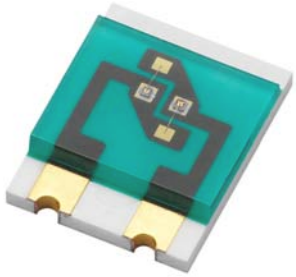
DATASHEET

IRR60-48C/TR8



Features

- Compatible with infrared and vapor phase reflow solder process.
- Compatible with automatic placement equipment.
- Bi-color LED wavelength. (660nm, 905nm)
- Compliance Halogen Free(Br < 900ppm, Cl < 900ppm, Br+Cl < 1500ppm)
- Compliance with EU REACH
- This product itself will remain within RoHS compliant version.
- Package size : 6.0mm*4.8mm*1.1mm

Description

- **IRR60-48C/TR8** is an infrared emitting diode in miniature SMD package, which is molded in a water clear plastic with flat top view lens. The device is spectrally matched with silicon photodiode and phototransistor.

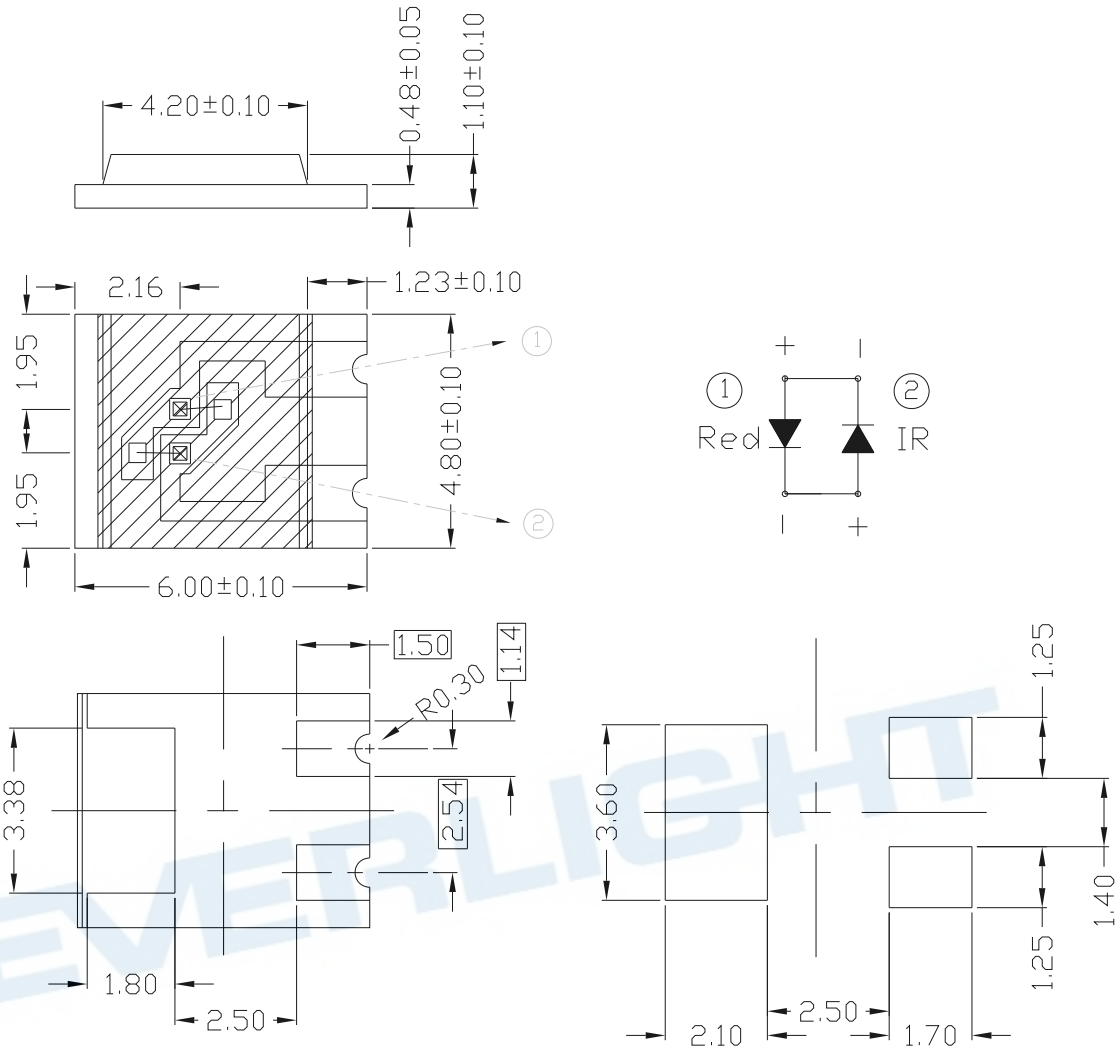
Applications

- Sensor
- Oximeter

Device Selection Guide

Device No.	Chip Material	Lens Color
IRR60-48C/TR8	AlGaInP (660nm) AlGaAs (905nm)	Water clear

Package Dimensions



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

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Ratings		Unit
		660nm(Red)	910nm(IR)	
Continuous Forward Current	I_F	30		mA
