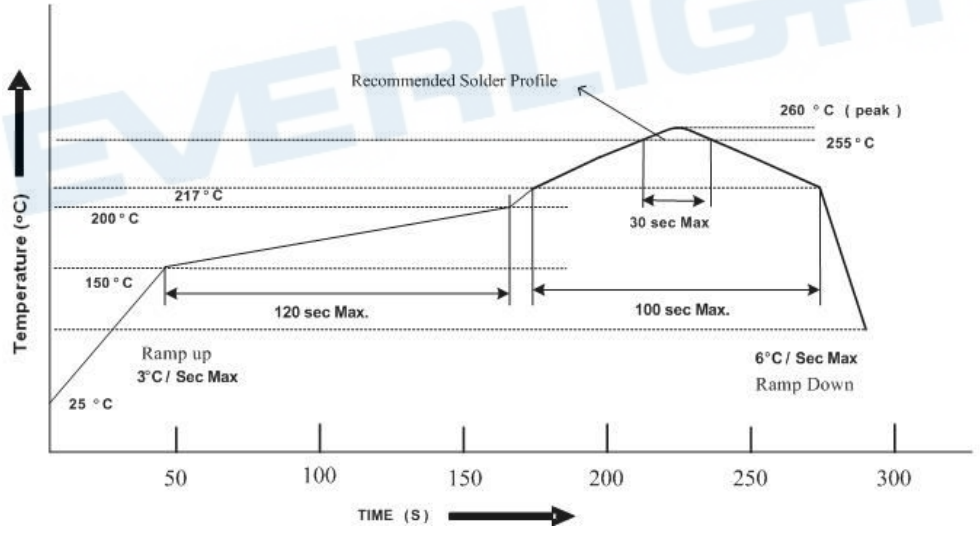
● Precautions For Use

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) 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. 24 hours.

3. Soldering Condition
   3.1 Pb-free solder temperature profile



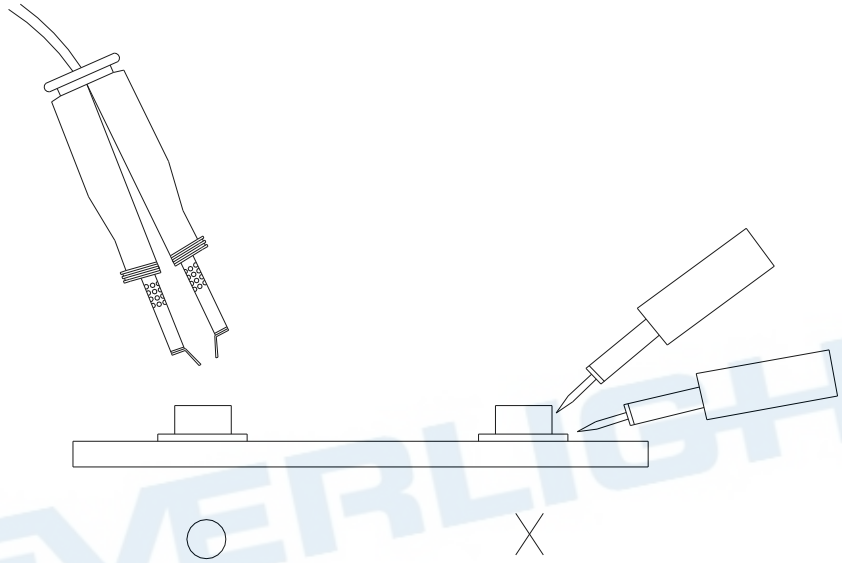
   3.2 Reflow soldering should not be done more than two times.
   3.3 When soldering, do not put stress on the LEDs during heating.
   3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

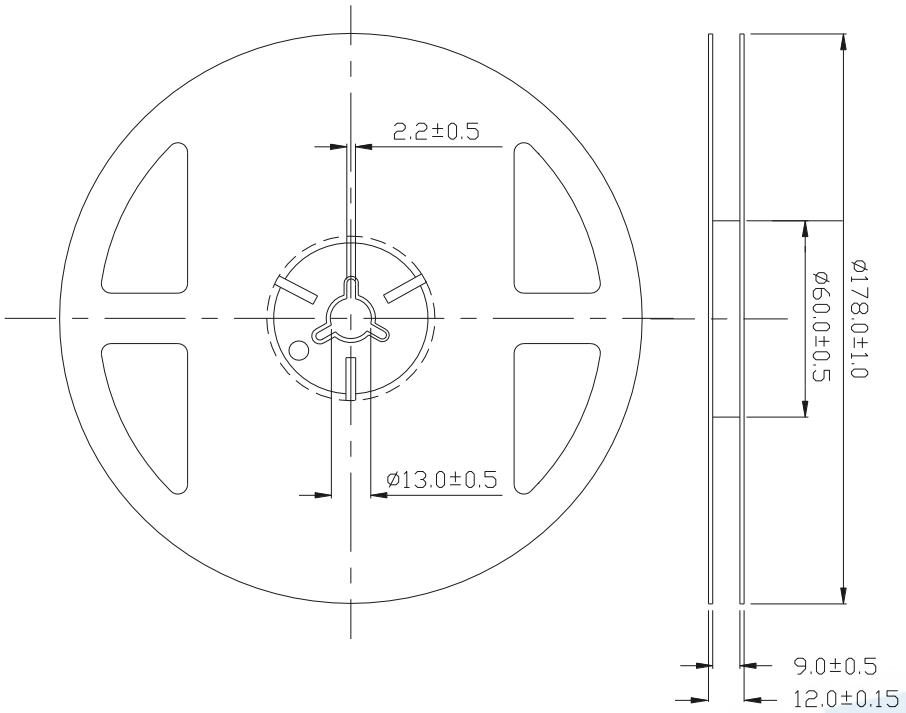
Each terminal is to go to the tip of soldering iron temperature less than 350℃ for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of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

