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EVERLIGHT ELECTRONICS CO.,LTD.

Technical Data Sheet

Luminosity white Color LED

67-235/T2C-PX2Y2/2T

Features

- Super luminosity white LED.
- White SMT package.
- Built in 3 LED chips.
- Lead frame package with individual 6 pins.
- Wide viewing angle.
- Soldering methods: Reflow soldering.
- High performance.
- Pb-free.
- The product itself will remain within RoHS compliant version.

Descriptions

- Due to the package design, 67-235 has wide viewing angle, low power consumption and high luminous intensity. This feature makes it ideal for light pipe or lighting application.

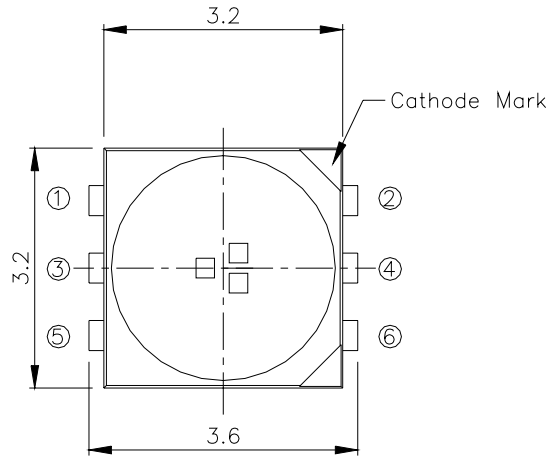
Applications

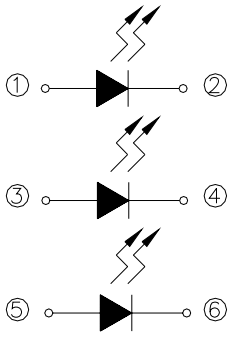
- Amusement equipment.
- Information boards.
- Flashlight for digital camera of cellular phone.
- Lighting for small size device.

Device Selection Guide

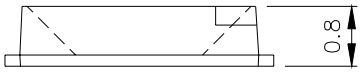
Chip		Lens Color
Material	**Emitted Color**	
InGaN	White	Water Clear

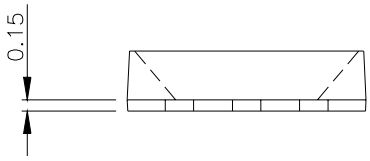
Package Outline Dimensions



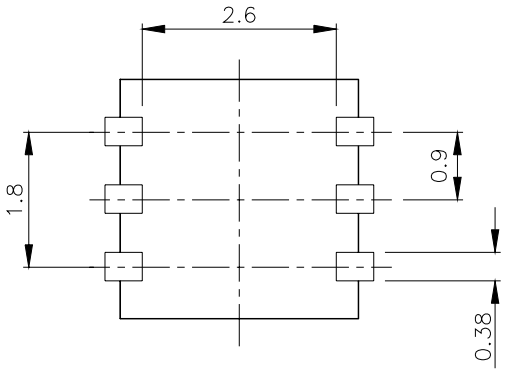


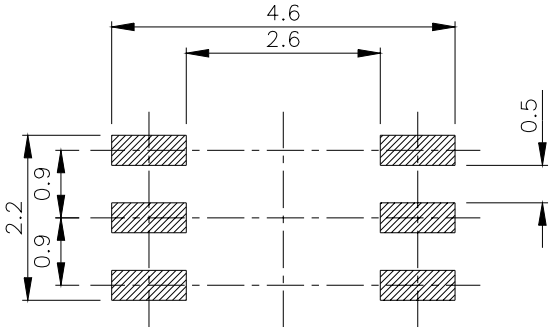
Polarity





Recommended soldering pad design





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

67-235/T2C-PX2Y2/2T

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Reverse Voltage*1	V_R	5	V
Forward Current*1	I_F	30	mA
Peak Forward Current (Duty 1/10 @1KHz) *1	I_{FP}	100	mA
Power Dissipation*1	Pd	120	mW
Electrostatic Discharge(HBM) *2	ESD	150	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.	

*1 The value are based on 1 die performace

*2The products are sensitive to static electricity and care must be fully taken when handling products.