Peak Forward Current *1	I_{FP}	150		mA
Reverse Voltage	V_R	5		V
Operating Temperature	Topr	-25~ +85		℃
Storage Temperature	Tstg	-25 ~ +85		℃
Soldering Temperature *2	Tsol	260		℃
Power Dissipation at(or below) 25℃ Free Air Temperature	P_d	70	50	mW
Temperature resistance junction ambient	Rthj-a	550		K/W

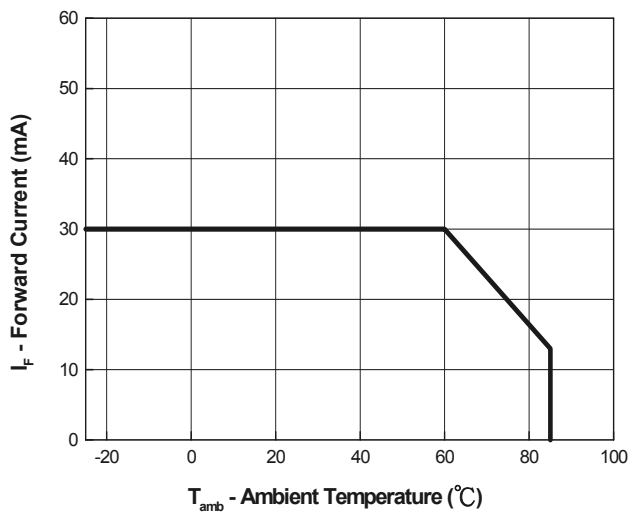
Notes: *1:I_{FP} Conditions--Pulse Width≦10 μ s and Duty≦1%.
*2:Soldering time≦5 seconds.

Electro-Optical Characteristics (Ta=25℃)

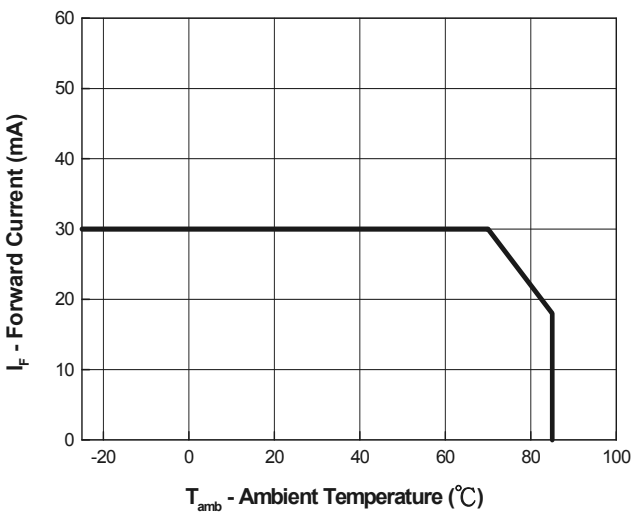
Parameter	Symbol		Condition	Min.	Typ.	Max.	Unit
Radiant Intensity	I_E	Red	I_F=20mA	1.0	2.3	--	mW /sr
		IR		0.5	1.0	--	
Total Radiated Power	Po	Red	I_F=20mA	--	7.0	--	mW
		IR		--	3.0	--	
Peak Wavelength	λ p	Red	IF=20mA	657	660	663	nm
		IR		895	905	915	
Spectral Bandwidth	$\Delta\lambda$	Red	IF=20mA	--	20	--	nm
		IR		--	60	--	
Forward Voltage	V_F	Red	IF=20mA	1.80	2.10	2.50	V
		IR		1.10	1.40	1.60	
Reverse Current	I_R	Red	VR=5V	--	--	10	μ A
		IR		--	--	10	
View Angle	2θ 1/2	Red	IF=20mA	--	140	--	deg
		IR		--	130	--	

