

Top View LED

62-119UN2C/T5260N8NABD/TR8 -T



Features

- Top view white LED
- High luminous flux output
- High current capability
- White package
- Wide viewing angle
- Pb-free
- ESD Protection
- The product itself will remain within RoHS compliant version.
- Compliance with EU REACH.
- Compliance Halogen Free .(Br <900 ppm ,Cl <900 ppm , Br+Cl < 1500 ppm).

Description

•Due to the package design, 62-119 package has wide viewing angle, low power consumption and white LEDs are devices which are materialized by combing blue chip and special phosphor. This feature makes the LED ideal for light guide application.

Applications

- Backlight for LCD Monitor/TV
- Light pipe application
- Indicator and backlight in office and family equipment
- General use

Product Number Explanation

62-119UN2C / TXX XX XXXX XX / TR8-T



Device Selection Guide

Chip Materials	Emitted Color	Resin Color
InGaN	Cold White	Water Clear

Absolute Maximum Ratings (Ta=25 °C)

Parameter	Symbol	Rating	Unit
Reverse Voltage*1	V_R	5	V
Forward Current	I_F	240	mA
Peak Forward Current (Duty 1/10 @10ms)	I_{FP}	450	mA
Power Dissipation	P_d	816	mW
Electrostatic Discharge(HBM)	ESD	5000	V
Operating Temperature	T_{opr}	-40 ~ +85	
Storage Temperature	T_{stg}	-40 ~ +100	
Junction Temperature	T_j	110	
Soldering Temperature	T_{sol}	Reflow Soldering : 260 Hand Soldering : 350	for 10 sec. for 3 sec.

Notes :

1. For each die
2. The products are sensitive to static electricity and must be carefully taken when handling products

Electro-Optical Characteristics (Ta =25)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Flux	Φ	52		62	lm	
Forward Voltage	V_F	3.0		3.4	V	$I_F=150\text{mA}$
Viewing Angle	$2\theta_{1/2}$	-----	120	-----	deg	
Thermal resistance (Junction to Lead)*4	$R_{th.j-s}$		15		$^{\circ}\text{W}$	

Notes :

1. Tolerance of Luminous Flux: $\pm 7\%$
2. Tolerance of Forward Voltage: $\pm 0.05\text{V}$

Bin Range of Luminous Flux

Bin Code	Min.	Max.	Unit	Condition	MCD	
					Min	Max
T52	52	54			17292.08	17957.16
T54	54	56			17957.16	18622.24
T56	56	58	lm	$I_F = 150\text{mA}$	18622.24	19287.32
T58	58	60			19287.32	19952.40
T60	60	62			19952.40	20617.48

