DATASHEET

Technical Data Sheet
SMD B
IRRG25-16C/L491/TR8(HW)

Features

- Low forward voltage
- Good spectral matching to Si photodetector
- 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

- IRRG25-16C/L491/TR8(HW) is an infrared emitting diode and red emitting diode and Green emitting in miniature top view flat SMD package and it is molded in a water clear plastic. The device is spectrally matched with silicon photodiode and phototransistor.

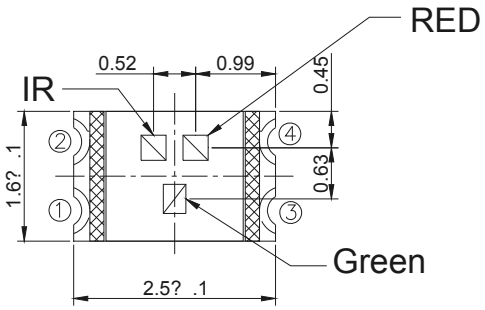
Applications

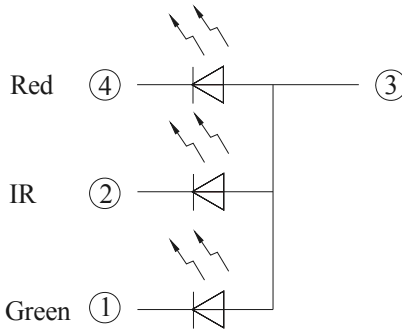
- Infrared applied system

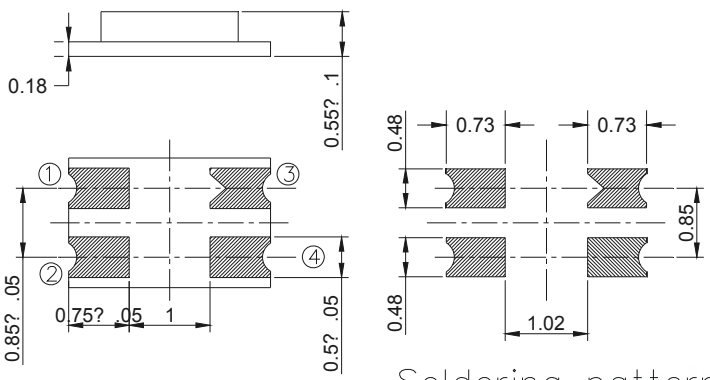
Device Selection Guide

Device No.	Chip Material	Lens Color
IR	GaAlAs	Water clear
Red	AlGaInP	Water clear
Green	InGaN	Water clear

Package Dimensions







① Cathode
② Cathode
③ Anode
④ Cathode

Soldering patterns

Suggested pad dimension is just reference only.
Please modify the pad dimension based on individual need.

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 (IR)	I_F	50	mA
Continuous Forward Current (Red)	I_F	25	mA
Continuous Forward Current (Green)	I_F	20	mA
Reverse Voltage	V_R	5	V
Operating Temperature	Topr	-40 ~ +85	℃
Storage Temperature	Tstg	-40 ~ +100	℃
Soldering Temperature *1	Tsol	260	℃
Power Dissipation at(or below) (IR)	Pc	100	mW
Power Dissipation at(or below) (Red)	Pc	75	mW
Power Dissipation at(or below) (Green)	Pc	80	mW

Notes: *1:Soldering time≦5 seconds.

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Radiant Intensity(IR)	Ie	1.5	--	--	mW /sr	I_F=20mA
Radiant Intensity(Red)		150	--	--	mcd	
Luminous Intensity (Green)		1200	--	--		
Peak Wavelength(IR)	λp	--	940	--	nm	I_F=20mA
Peak Wavelength(Red)		--	660	--		
Peak Wavelength(Green)		--	525	--		
Spectral Bandwidth(IR)	Δ λ	--	30	--	nm	I_F=20mA
Spectral Bandwidth(Red)		--	30	--		
Spectral Bandwidth(Green)		--	35	--		
Forward Voltage(IR)	V_F	--	1.3	1.7	V	I_F=20mA
Forward Voltage(Red)		--	1.9	2.3		
Forward Voltage(Green)		2.4	3.0	3.5		
		--	--	3.9		I_F=100mA 1/10 Duty@1KHz
Reverse Current(IR)	I_R	--	--	10	μA	V_R=5V
Reverse Current(Red)		--	--	10		
Reverse Current(Green)		--	--	10		
View Angle	$2\theta_{1/2}$	--	120	--	deg	I_F=20mA

G - Bin Range of Luminous Flux

Bin Code	Min.	Max.	Unit	Condition
A	1200	1400	mcd	I_F =20mA
B	1400	1600		
C	1600	1800		
D	1800	2000		

Tolerance of Luminous flux: ±10%.