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity*1	Iv	2250	-----	4500	mcd	I_F=20mA*2
Viewing Angle*2	$2\theta_{1/2}$	-----	120	-----	deg	I_F=20mA*2
Forward Voltage*2	V_F	2.75	-----	3.95	V	I_F=20mA*2
Reverse Current*1	I_R	-----	-----	50	μA	V_R=5V

Notes:

1 When three LED dies are operated simultaneously.

2 For each die.

3.Tolerance of Luminous Intensity ±10%

4. Tolerance of Forward Voltage ±0.1V

Bin Range Of Luminous Intensity

Bin Code	Min.	Max.	Unit	Condition
X2	2250	2850	mcd	I_F=20mA
Y1	2850	3600		
Y2	3600	4500		

Notes: 1.Tolerance of Luminous Intensity ±10%

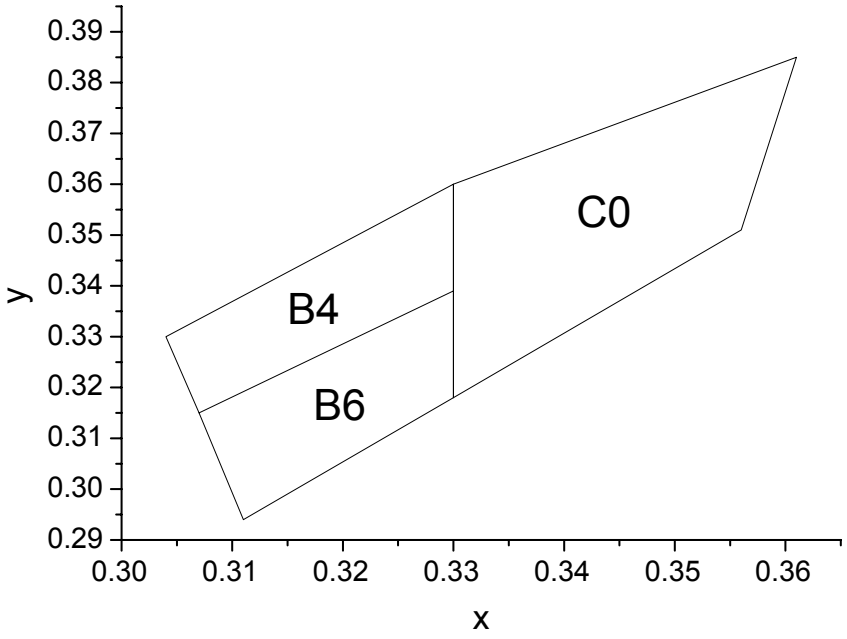
Bin Range of Chromaticity Coordinates

Group	Bin Code	CIE_x	CIE_y	Bin Code	CIE_x	CIE_y	Condition
P	B4	0.307	0.315	B6	0.311	0.294	I_F =20mA
		0.304	0.33		0.307	0.315	
		0.33	0.36		0.330	0.339	
		0.33	0.339		0.330	0.318	
	C0	0.330	0.318				
		0.330	0.360				
		0.361	0.385				
		0.356	0.351				

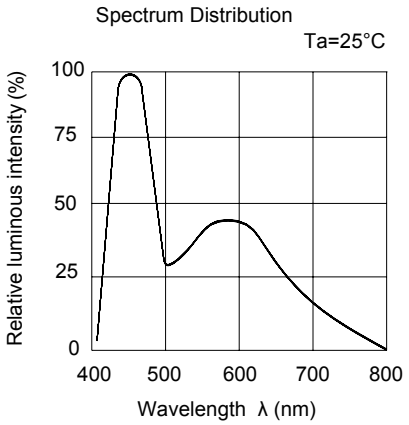
Note:

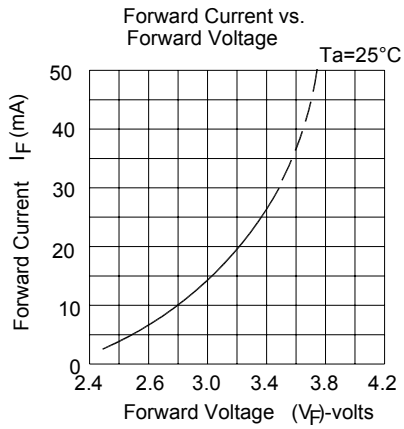
Tolerance of Chromaticity Coordinates: ±0.01