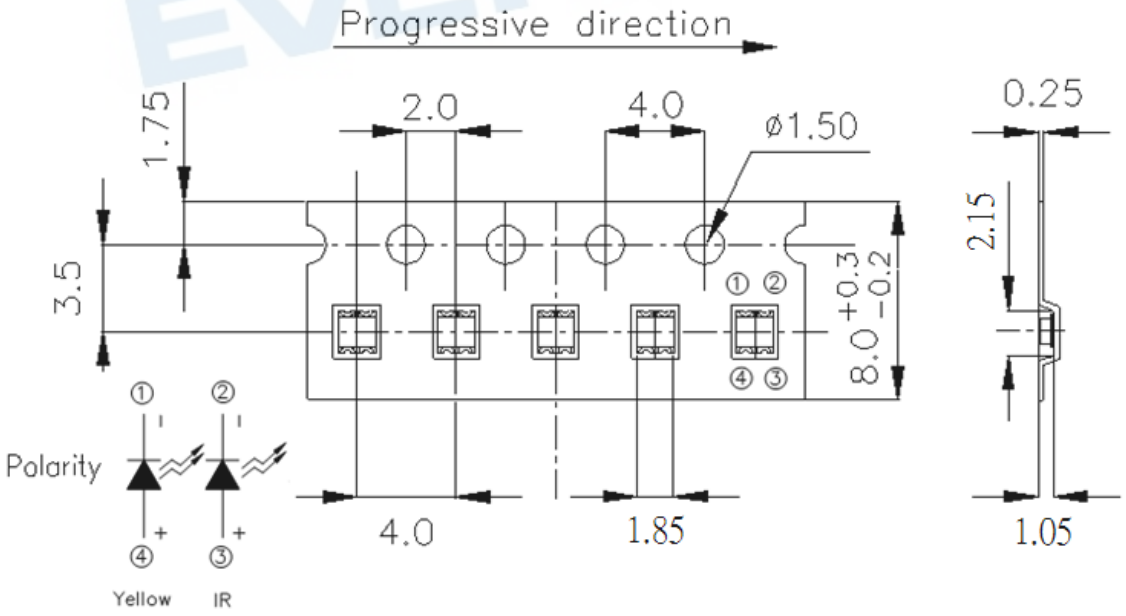


Package Dimensions



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

2. Carrier Tape Dimensions:(Quantity: 3000pcs/reel)



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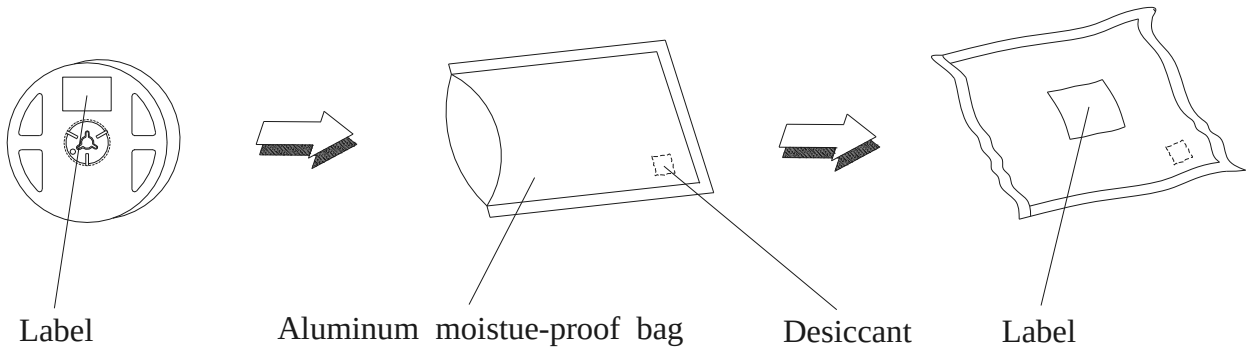
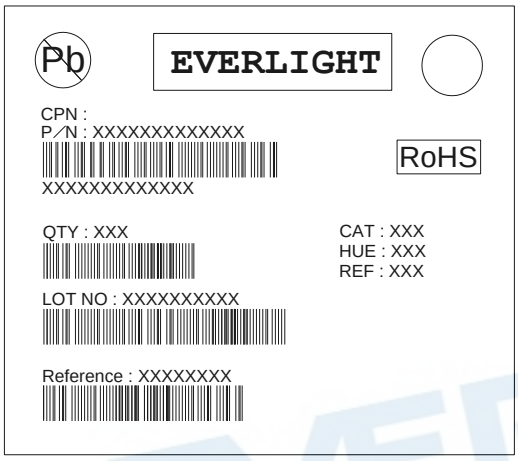
Packing Procedure



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

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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