G - Bin Range of Forward Voltage

Bin Code	Min.	Max.	Unit	Condition
V1	2.4	2.5	V	I_F =20mA
V2	2.5	2.6		
V3	2.6	2.7		
V4	2.7	2.8		
V5	2.8	2.9		
V6	2.9	3.0		
V7	3.0	3.1		
V8	3.1	3.2		
V9	3.2	3.3		
V10	3.3	3.4		
V11	3.4	3.5		

Tolerance of Forward Voltage: ±0.1V

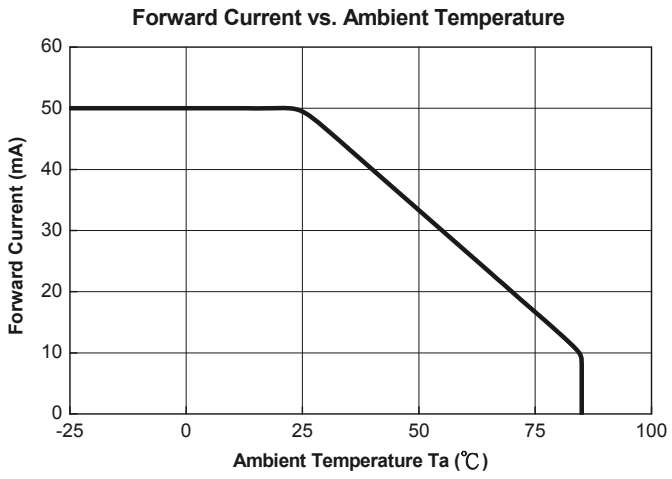
G- Dominant Wavelength Bins

Bin Code	Min.	Max.	Unit	Condition
G1	515	520	nm	I_F =20mA
G2	520	525		
G3	525	530		

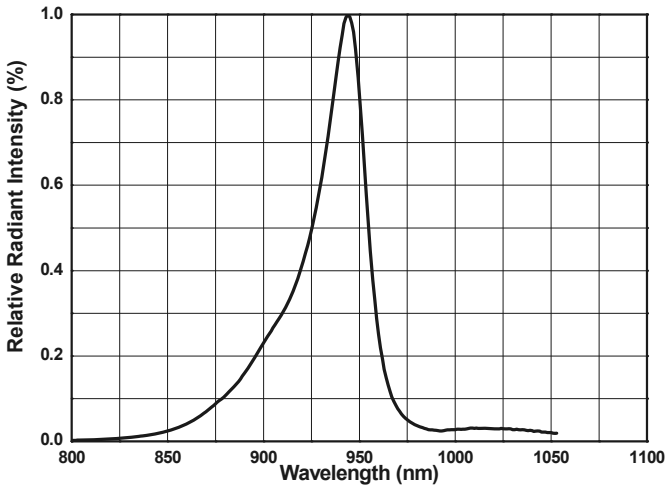
Dominant / Peak wavelength measurement tolerance: ±1nm