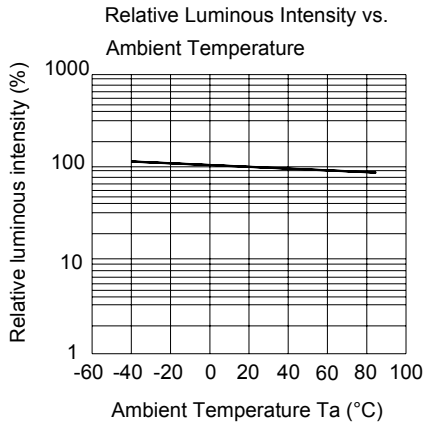
The C.I.E. 1931 Chromaticity Diagram

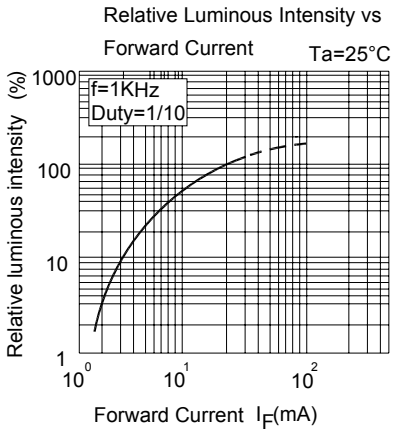


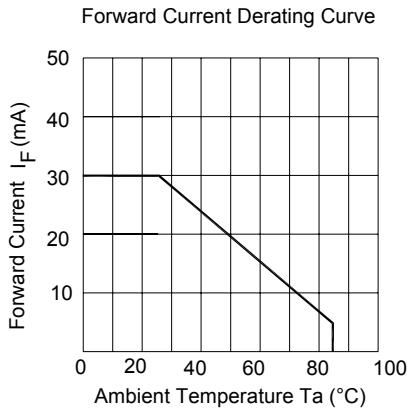
Typical Electro-Optical Characteristics Curves

