EVERLIGHT ELECTRONICS CO., LTD.

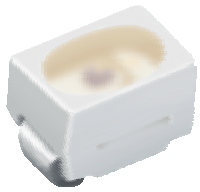
Technical Data Sheet

Mini Top View LEDs

65-21/Y2C-CJ2L2X/3T

Features

- White SMT package.
- Optical indicator.
- Wide viewing angle.
- Soldering methods: IR reflow soldering
- Available on tape and reel
- Pb-free
- The product itself will remain within RoHS compliant version.



Descriptions

The 65-21 series is available in soft orange, green, blue, and yellow. Due to the package design, the LED has wide viewing angle and optimized light coupling by inter reflector. Besides, LED is mounted top down and emits through the PCB. This feature makes the ideal for light pipe application.

Applications

- Optical indicators.
- Coupling into light guides.
- Backlighting (LCD, cellular phones, switches, keys, displays, illuminated advertising, general lighting).
- Coupling into light guides; Interior automotive lighting (e.g. dashboard backlighting, etc.).

Device Selection Guide

Chip Material	Emitted Color	Resin Color
AlGaInP	Brilliant Yellow	Water Clear

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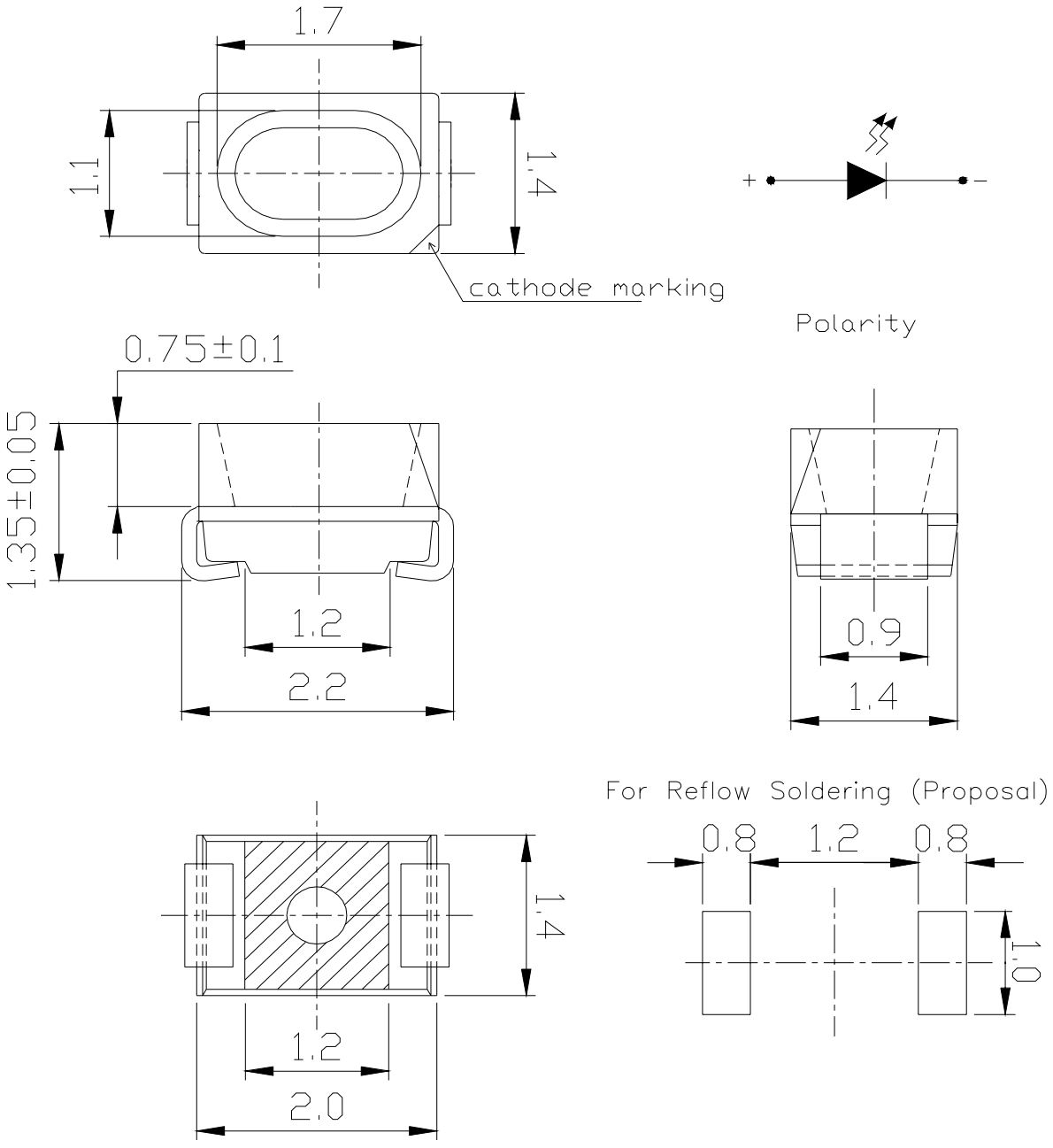
Package Outline Dimensions