Typical Electrical/Optical/Characteristics Curves for IR

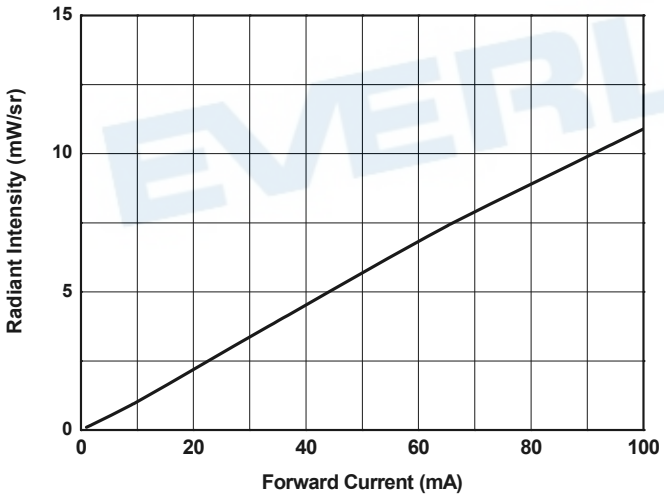
Forward Current vs. Ambient Temperature



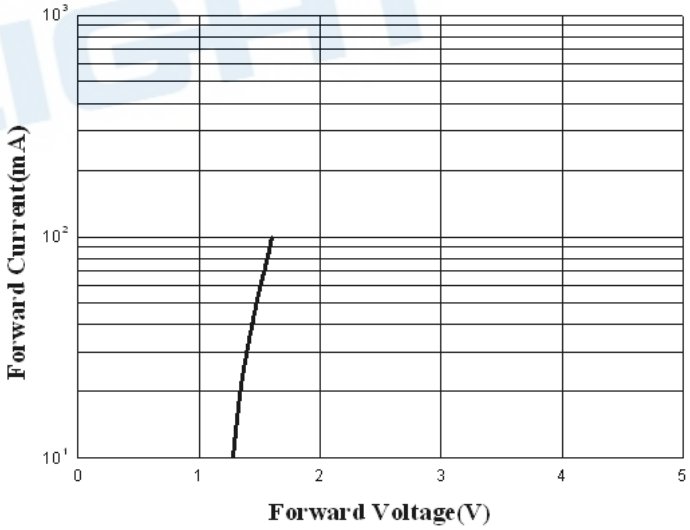
Spectral Distribution



Relative Intensity vs. Forward Current

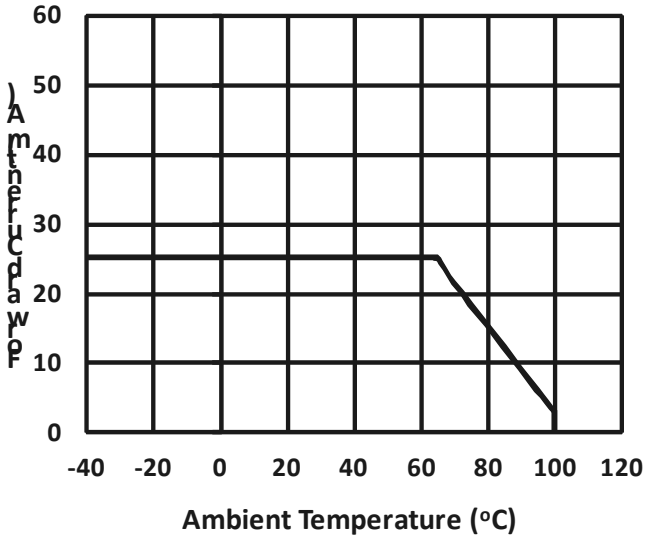


Forward Current vs. Forward Voltage