Note : Tolerance of Luminous Intensity: $\pm 7\%$

Bin Range of Forward Voltage

Bin Code	Min.	Max.	Unit	Condition
TB	3.0	3.2	V	$I_F=150\text{mA}$
TD	3.2	3.4		

Note : Tolerance of Forward Voltage: $\pm 0.05\text{V}$

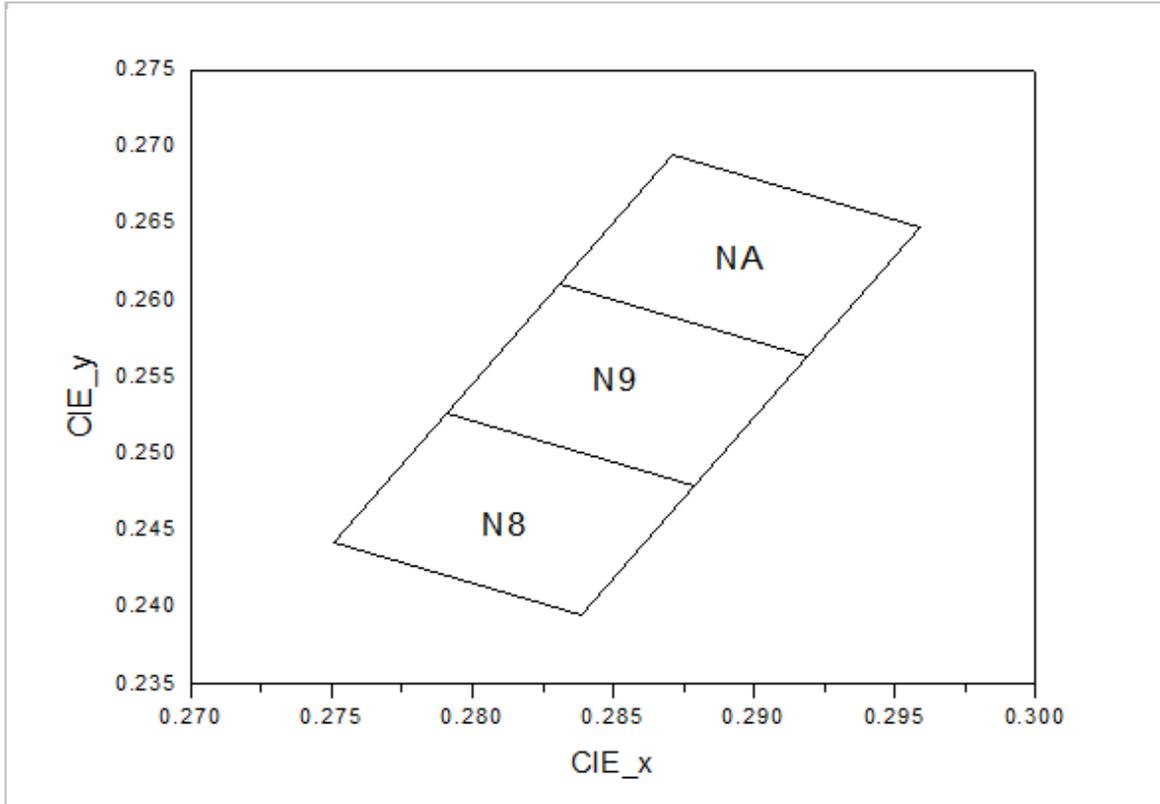
Bin Range of Chromaticity Coordinate

Bin Code	CIE_x	CIE_y	Bin Code	CIE_x	CIE_y
N8	0.2791	0.2527	NA	0.2871	0.2695
	0.2879	0.2479		0.2959	0.2647
	0.2839	0.2395		0.2919	0.2563
	0.2751	0.2443		0.2831	0.2611
N9	0.2831	0.2611			
	0.2919	0.2563			
	0.2879	0.2479			
	0.2791	0.2527			

Note : Tolerance of Chromaticity Coordinates: ± 0.005



The C.I.E. 1931 Chromaticity Diagram

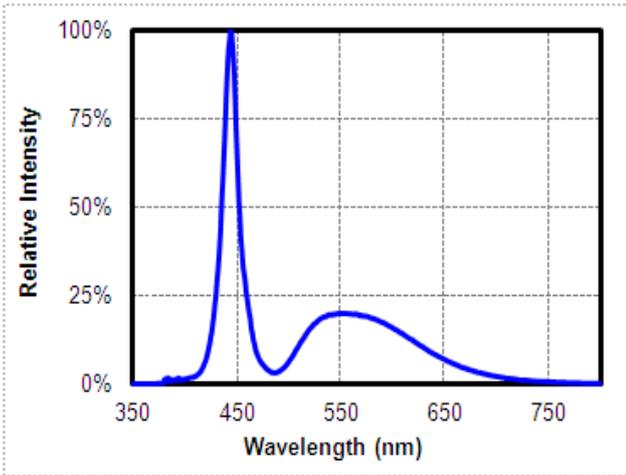


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Typical Electro-Optical Characteristics Curve

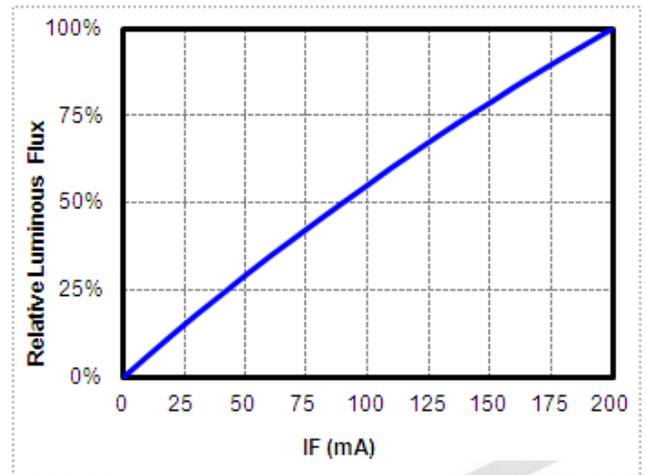
1. Spectrum Distribution

($T_A=25^\circ\text{C}$, $I_F=150\text{mA}$)