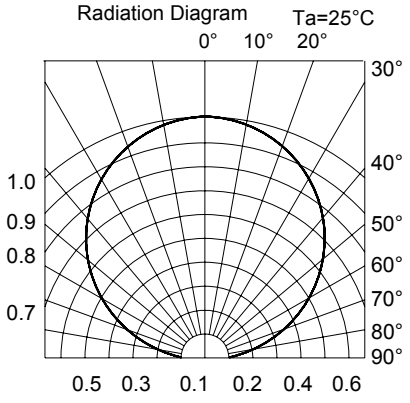










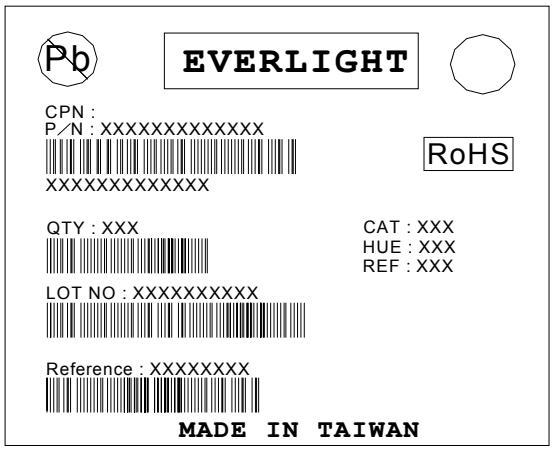


Label Explanation

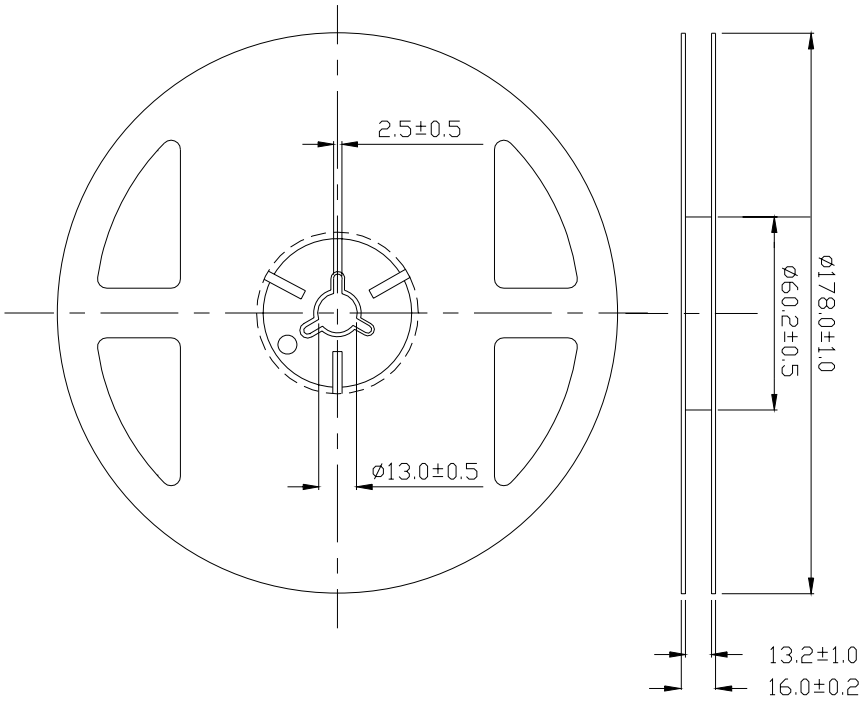
CAT: Luminous Intensity Rank

HUE: Dom. Wavelength Rank

REF: Forward Voltage Rank



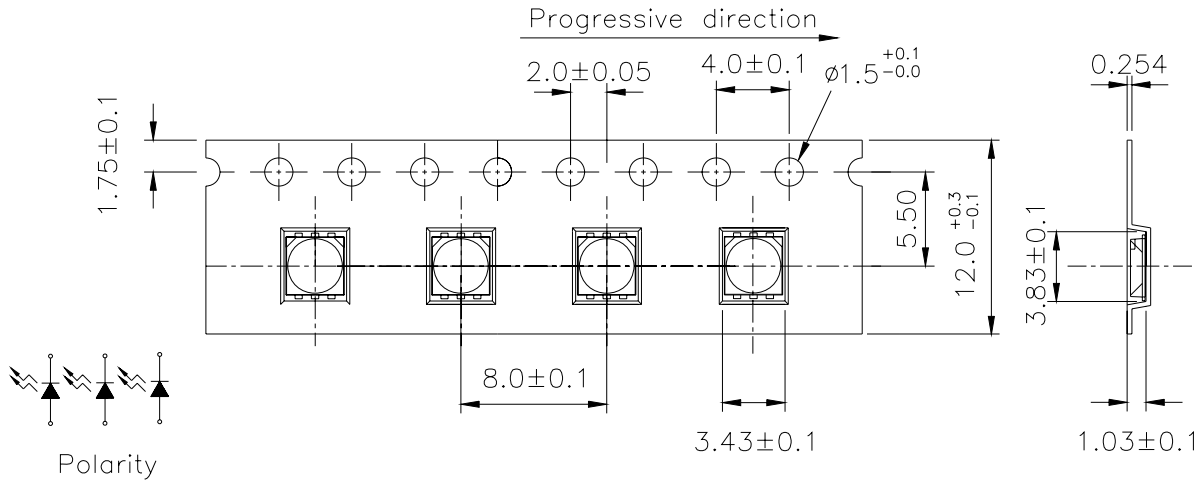
Reel Dimensions



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

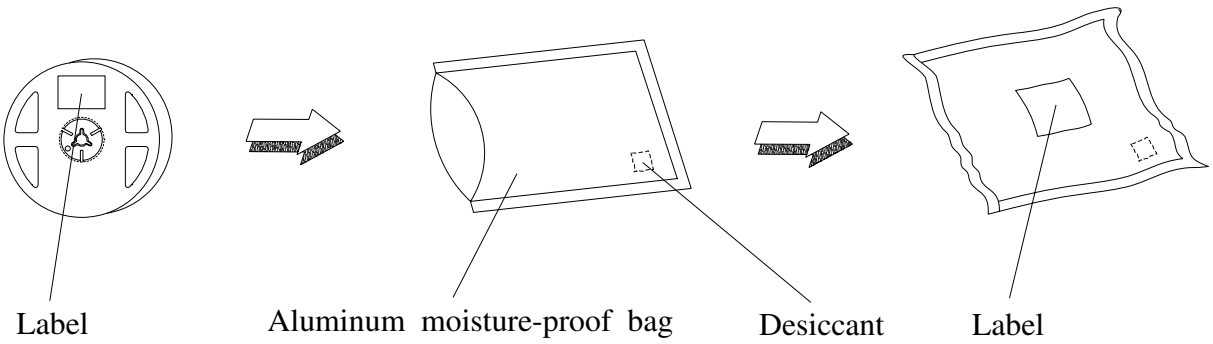
67-235/T2C-PX2Y2/2T

Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel.



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

Moisture Resistant Packaging



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℃±5℃ Min. 5sec.	6 Min.	22 PCS.	0/1
2	Temperature Cycle	H : +100℃ 15min ∫ 5 min L : -40℃ 15min	300 Cycles	22 PCS.	0/1