Typical Electro-Optical Characteristics Curves

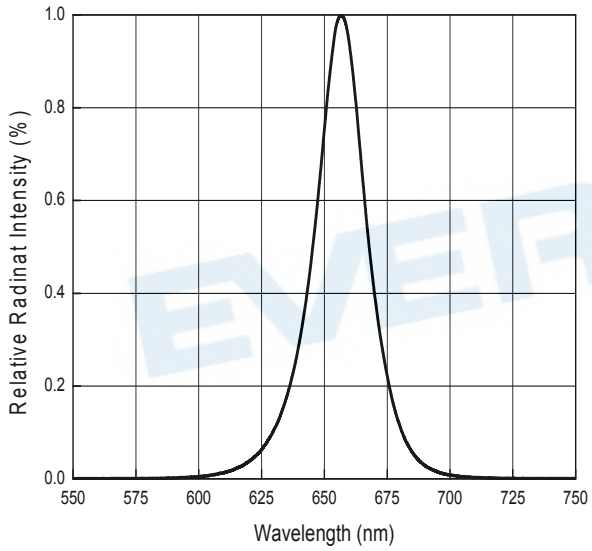
Forward Current vs. Ambient Temperature (Red)



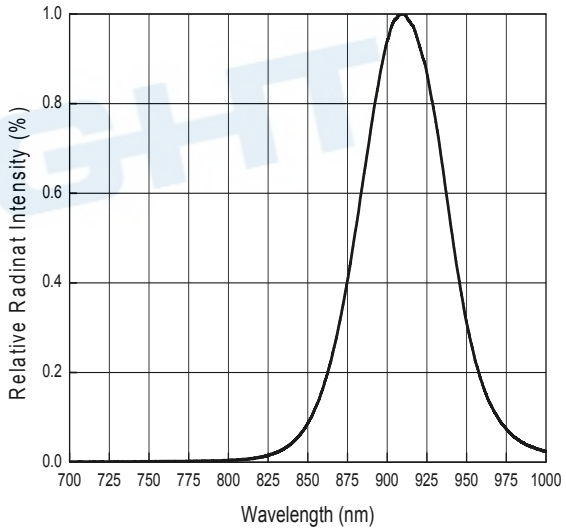
Forward Current vs. Ambient Temperature (IR)



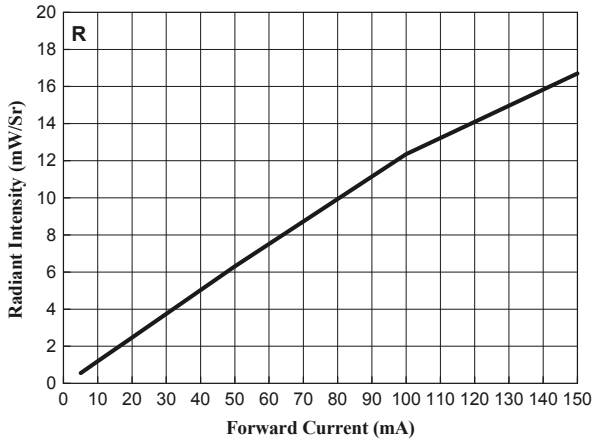
Spectral Distribution (Red)



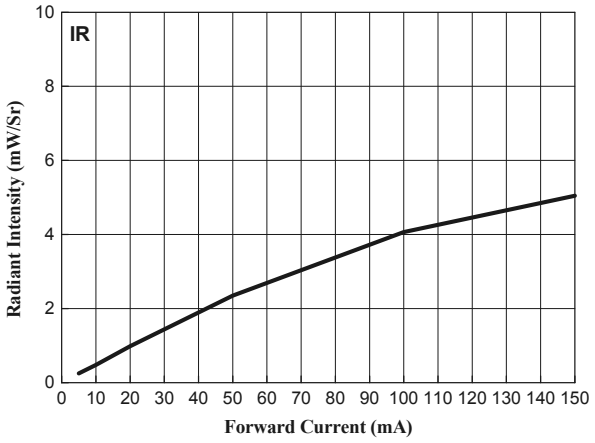
Spectral Distribution (IR)