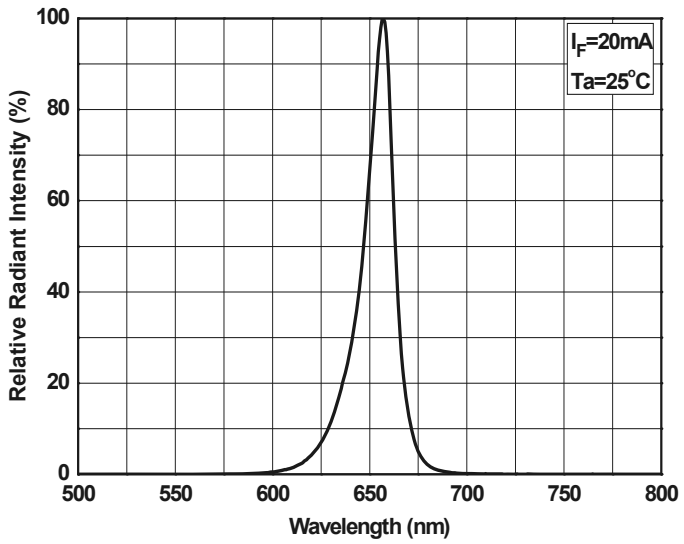


Typical Electrical/Optical/Characteristics Curves for Red

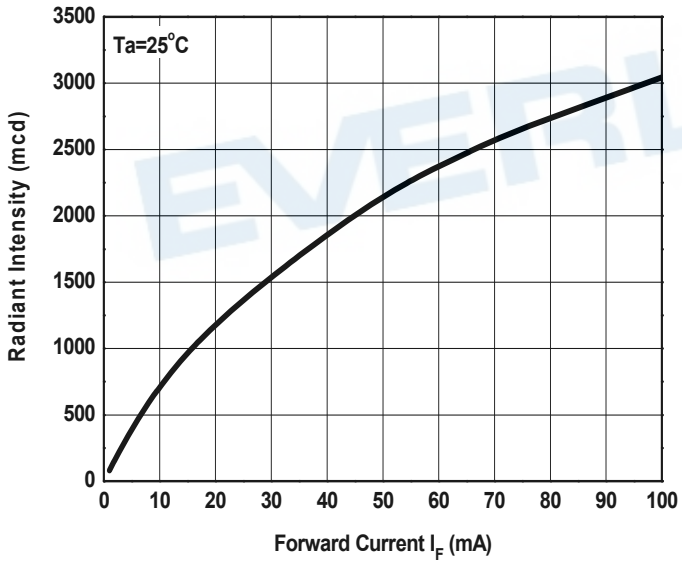
Forward Current vs. Ambient Temperature



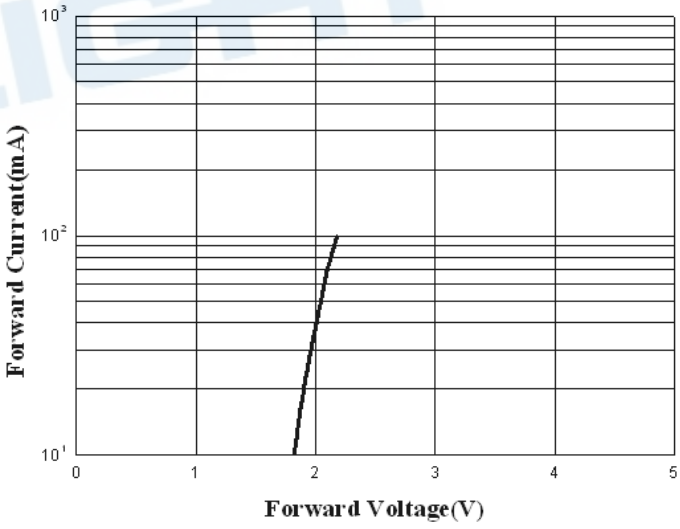
Spectral Distribution



Relative Intensity vs. Forward Current

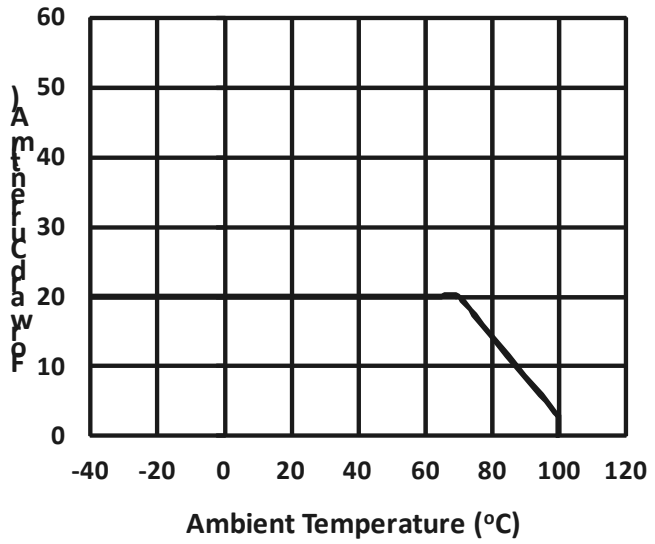


Forward Current vs. Forward Voltage

