Technical Data Sheet

0603 Package Infrared LED

MIR603Series

Features

- 0603 package
- Peak wavelength λp=940nm
- Package in 8mm tape on 7” diameter reel
- Compatible with infrared and vapor phase reflow solder process.
- Pb free
- The product itself will remain within RoHS compliant version.

Descriptions

- The device is an infrared emitting diode in miniature SMD package which is molded in a water clear epoxy.
- The device is spectrally matched with silicon photodiode and phototransistor.

Applications

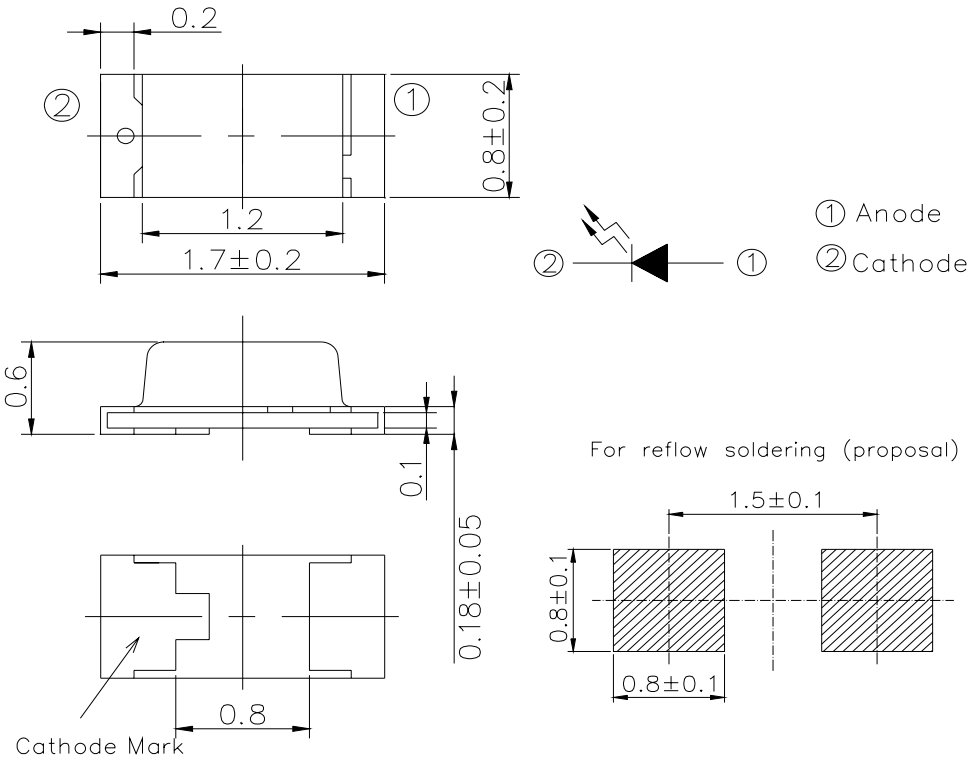
- PCB mounted infrared sensor
- Optoelectronic switch
- Smoke detector
- Infrared applied system

Devices Selection Guide

LED Part No.	Thickness	Lens Color
MIR60363T	0.6mm	Water clear
MIR60383T	0.8mm	Water clear

Package Dimensions

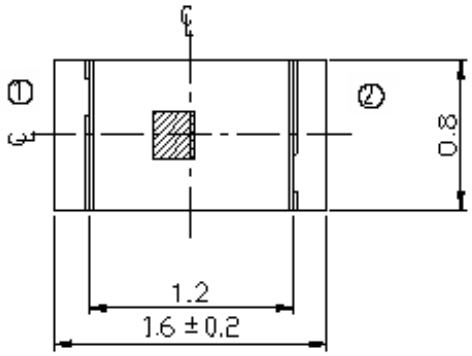
MIR60363T

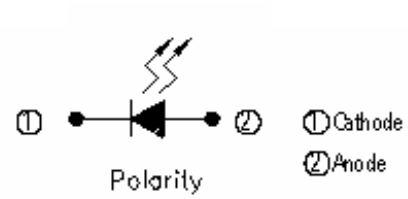


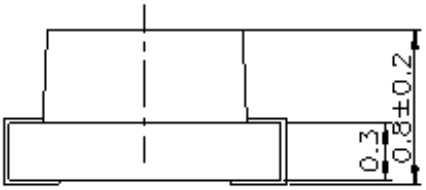
Notes:

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

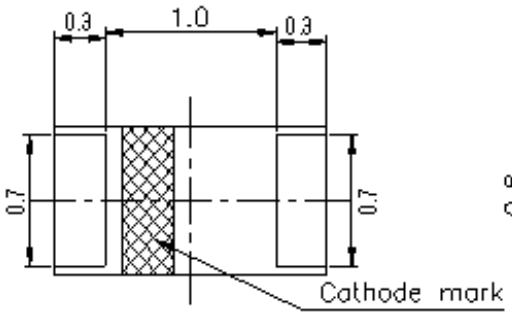
MIR60383T

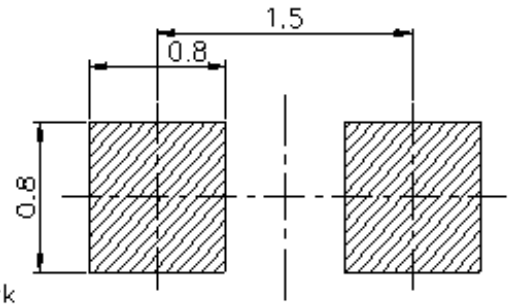






For reflow soldering (Propose)





Notes:

1. All dimensions are in millimeters
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Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Units
Continuous Forward Current	I_F	65	mA
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-40 ~ +100	℃
Storage Temperature	T_{stg}	-40 ~ +100	℃
Soldering Temperature *1	T_{sol}	260	℃
Power Dissipation at(or below) 25℃ Free Air Temperature	P_d	110	mW

Notes: *1:Soldering time≦5 seconds.

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Radiant Intensity	Ie	I_F=20mA	0.4	--	1.16	mW /sr
Peak Wavelength	λp	I_F=20mA	--	940	--	nm
Spectral Bandwidth	Δλ	I_F=20mA	--	45	--	nm
Forward Voltage	V_F	I_F=20mA	--	1.2	1.5	V
Reverse Current	I_R	V_R=5V	--	--	10	μA
View Angle	2θ1/2	I_F=20mA	--	140	--	deg

Bin Range of Radiant Intensity

Bin	Min	Max	Unit
A	0.40	0.83	mW/sr
B	0.67	1.16	

Typical Electro-Optical Characteristics Curves

Fig.1 Spectral Distribution

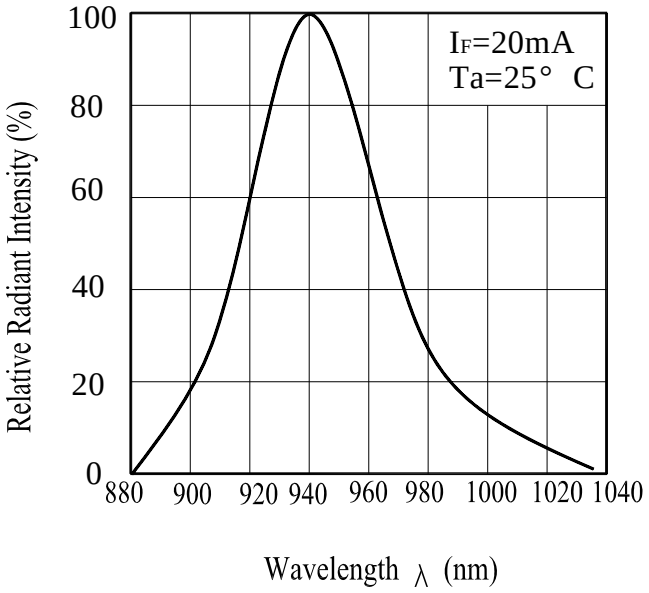


Fig.2 Forward Current vs Forward Voltage

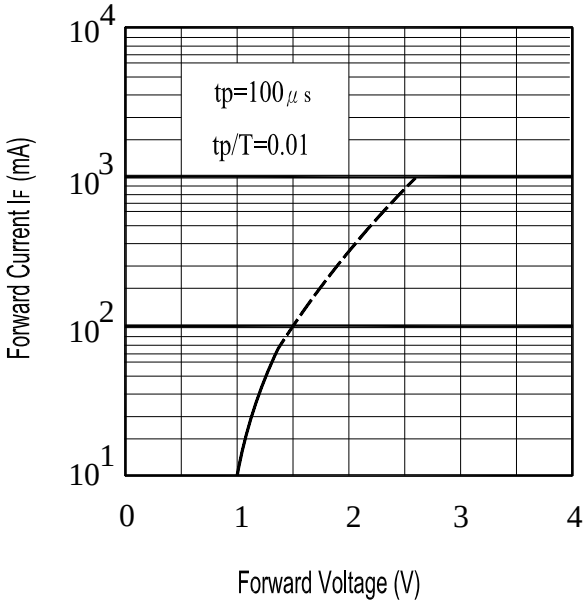


Fig.3 Radiant Intensity vs Forward Current .