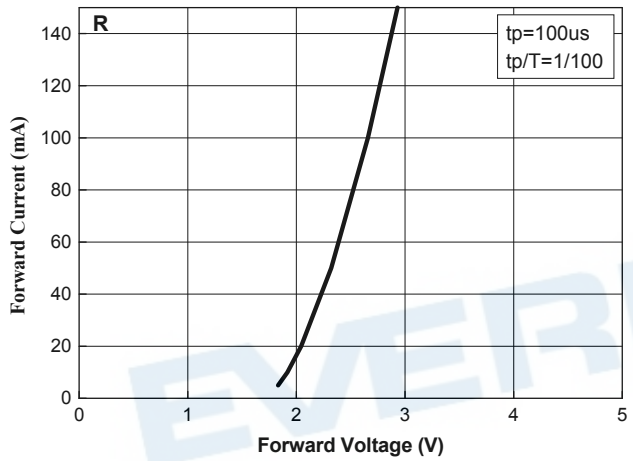
Radiant Intensity vs. Forward Current (Red)



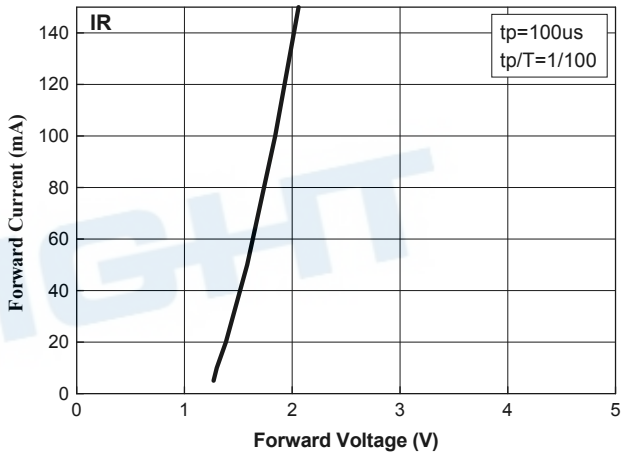
Radiant Intensity vs. Forward Current (IR)



Forward Current vs.Forward Voltage (Red)

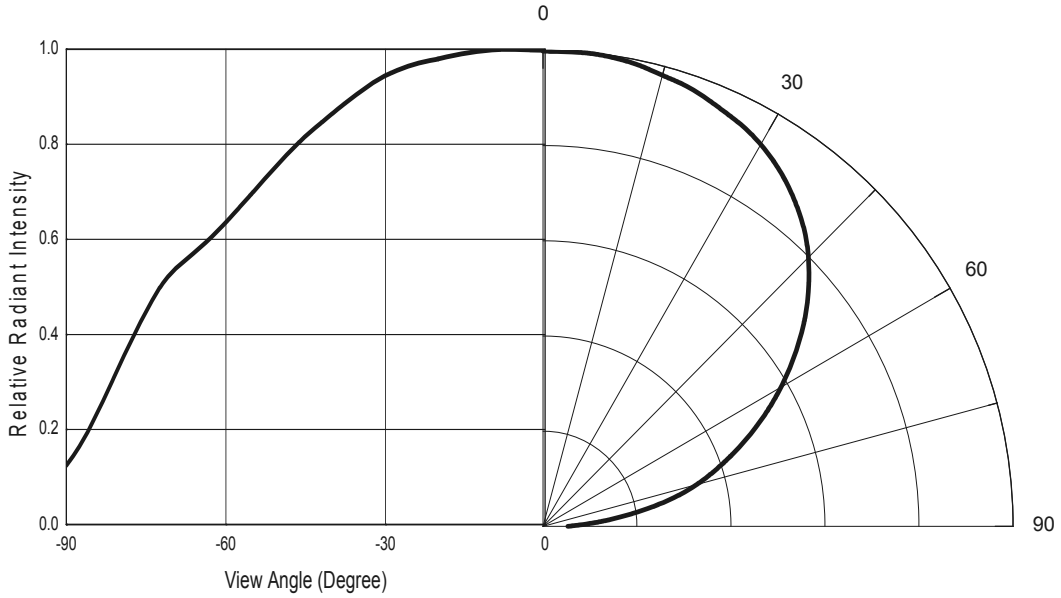


Forward Current vs.Forward Voltage (IR)