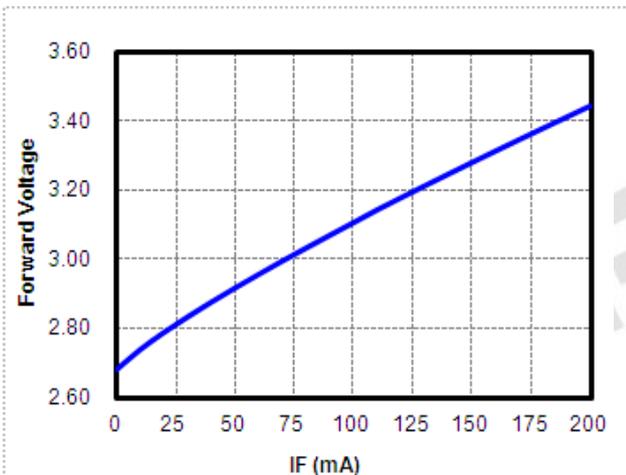
3. Relative Luminous Flux vs. Forward Current

($T_A=25^\circ\text{C}$)



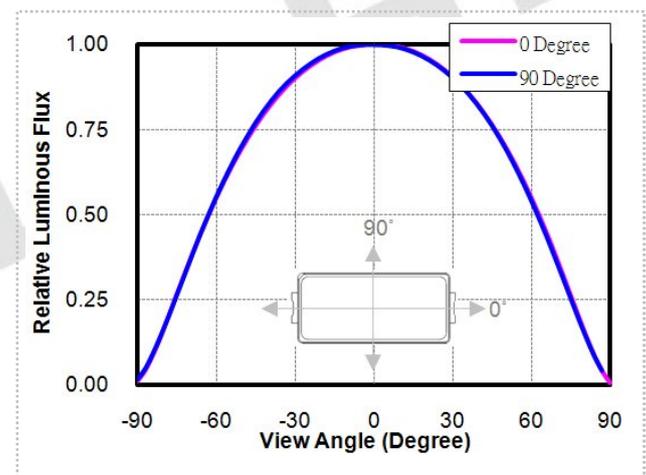
2. Relative Forward Voltage vs. Forward Current

($T_A=25^\circ\text{C}$)

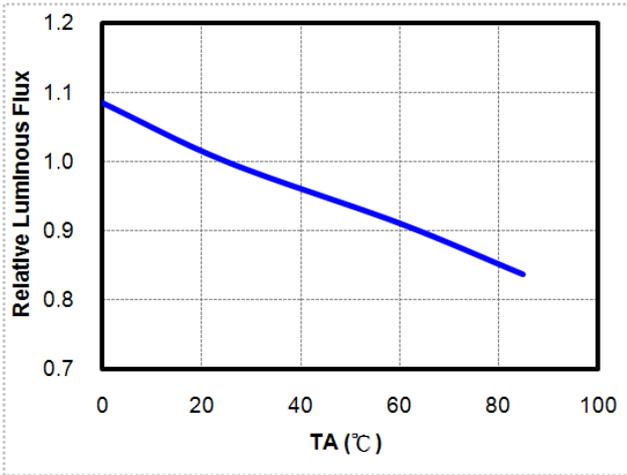


4. Radiation Diagram

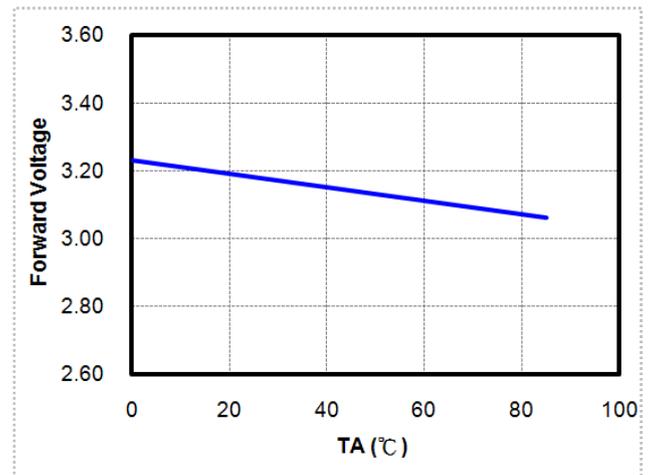
($T_A=25^\circ\text{C}$, $I_F=150\text{mA}$)