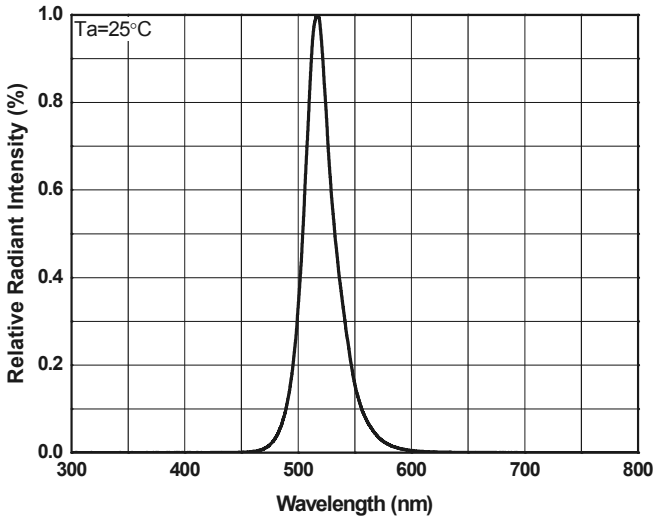


Typical Electrical/Optical/Characteristics Curves for Green

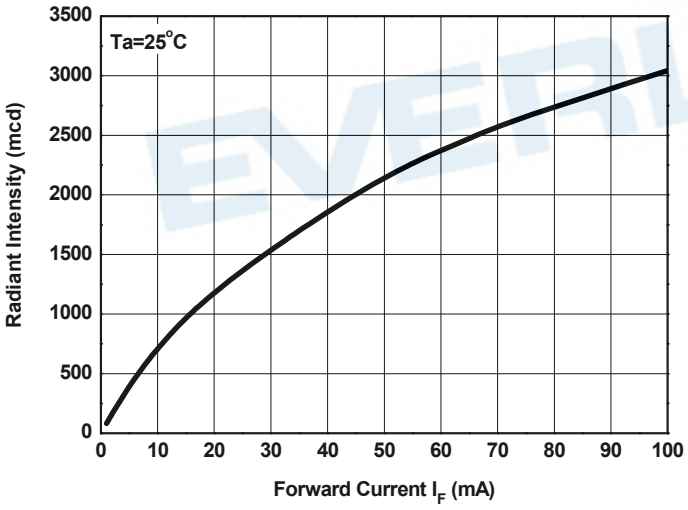
Forward Current vs. Ambient Temperature



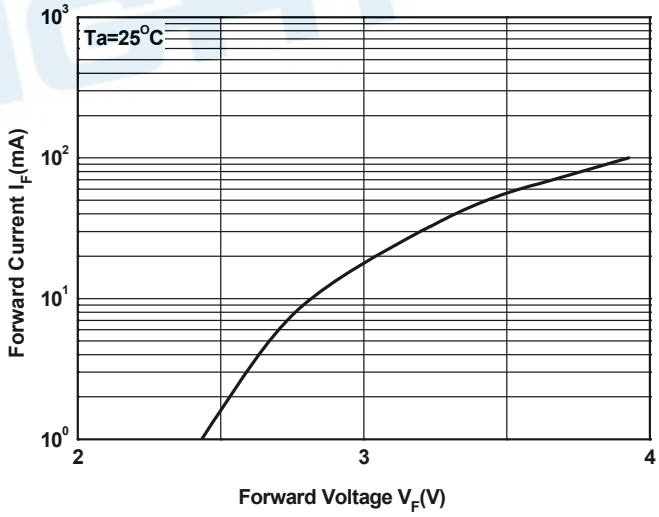
Spectral Distribution



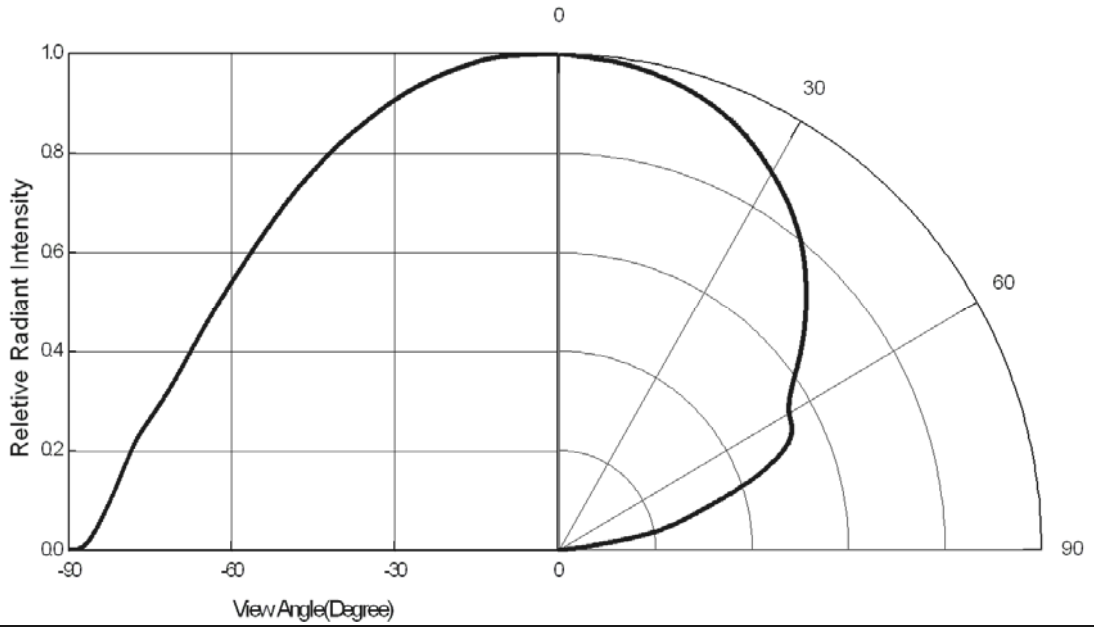
Relative Intensity vs. Forward Current