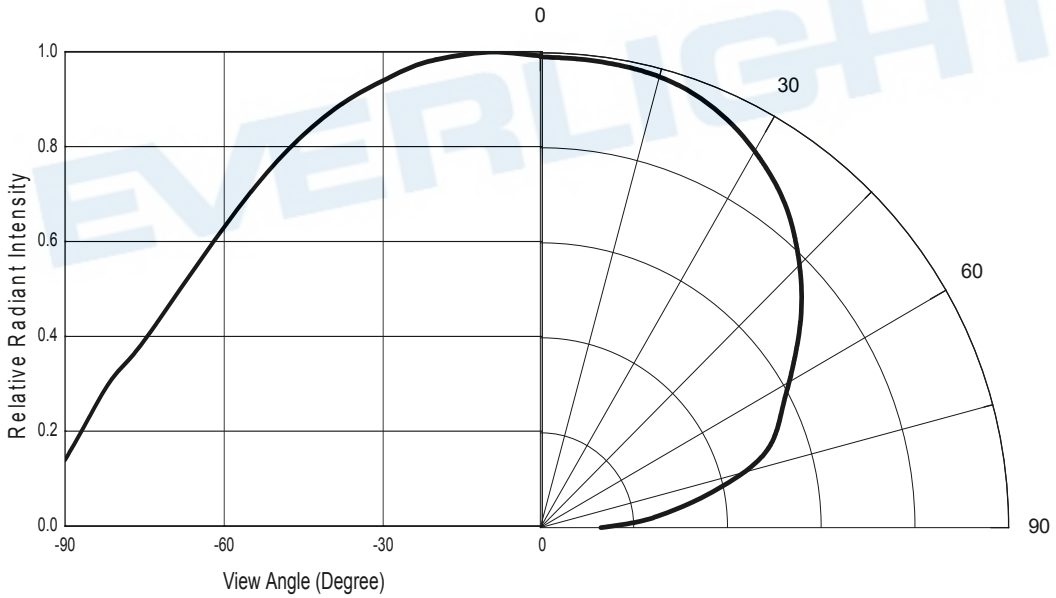


Typical Electro-Optical Characteristics Curves

Relative Radiant Intensity vs. Angular Displacement (Red)



Relative Radiant Intensity vs. Angular Displacement (IR)



Precautions For Use

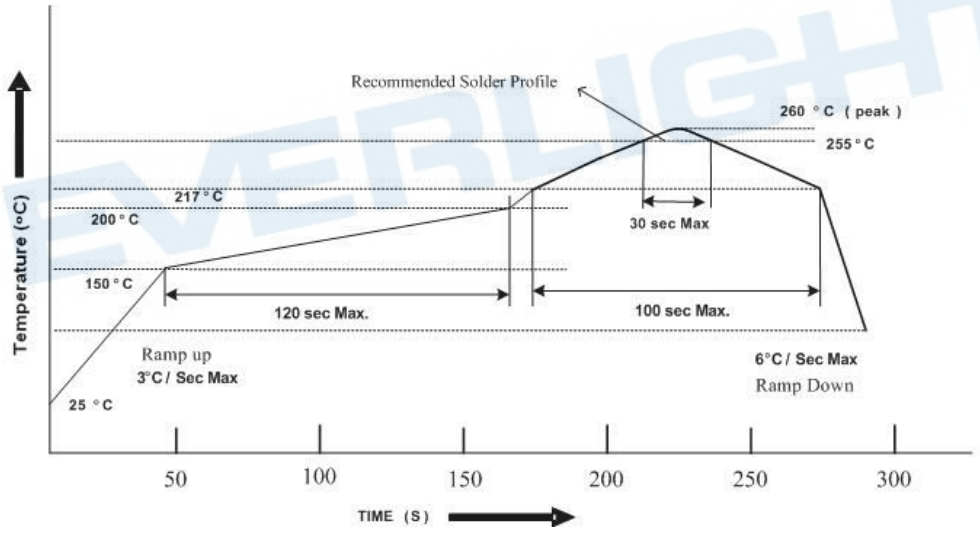
1. Over-current-proof

   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 24 hours (1 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. 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.