Notes: Tolerance of Dimension：±0.1mm. Unit = mm

65-21/Y2C-CJ2L2X/3T

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V_R	5	V
Forward Current	I_F	25	mA
Power Dissipation	Pd	60	mW
Peak Forward Current (Duty 1/10 @1KHz)	I_{FP}	60	mA
Electrostatic Discharge (HBM)	ESD	2000	V
Operating Temperature	Topr	-40 ~ +85	℃
Storage Temperature	Tstg	-40 ~ +90	℃
Soldering Temperature	Tsol	Reflow Soldering : 260 ℃ for 10 sec. Hand Soldering : 350 ℃ for 3 sec.	

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Iv	5.8	-----	18.0	mcd	I_F=2mA
Viewing Angle	2 θ 1/2	-----	120	-----	deg	I_F=2mA
Peak Wavelength	λp	-----	591	-----	nm	I_F=2mA
Dominant Wavelength	λd	586	-----	592	nm	I_F=2mA
Spectrum Radiation Bandwidth	Δλ	-----	15	-----	nm	I_F=2mA
Forward Voltage	V_F	-----	2.0	2.4	V	I_F=2mA
Reverse Current	I_R	-----	-----	10	μA	V_R=5V

Notes:

1. Tolerance of Luminous Intensity ±11%
2. Tolerance of Dominant Wavelength ±1nm

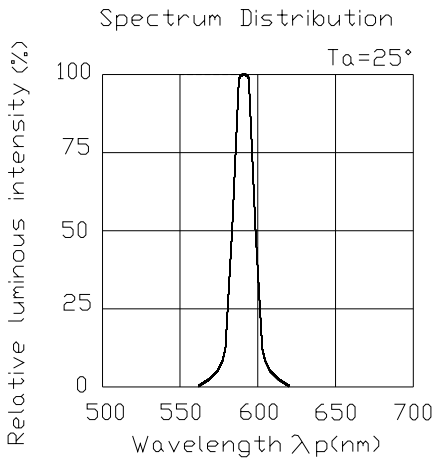
Bin Range of Dominant Wavelength

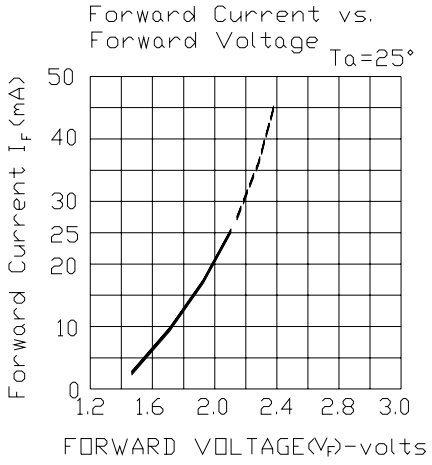
Bin Code	Min	Max	Unit	Condition
1	586	589	nm	I_F=2mA
2	589	592		

