

Technical Data Sheet

Mini Top View LEDs

65-21/Y2C-AR1S1B/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.).

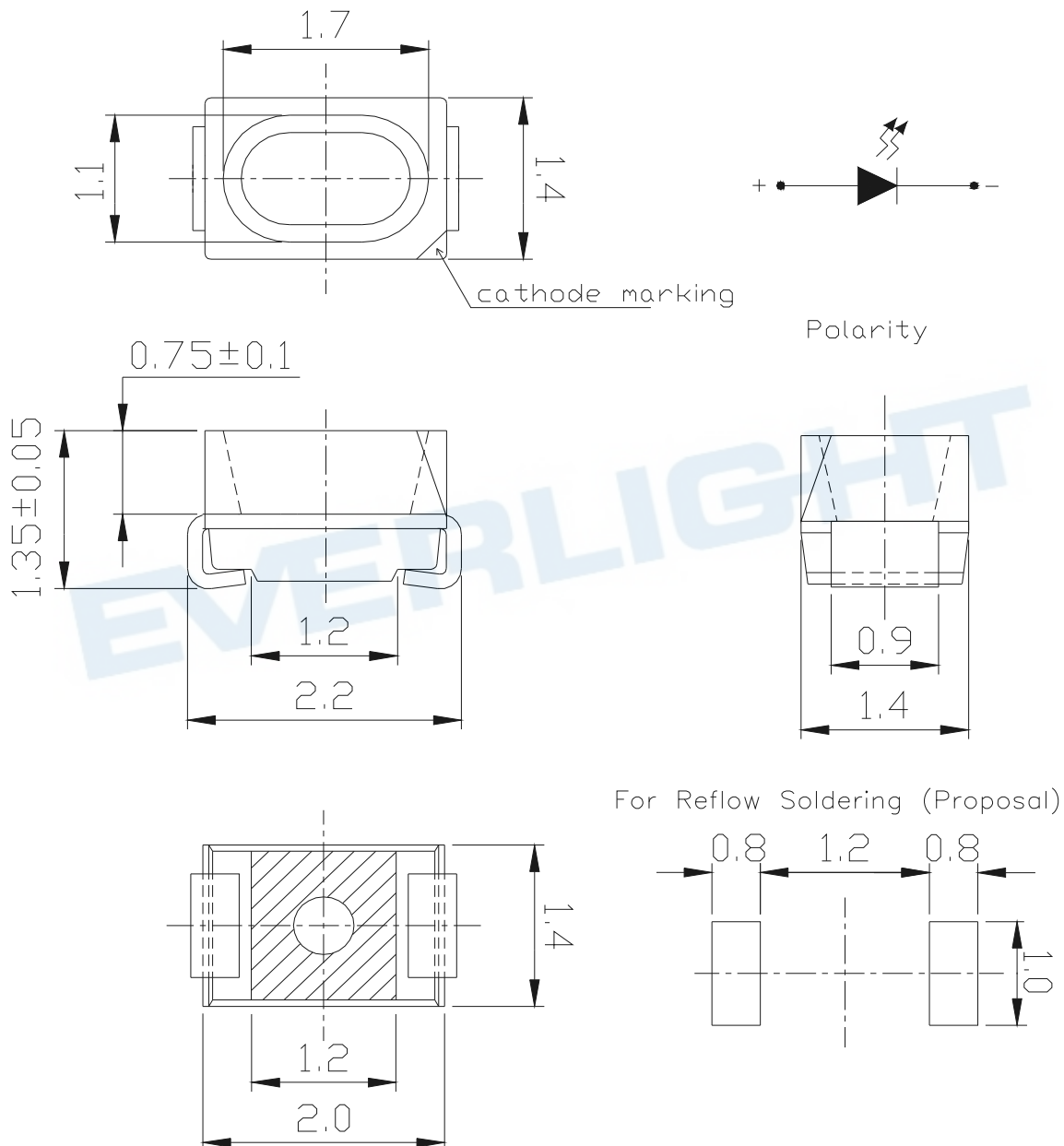
Device Selection Guide

Chip	Emitted Color	Resin Color
Material		
AlGaInP	Brilliant Yellow	Water Clear

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Package Outline Dimensions



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

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Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V _R	5	V
Forward Current	I _F	25	mA
Power Dissipation	P _d	60	mW
Peak Forward Current (Duty 1/10 @1KHz)	I _{FP}	60	mA
Electrostatic Discharge (HBM)	ESD	2000	V
Operating Temperature	T _{opr}	-40 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ +90	°C
Soldering Temperature	T _{sol}	Reflow Soldering : 260 °C for 10 sec. Hand Soldering : 350 °C for 3 sec.	