Forward Current vs. Forward Voltage



Relative Light Current vs. Angular Displacement



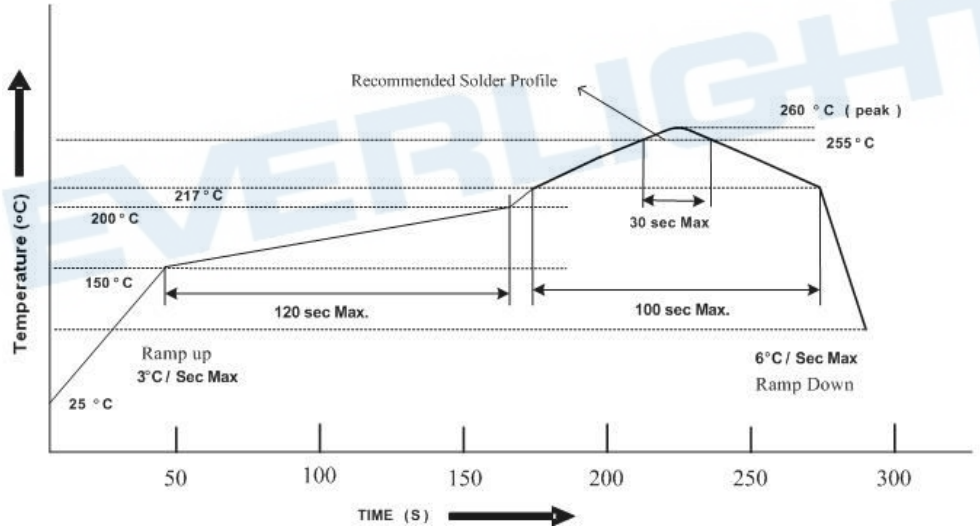
Precautions For Use

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



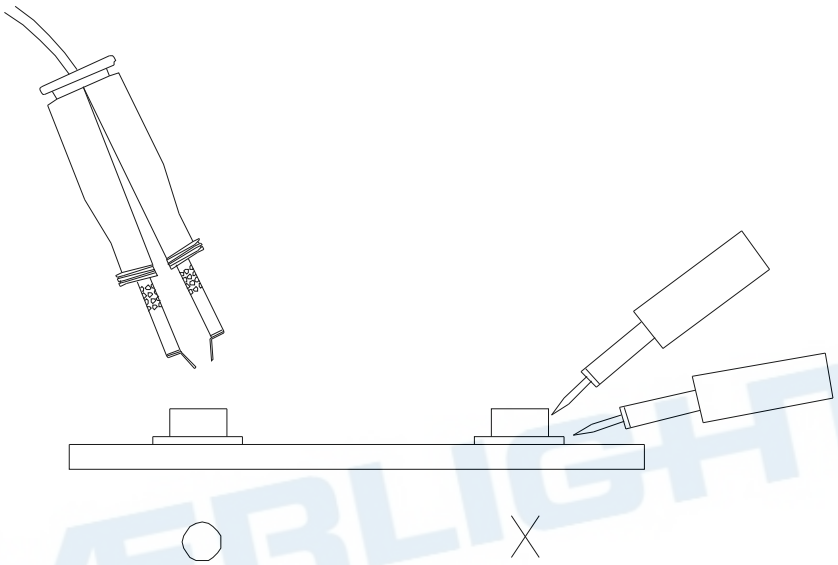
   3.2 Reflow soldering should not be done more than two times.