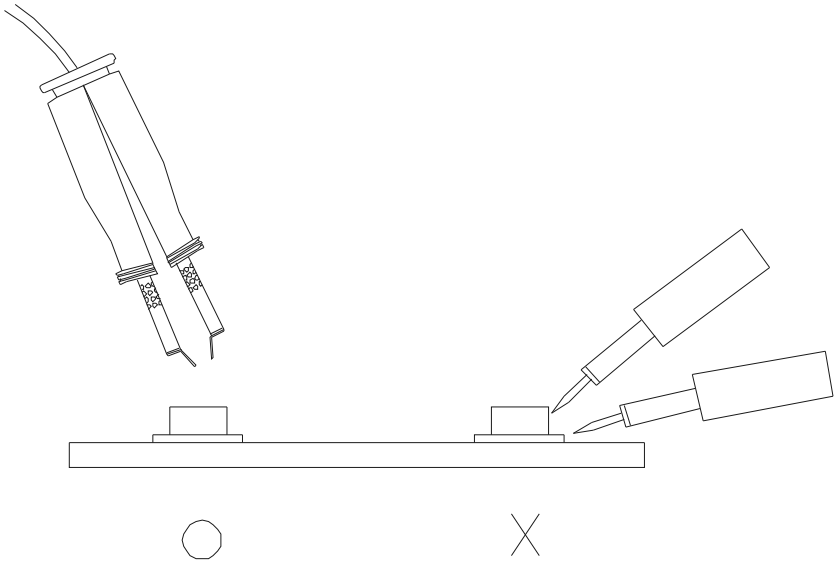
4. Soldering Iron

   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.