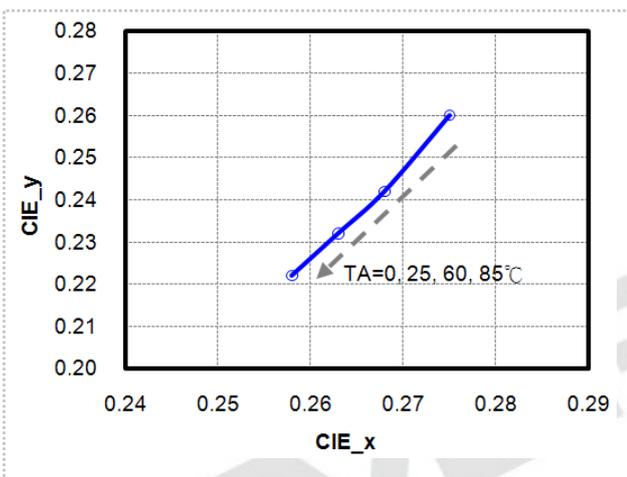
5. Relative Luminous Flux vs. Ambient Temperature
 ($I_F=150\text{mA}$)



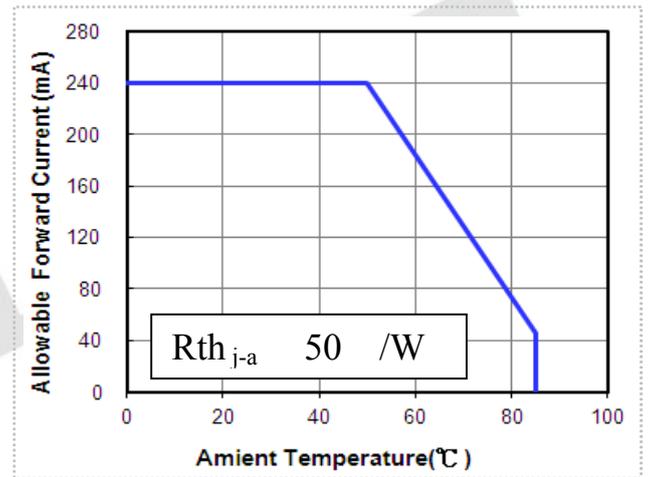
7. Forward Voltage vs. Ambient Temperature
 ($I_F=150\text{mA}$)