   3.3 When soldering, do not put stress on the LEDs during heating.
   3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

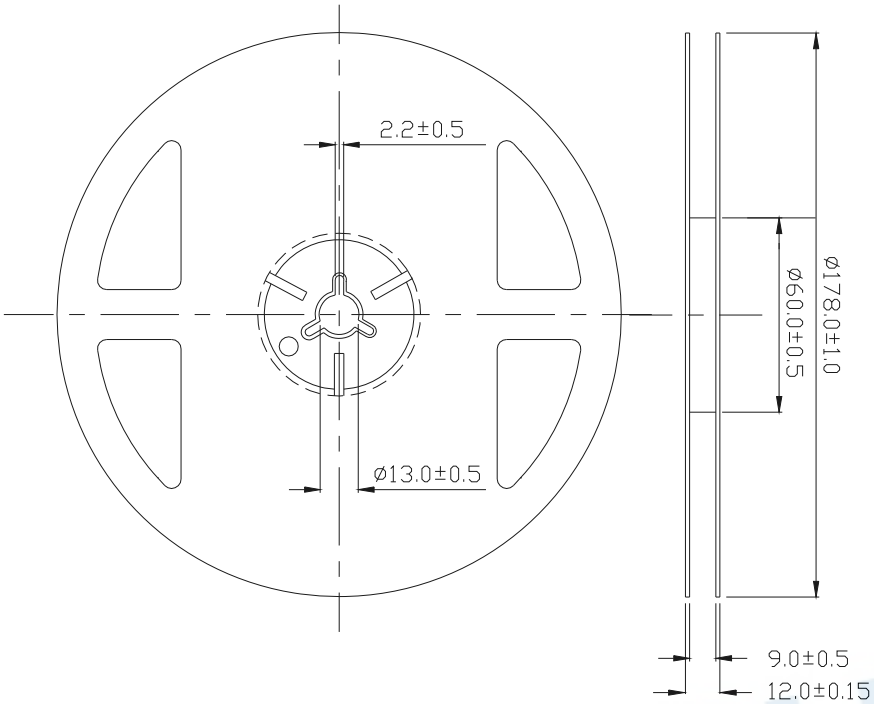
Each terminal is to go to the tip of soldering iron temperature less than 350℃ for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of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