3	Thermal Shock	H : +100℃ 5min ∫ 10 sec L : -10℃ 5min	300 Cycles	22 PCS.	0/1
4	High Temperature Storage	Temp. : 100℃	1000 Hrs.	22 PCS.	0/1
5	Low Temperature Storage	Temp. : -40℃	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℃/ 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.

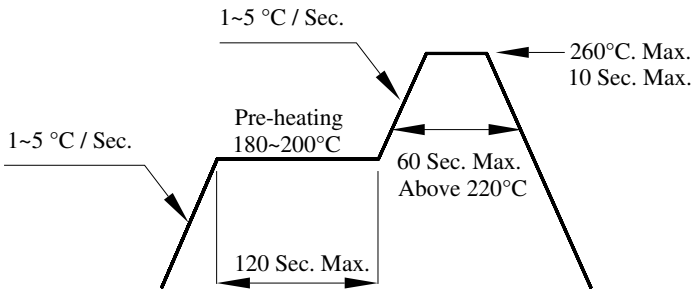
2.2 Before opening the package: The LEDs should be kept at 30℃ or less and 90%RH or less.

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.

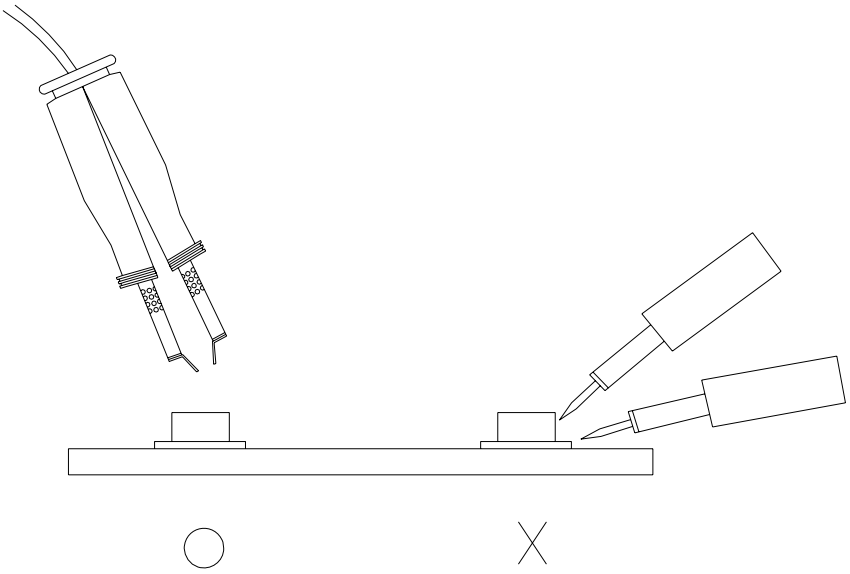
3.4 After soldering, do not warp the circuit board.

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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