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I _v	112	-----	225	mcd	I _F =20mA
Viewing Angle	2 θ 1/2	-----	120	-----	deg	I _F =20mA
Peak Wavelength	λ _p	-----	591	-----	nm	I _F =20mA
Dominant Wavelength	λ _d	585.5	-----	594.5	nm	I _F =20mA
Spectrum Radiation Bandwidth	Δλ	-----	15	-----	nm	I _F =20mA
Forward Voltage	V _F	1.75	-----	2.35	V	I _F =20mA
Reverse Current	I _R	-----	-----	10	μ A	V _R =5V

Notes:

- 1.Tolerance of Luminous Intensity ±11%
- 2.Tolerance of Dominant Wavelength ±1nm
- 3.Tolerance of Forward Voltage ±0.1V

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Bin Range of Luminous Intensity

Bin	Min.	Max.	Unit	Condition
R1	112	140	mcd	I _F =20mA
R2	140	180		
S1	180	225		

Bin Range of Dom. Wavelength

Group	Bin	Min.	Max.	Unit	Condition
A	D3	585.5	588.5	nm	I _F =20mA
	D4	588.5	591.5		
	D5	591.5	594.5		

Bin Range of Forward Voltage

Group	Bin	Min.	Max.	Unit	Condition
B	0	1.75	1.95	V	I _F =20mA
	1	1.95	2.15		
	2	2.15	2.35		

Notes:

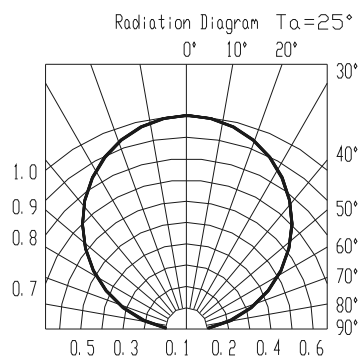
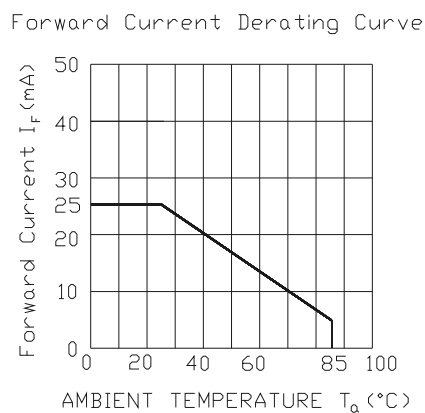
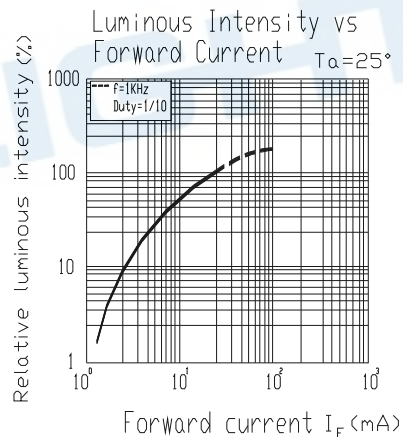
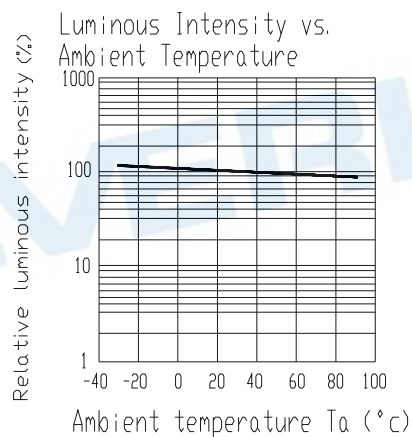
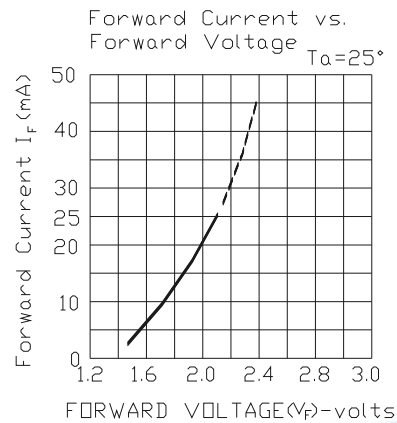
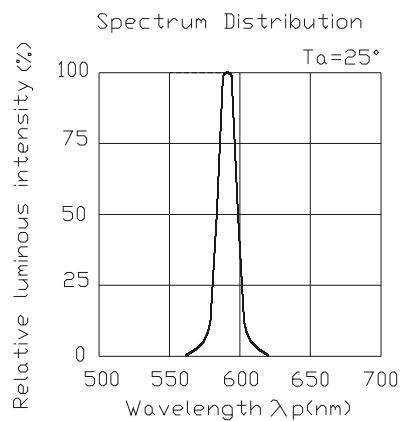
- 1.Tolerance of Luminous Intensity $\pm 11\%$
- 2.Tolerance of Dominant Wavelength $\pm 1\text{nm}$
- 3.Tolerance of Forward Voltage $\pm 0.1\text{V}$