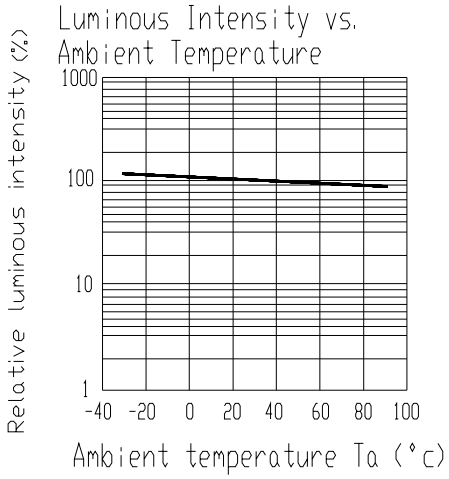
Bin Range of Luminous Intensity

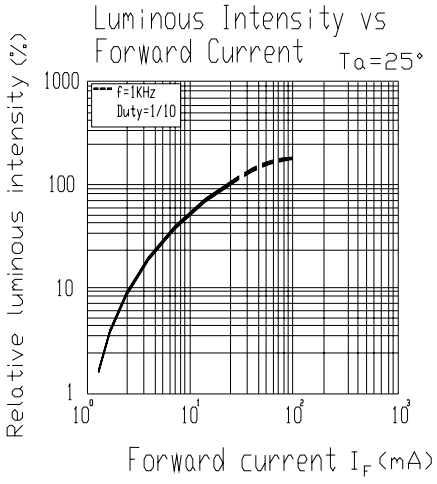
Bin Code	Min.	Max.	Unit	Condition
J2	5.8	7.2	mcd	I_F=2mA
K1	7.2	9.0		
K2	9.0	11.5		
L1	11.5	14.5		
L2	14.5	18.0		

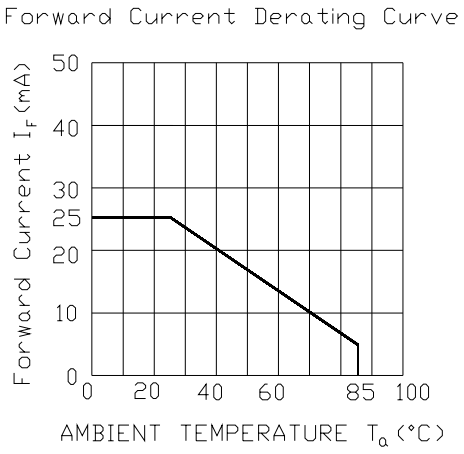
Typical Electro-Optical Characteristics Curves

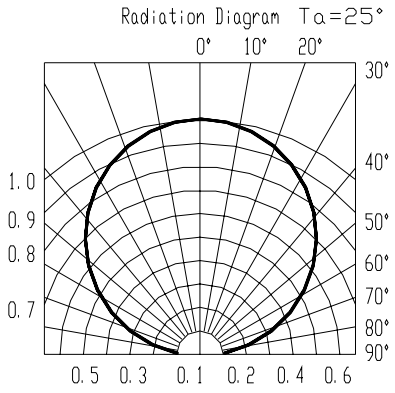












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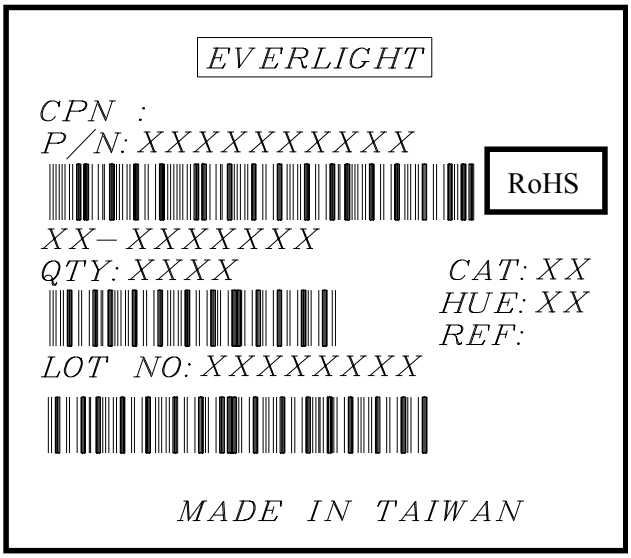
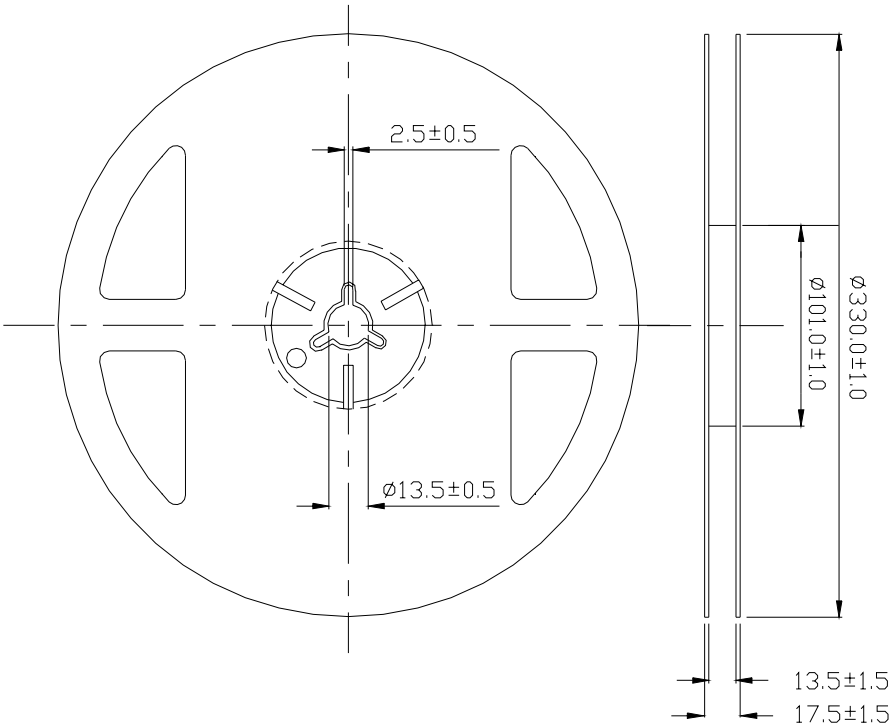
Packing specification