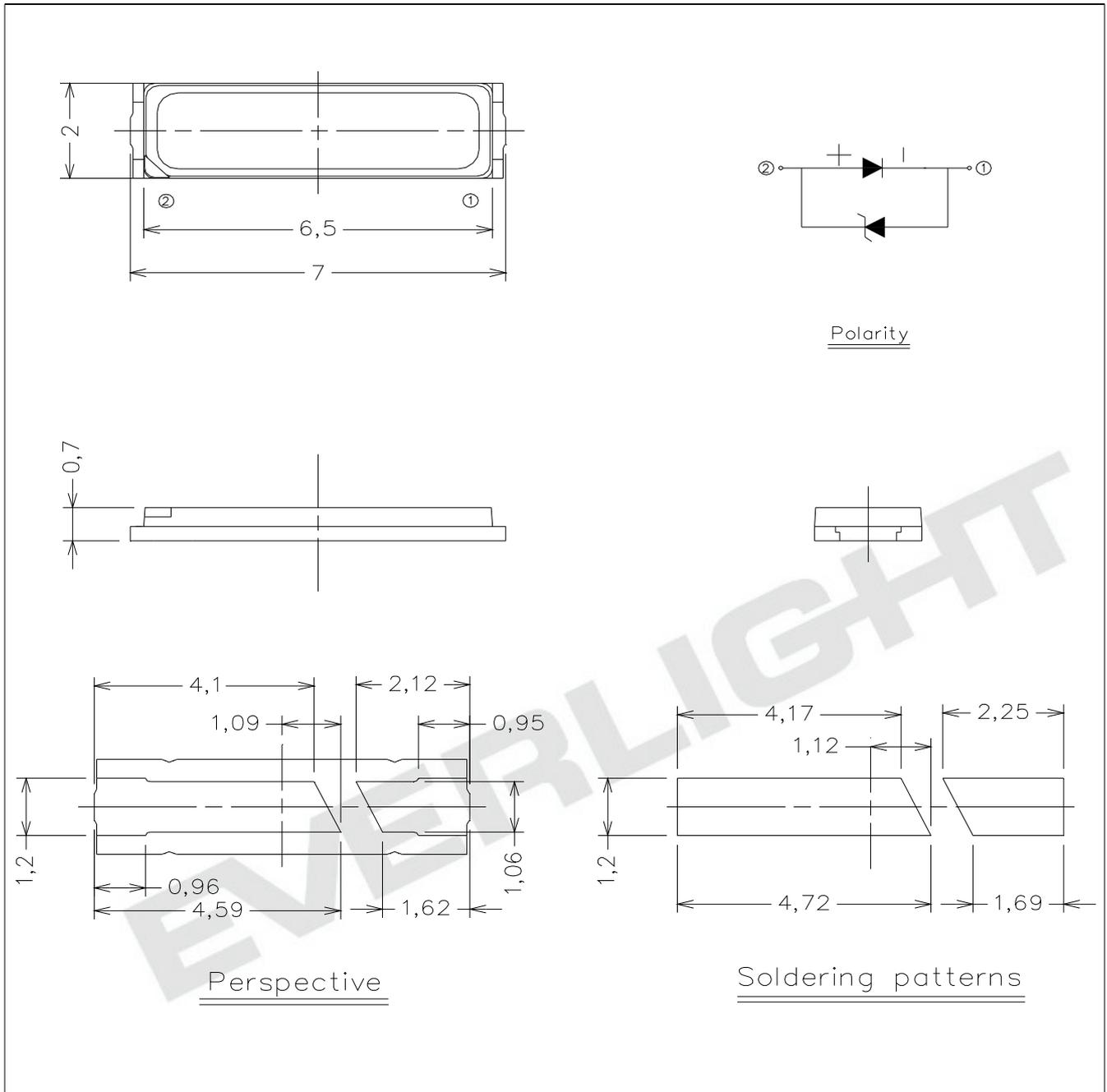
6. Chromaticity Coordinates vs. Ambient Temperature ($I_F=150\text{mA}$)