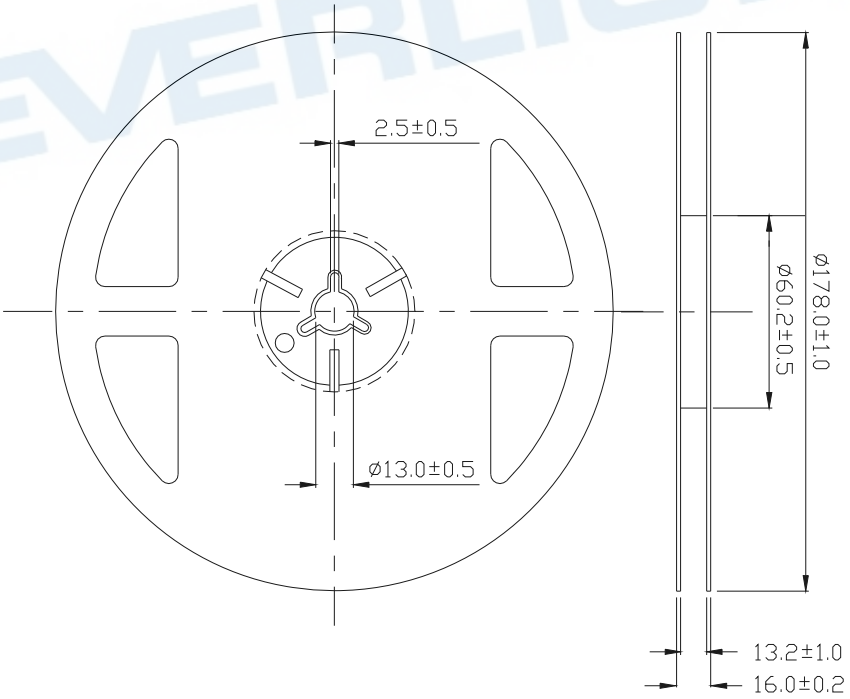
5. Repairing

   Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a

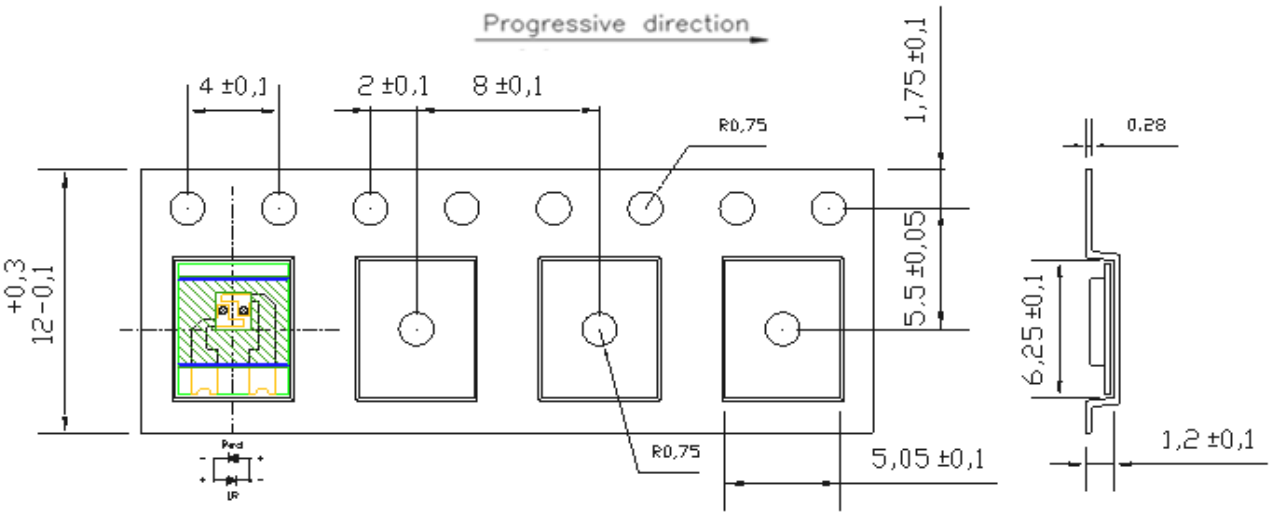
double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.



Package Dimensions

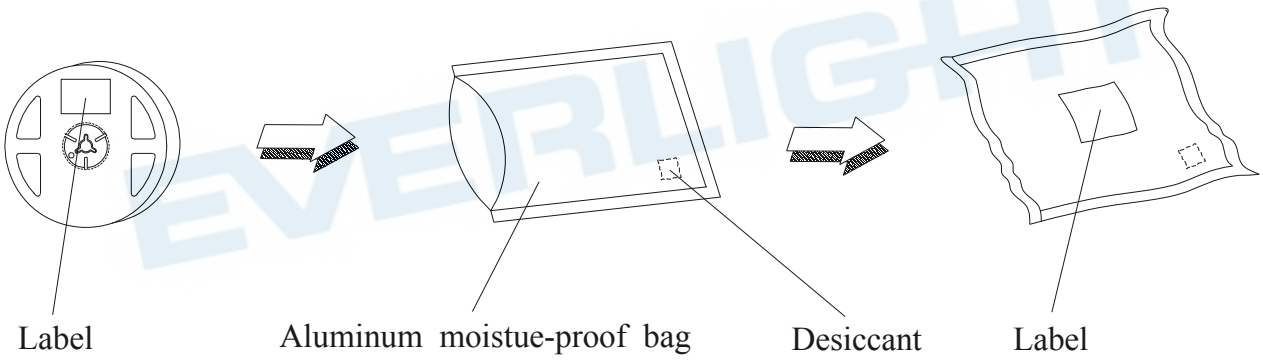


Carrier Tape Dimensions: Loaded quantity 1000PCS per reel.

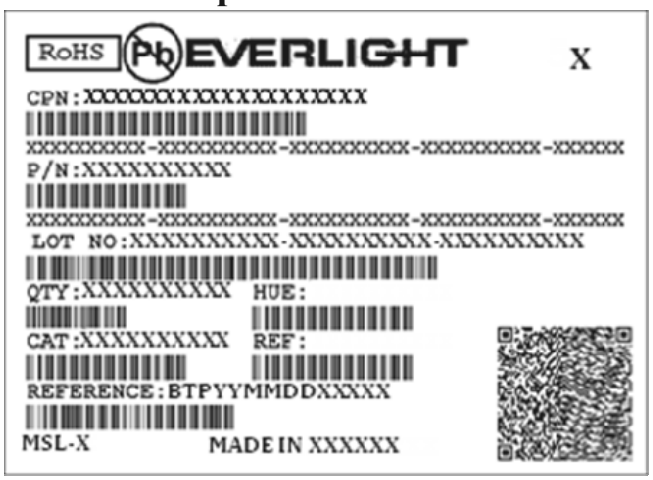


Note: 1. Dimensions are in millimeters
2. The tolerances unless mentioned is ±0.1mm

Moisture Resistant Packaging



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

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2. The product meets EVERLIGHT AMERICAS 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.
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