˙Label explanation

(1) CPN：Customer's Production Number
(2) P/N：Production Number
(3) QTY：Packing Quantity
(4) CAT：Luminous Intensity Rank
(5) HUE：Dom. Wavelength Rank
(6) REF：Forward Voltage Rank
(7) LOT No：Lot Number

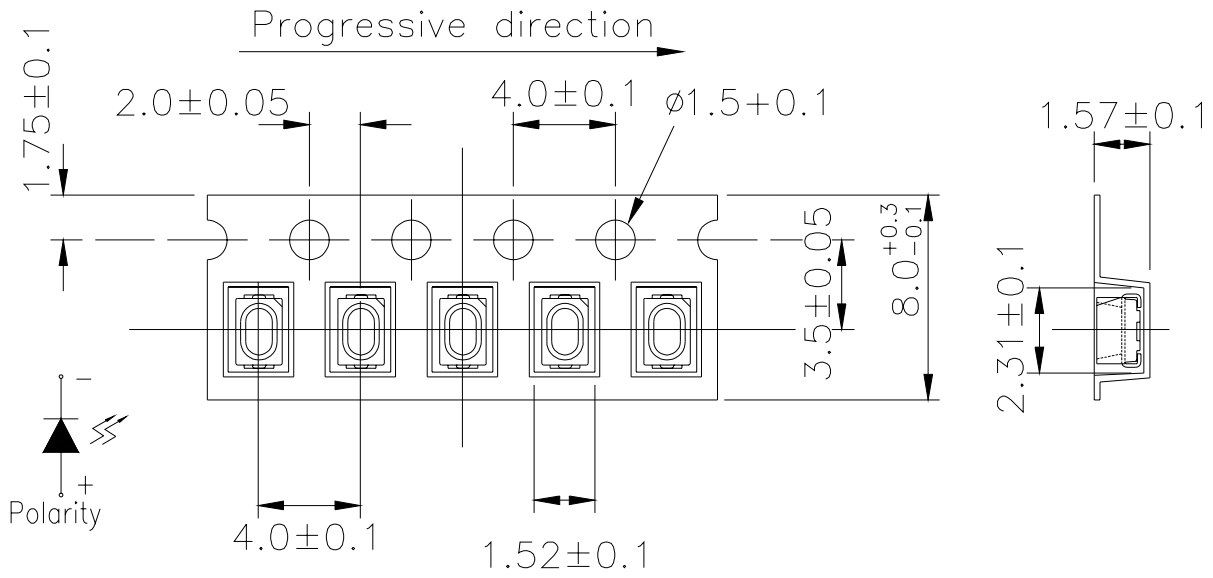


˙Reel Dimensions



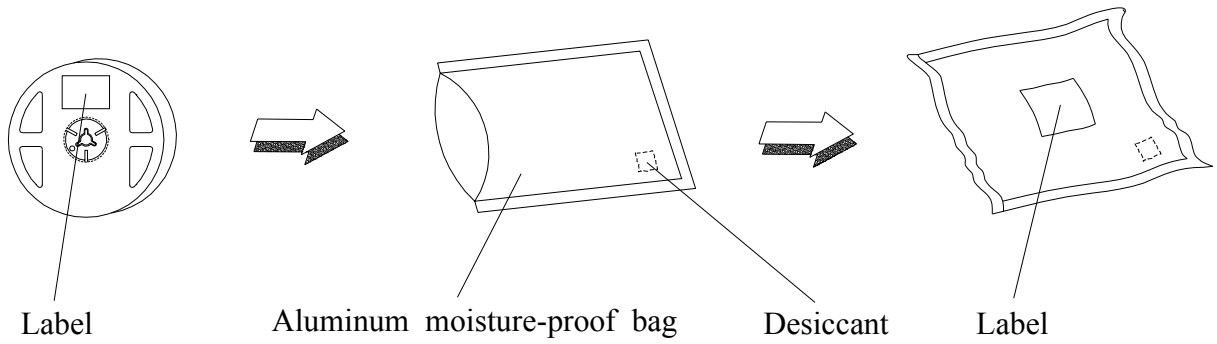
Note：Tolerances unless dimension ±0.1mm. Unit = mm