8. Forward Current De-rating Curve



Package Dimension



Note:
The tolerance unless mentioned is ± 0.1 mm, unit = mm

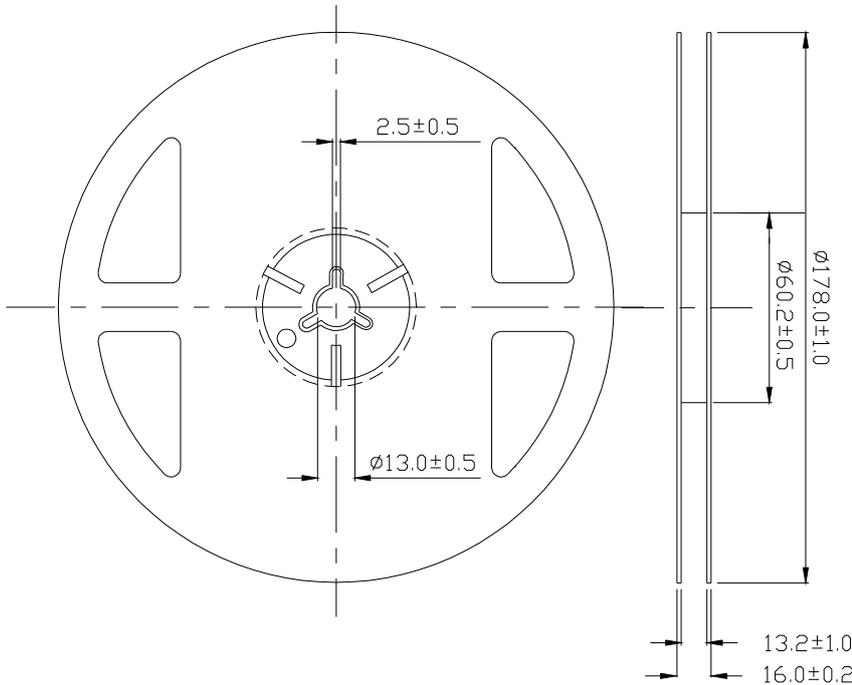
Reliability Test Items and Conditions

Label Explanation

CPN: 1118866	RoHS
E/N: 373001B104	
 62-121AUNC/T9298M5M8S8C/TR8-T	
QTY: 2000	
	
40069-1118866-R123456789M4P4510 -12CS-0001	
	
LOT NO: EL0701011234567890 EFADFC	
	R123456789
REFERENCE: BSZ12122700001	
	P45

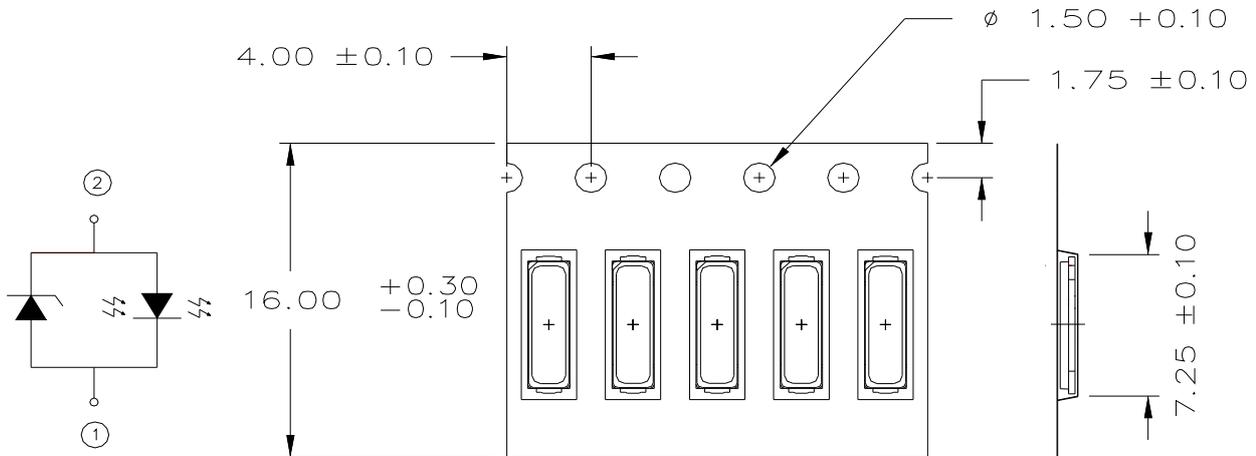
- QTY: Packing Quantity
- CAT: Luminous Flux Rank
- HUE: Chromaticity Coordinates
- REF: Forward Voltage Rank
- λp: Wavelength Rank

Reel Dimensions



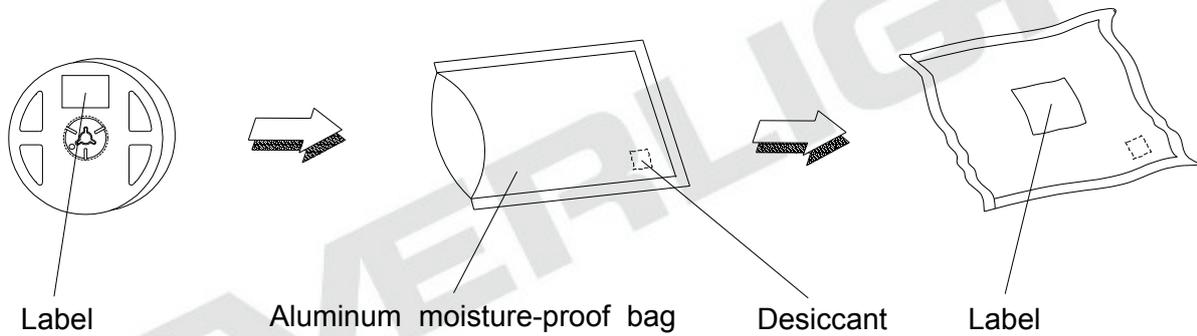
Note : The tolerances unless mentioned is ± 0.1 mm, Unit = mm