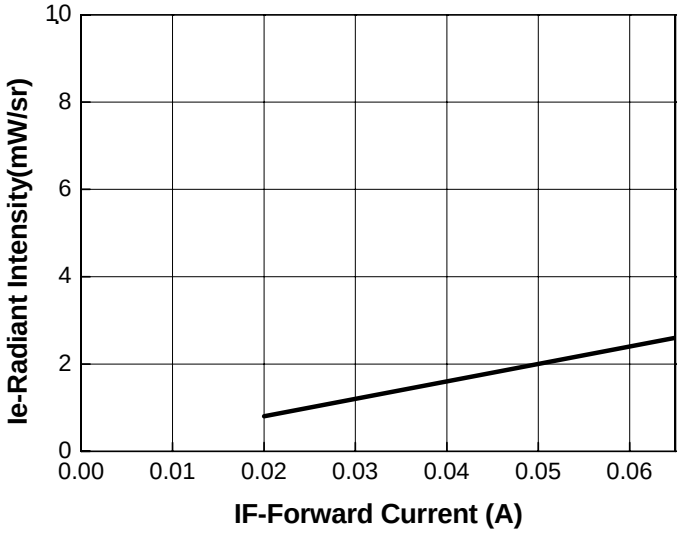
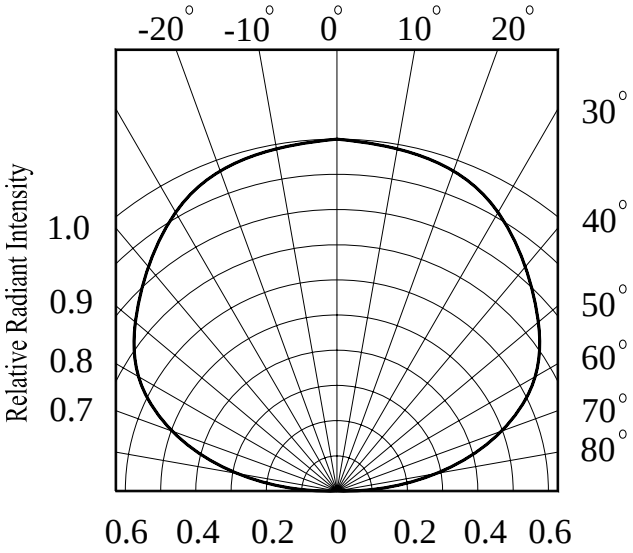


Fig.4 Relative Radiant Intensity vs. Angular Displacement



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.