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Typical Electro-Optical Characteristics Curves



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Label Explanation

- CAT: Luminous Intensity Rank
- HUE: Dom. Wavelength Rank
- REF: Forward Voltage Rank

RoHS

Pb

EVERLIGHT

5

CPN: XXXXXXXXXXXXXXXXXXXX

XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX

P/N: XXXXXXXXXX

XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX

LOT NO:Y150716XXX-XXXXXXXXXX-XXXXXXXXXX

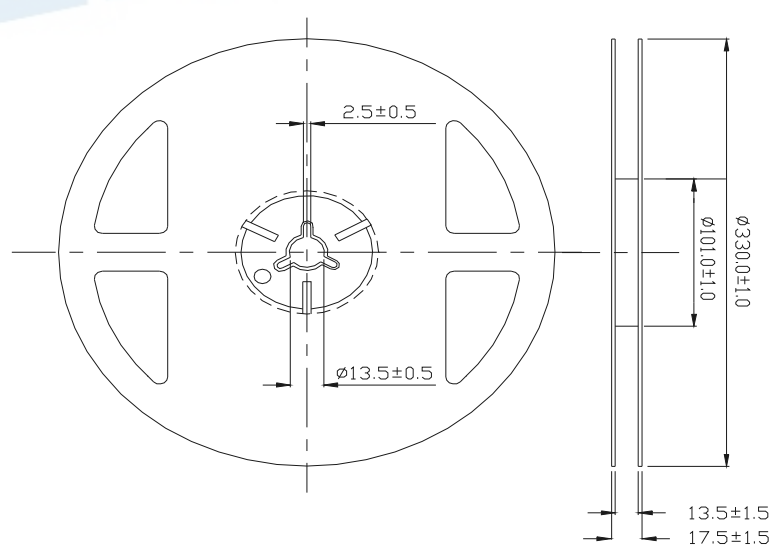
QTY: 0123456789 HUE: XXXXXXXXXXXX

CAT: XXXXXXXXXX REF: XXXXXXXXXX

REFERENCE: BTPYYMDDXXXXX

MSL-X MADE IN XXXXXX

Reel Dimensions

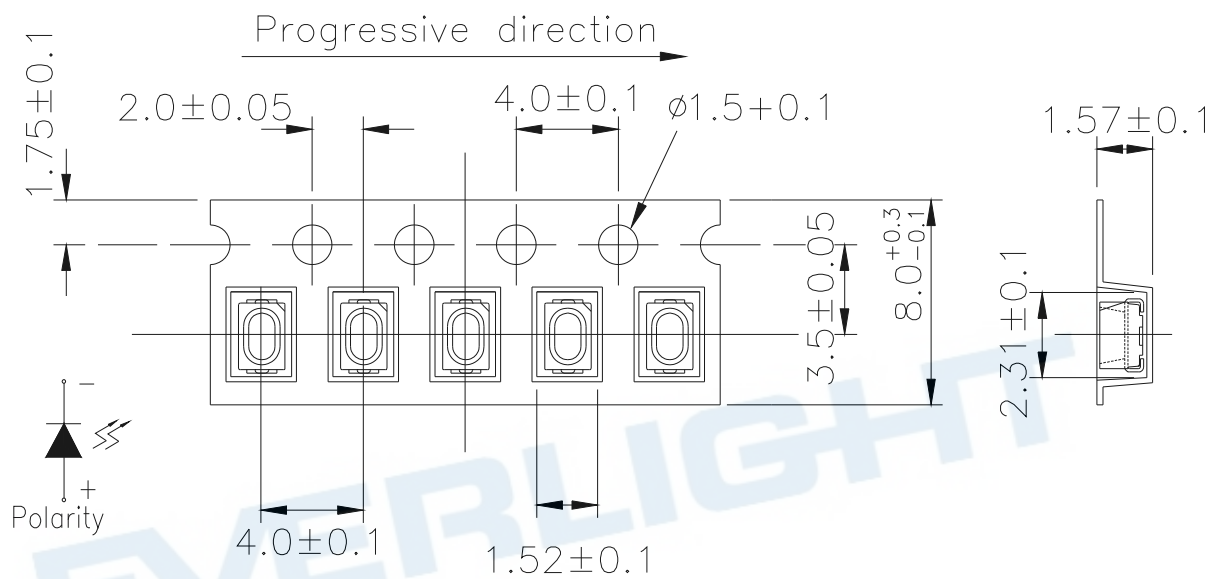


Note : Tolerances unless dimension ±0.1mm. Unit = mm

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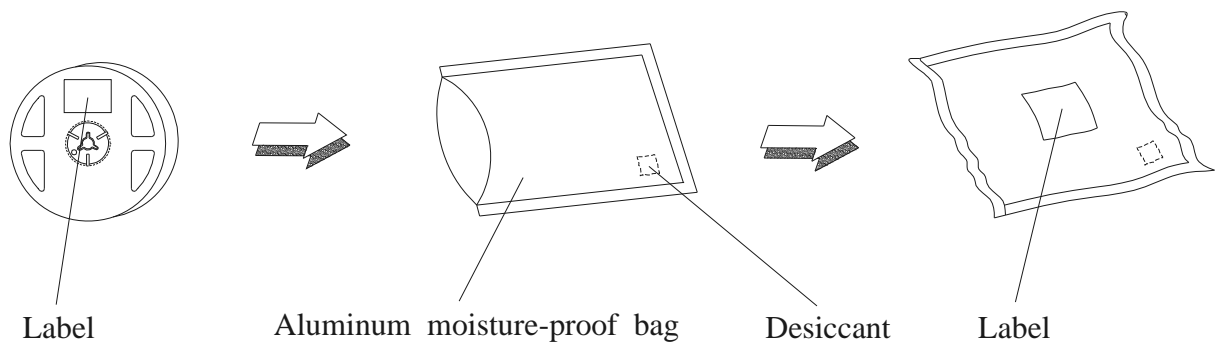
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Carrier Tape Dimensions: Loaded Quantity 3000 pcs Per Reel.



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

Moisture Resistant Packaging



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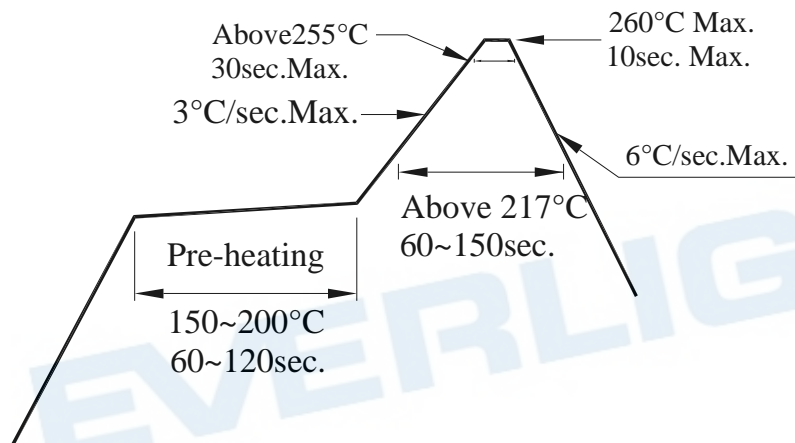
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Precautions for Use

1. Over-current-proof

1.1 Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).



2. Storage

- 2.1 Moisture proof bag should only be opened immediately prior to usage.
- 2.2 Environment should be less than 30°C and 60% RH when moisture proof bag is opened.
- 2.3 After opening the package MSL Conditions stated on page 1 of this spec should not be exceeded.
- 2.4 If the moisture sensitivity card indicates higher than acceptable moisture, the component should be baked at min. 60deg +/-5deg 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.

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4. Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 350°C 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.

Application Restrictions

High reliability applications such as military/aerospace, automotive safety/security systems, and medical equipment may require different product. If you have any concerns, please contact Everlight before using this product in your application. This specification guarantees the quality and performance of the product as an individual component. Do not use this product beyond the specification described in this document.

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DISCLAIMER

1. EVERLIGHT reserves the right(s) on the adjustment of product material mix for the specification.
2. The product meets EVERLIGHT 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.
4. 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 the use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
5. These specification sheets include materials protected under copyright of EVERLIGHT. Reproduction in any form is prohibited without obtaining EVERLIGHT's prior consent.
6. This product is not intended to be used for military, aircraft, automotive, medical, life sustaining or life saving applications or any other application which can result in human injury or death. Please contact authorized Everlight sales agent for special application request.

Revision History

Rev.	Modified date	File modified contents
1	2016/01/13	New Spec
2	2017/02/23	To add the DISCLAIMER