Carrier Tape Dimensions: Loaded Quantity 1000/2000 pcs. Per Reel



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

Moisture Resistant Packing Process



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	Criteria (at std. IF)
		Temp./ Humidity	IF (mA)		
1	Reflow Soldering	Temp. : 260 /10sec.	N/A	2 times	Iv < ±15% VF < ±15%
2	Thermal Shock	-40 ~ 100 20min. (<15sec.)	N/A	100 cycles	Iv > 70%, VF ± 10%,
3	Temperature Cycle	-40 ~ 100 30min. (5min.) 30min.	N/A	100 cycles	
4	Low Temp. Storage	TA=-40	N/A	1000 hrs	
5	High Temp. Storage	TA=100	N/A	1000 hrs	
6	Temp. Humidity Storage	TA=60 / 90%RH	N/A	1000 hrs	
7	Steady State Operating Life of Low Temp.	TA=-40	150	1000 hrs	
8	Steady State Operating Life Condition 1	TA=25 / Room Hum.	150	1000 hrs	
9	Steady State Operating Life Condition 2	TA=60	150	1000 hrs	
10	Steady State Operating Life of High Temp.	TA=85	45	1000 hrs	
11	Steady State Operating Life of High Humidity Heat	TA=60 /90%RH	150	1000 hrs	

Notes:

1. Sampling for each test item: 22 (pcs.)
2. Test board: MCPCB board thickness=1.6mm, copper layer thickness=0.07mm, $R_{th_{j-a}} = 50 /W$.
3. Measurements are performed after allowing the LEDs to return to room temperature.

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 used within one year and kept at 30 °C or less and 70%RH or less.

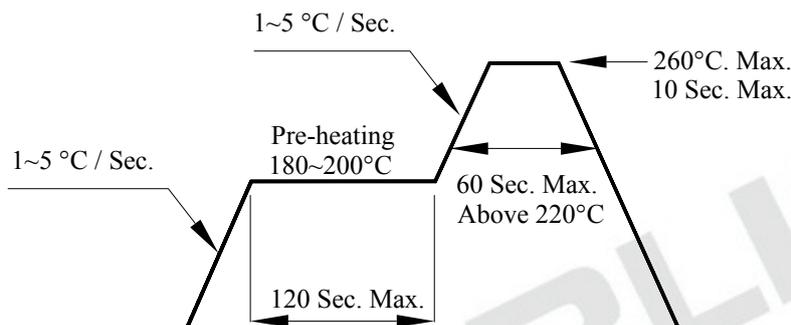
2.3 After opening the package: We recommend that the LED should be soldered quickly (within 3 days). The soldering condition is 30 °C or less and 60%RH or less. If unused LEDs remain, it should be stored in moisture proof packages.

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 °C for 24 hours. (One time only)

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.

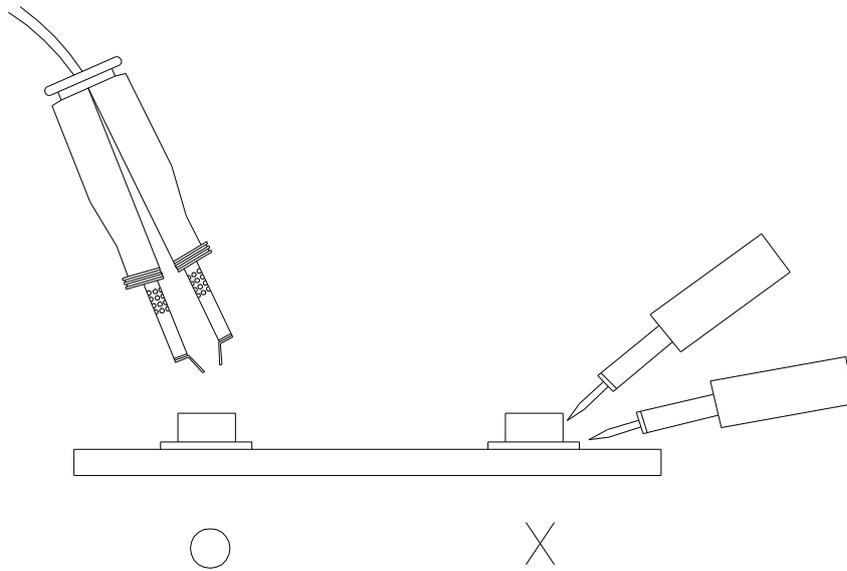
3.4 After soldering, do not warp the circuit board.

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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