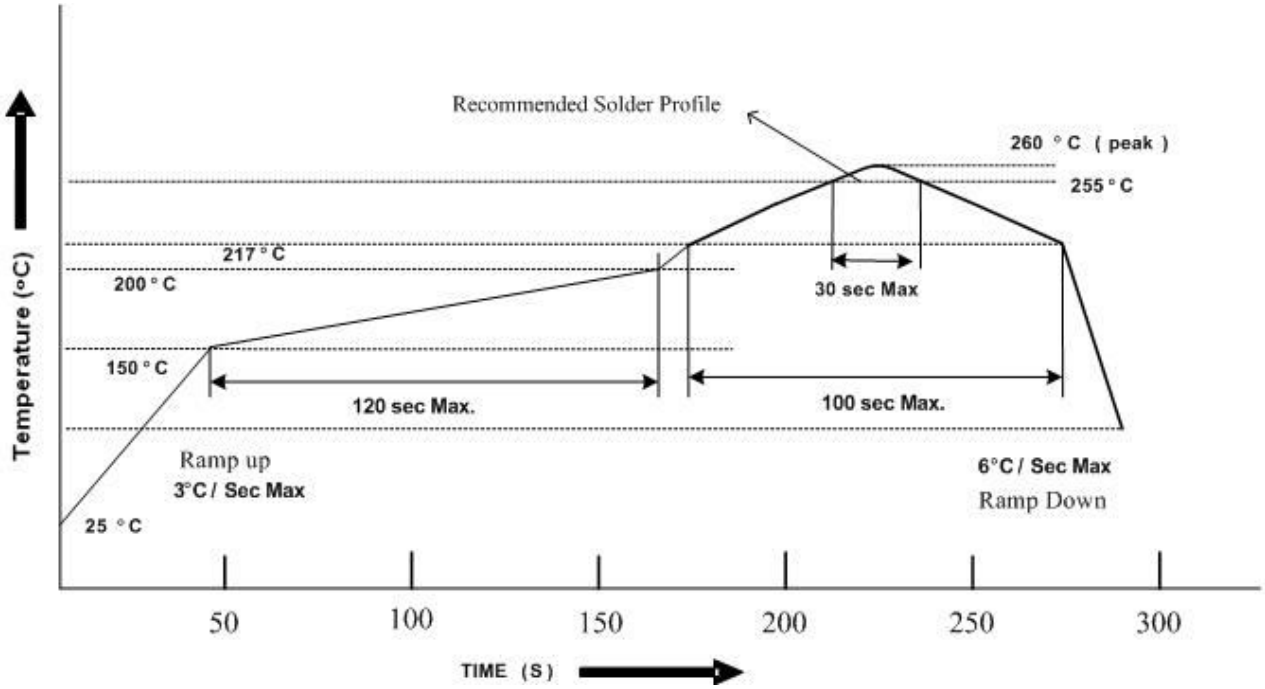
2.2 Shelf life in sealed bag from the bag seal date: 12 months at < 40°C and < 90% RH.

2.3 After opening the package, the LEDs must be kept at ≤ 30°C and ≤ 60%RH, and used within 168 hours.

2.4 If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time. Baking treatment is required, refer to IPC/JEDEC J-STD-033 for bake procedure or recommend the conditions : 60±5°C for 72 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.

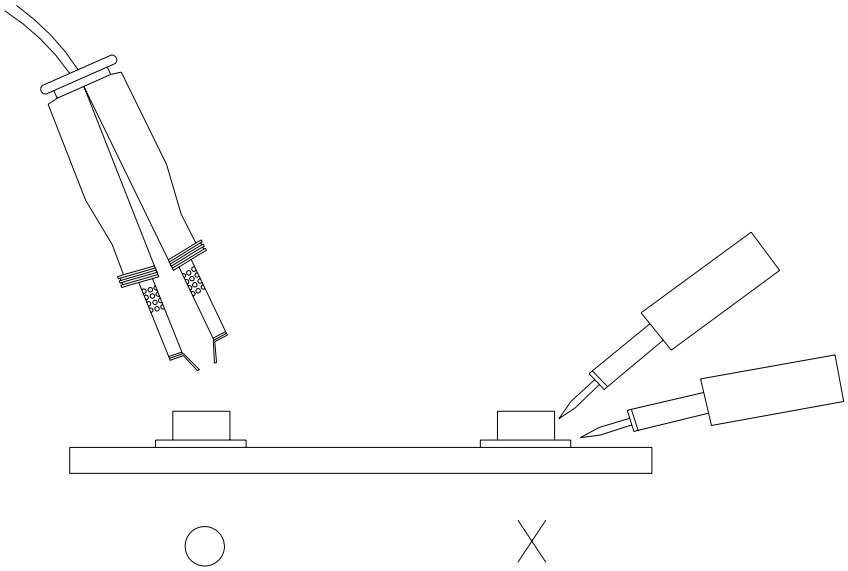
3.4 After soldering, do not warp the circuit board.

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.