˙Carrier Tape Dimensions; Loaded quantity per reel 3000 PCS/reel



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

˙Moisture Resistant Packaging



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Reliability Test Items and Conditions

The reliability of products shall be satisfied with items listed below.
Confidence level：90%
LTPD：10%

No.	Items	Test Condition	Test Hours/Cycles	Sample Size	Ac/Re
1	Reflow Soldering	Temp. : 260°C±5°C Min. 5sec.	6 min	22 PCS.	0/1
2	Temperature Cycle	H : +100°C 15min ∫ 5 min L : -40°C 15min	300 Cycles	22 PCS.	0/1
3	Thermal Shock	H : +100°C 5min ∫ 10 sec L : -10°C 5min	300 Cycles	22 PCS.	0/1
4	High Temperature Storage	Temp. : 100°C	1000 Hrs.	22 PCS.	0/1
5	Low Temperature Storage	Temp. : -40°C	1000 Hrs.	22 PCS.	0/1
6	DC Operating Life	I_F = 20 mA	1000 Hrs.	22 PCS.	0/1
7	High Temperature / High Humidity	85°C/ 85%RH	1000 Hrs.	22 PCS.	0/1

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.

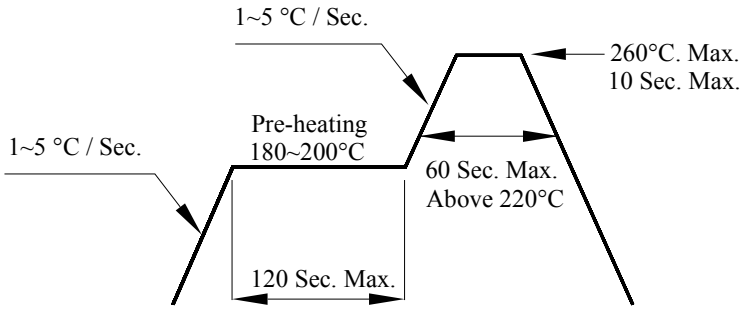
   2.3 After opening the package: The LED's floor life is 1 year under 30℃ or less and 60% RH or less. If unused LEDs remain, it should be stored in moisture proof packages.

   2.4 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 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.

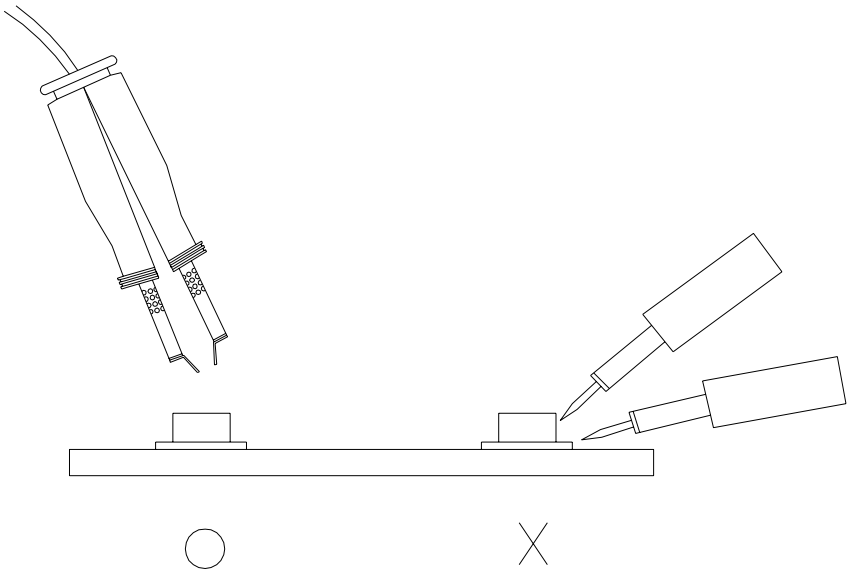
   3.4 After soldering, do not warp the circuit board.

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.



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