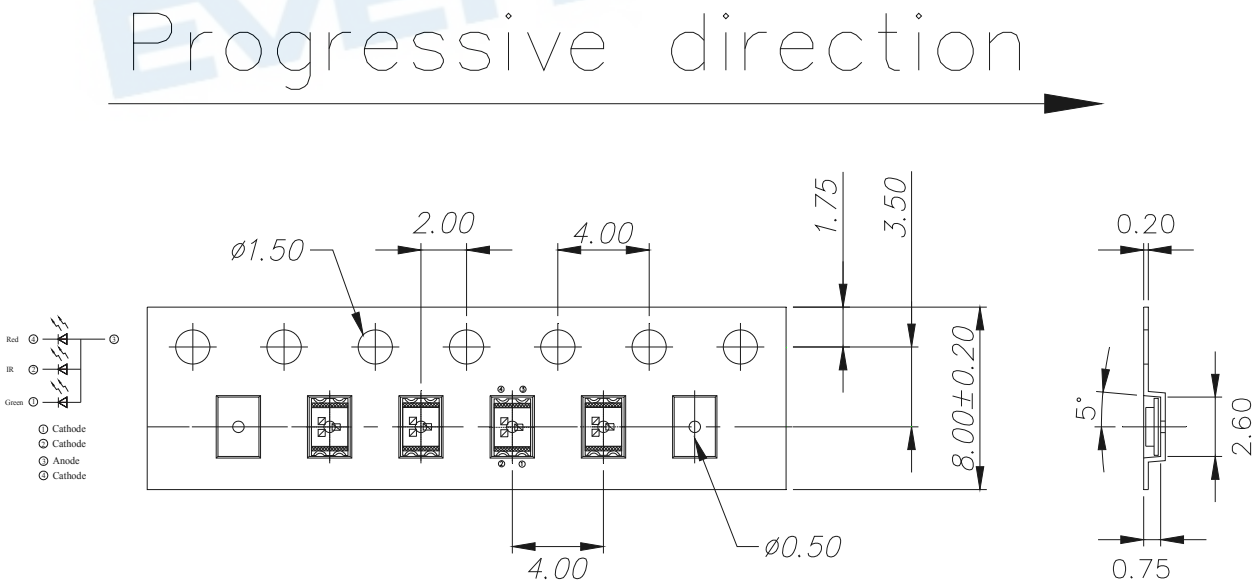


Package Dimensions



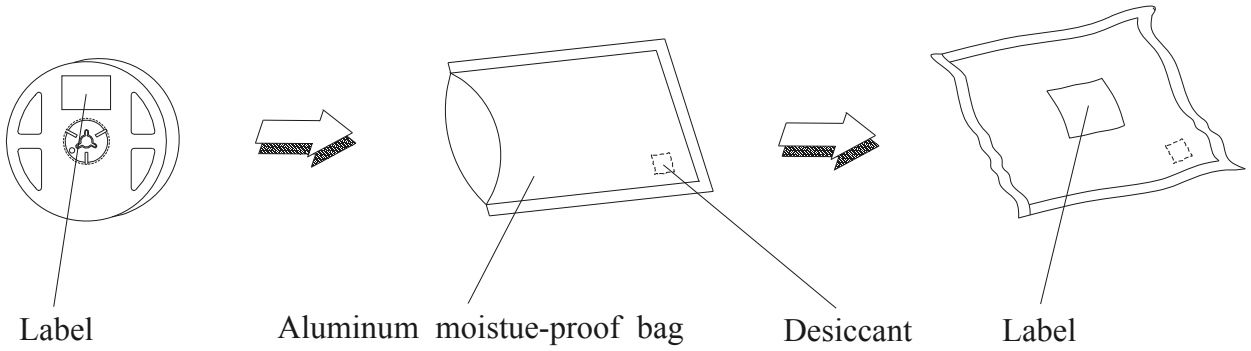
Note: The tolerances unless mentioned is ±0.1mm ,Unit = mm

Carrier Tape Dimensions:(Quantity: 2500 pcs/Reel)

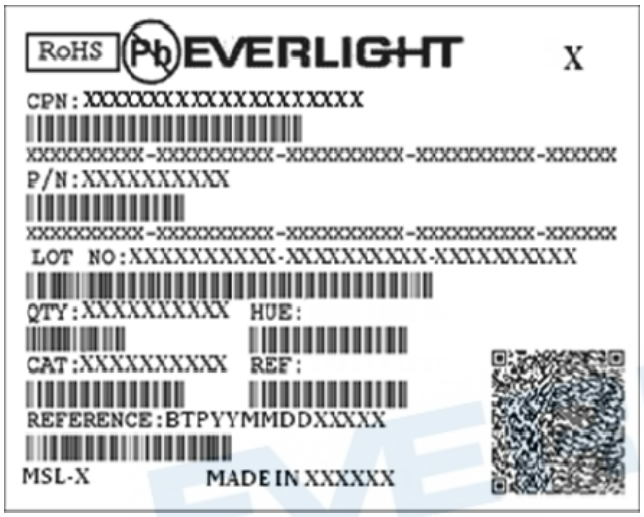


Note: The tolerances unless mentioned is ±0.1mm ,Unit = mm

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

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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