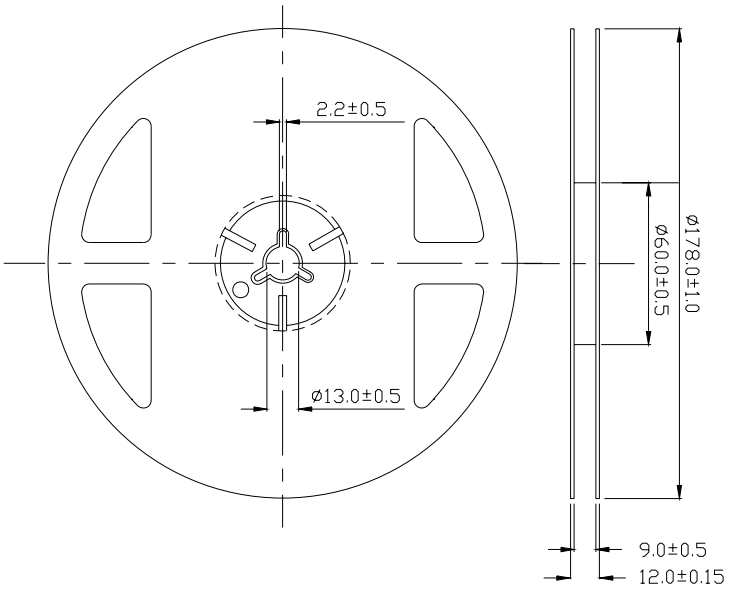
5.Repairing

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

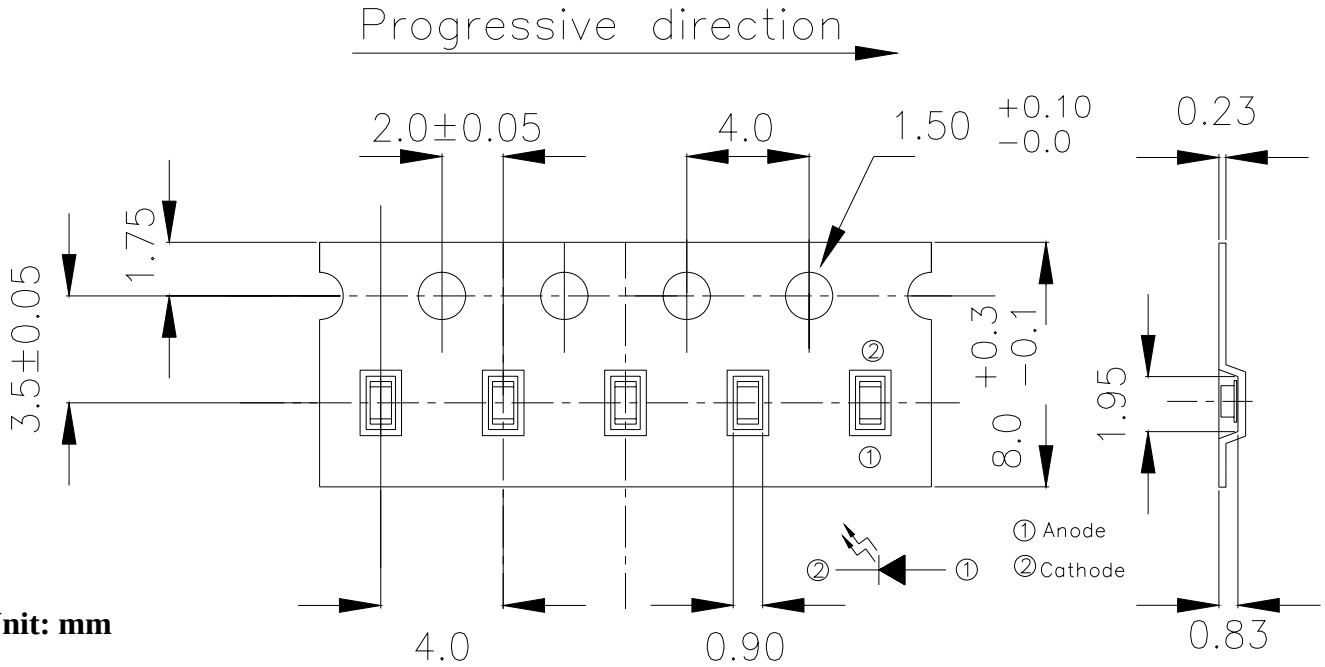
MIR60363T



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

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

MIR60363T



Unit: mm

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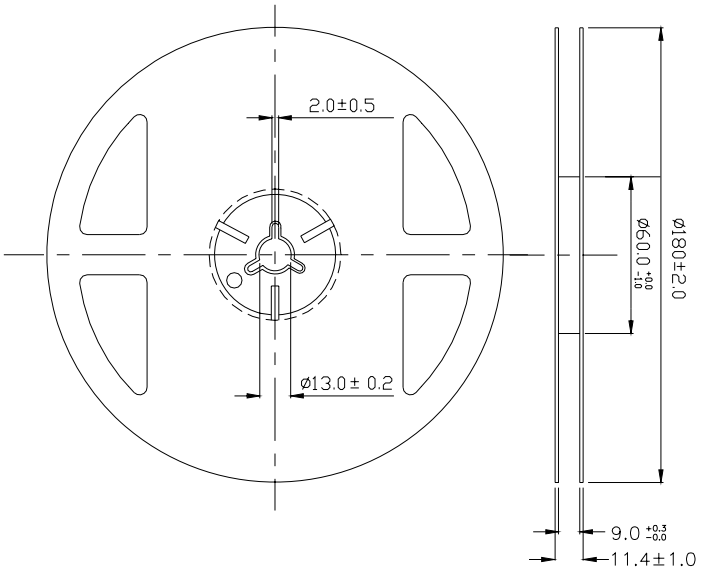

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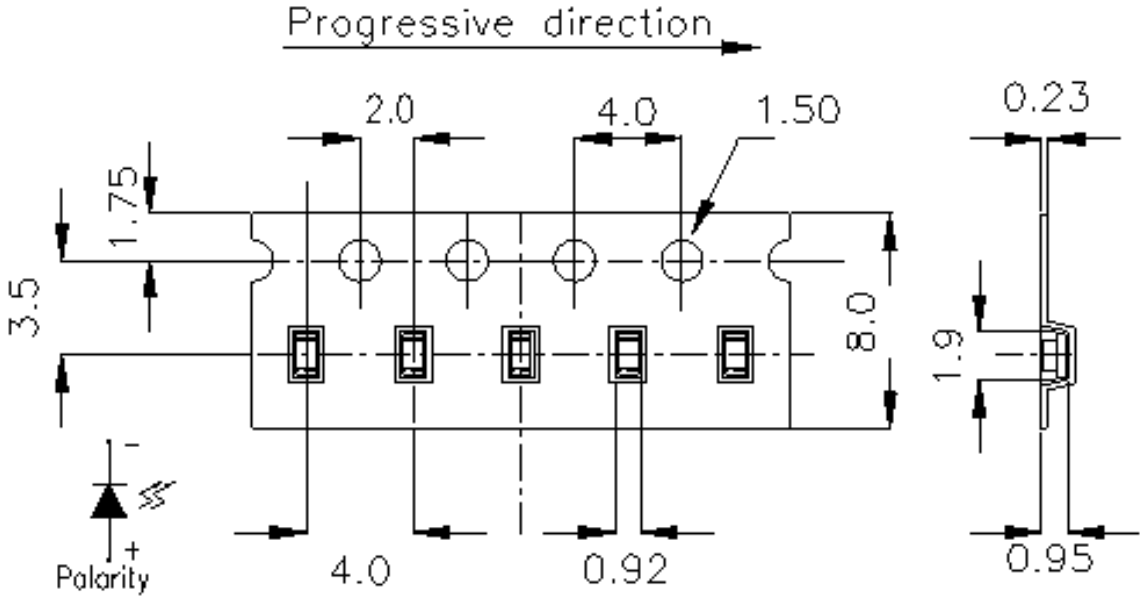

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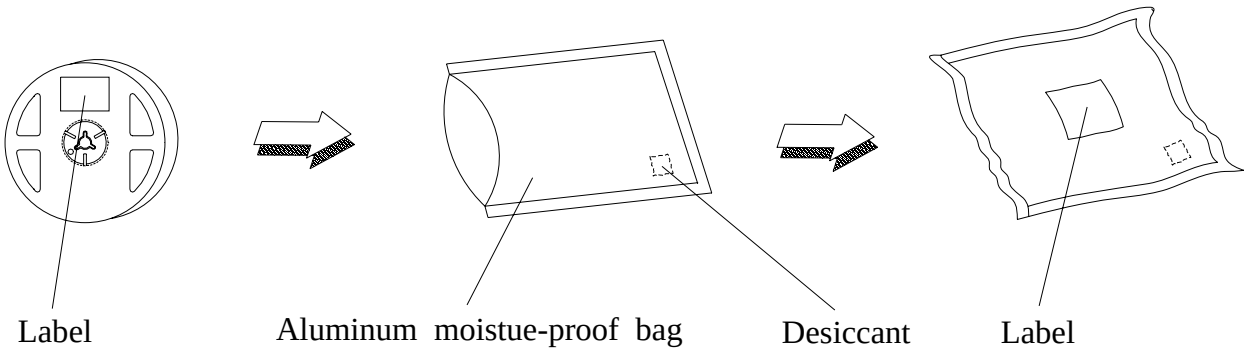
Packing Procedure



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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