



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

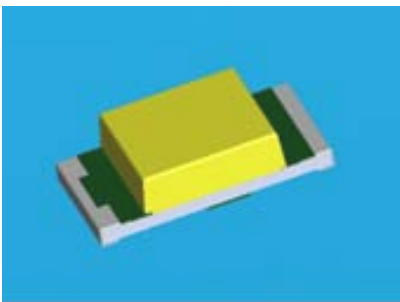
Email & Skype: [info@chipsmall.com](mailto:info@chipsmall.com) Web: [www.chipsmall.com](http://www.chipsmall.com)

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



### SMD ■ B

### 19S-117ZUTD/S3353/TR8



#### Features

- Package in 8mm tape on 7" diameter reel.
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.
- Mono-color type.
- 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

- The 19S-117Z SMD LED is much smaller than lead frame type components, thus enable smaller board size, higher packing density, reduced storage space and finally smaller equipment to be obtained.
- Besides, lightweight makes them ideal for miniature applications. etc.

#### Applications

- Telecommunication: indicator and backlighting in telephone and fax.
- Flat backlight for LCD, switch and symbol.
- General use.

## Device Selection Guide

Chip Materials	Emitted Color	Resin Color
InGaN	Pure White	Yellow Diffused

## Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Reverse Voltage	$V_R$	5	V
Forward Current	$I_F$	10	mA
Peak Forward Current (Duty 1/10 @1KHz)	$I_{FP}$	60	mA
Power Dissipation	$P_d$	40	mW
Operating Temperature	$T_{opr}$	-40 ~ +85	°C
Storage Temperature	$T_{stg}$	-40 ~ +90	°C
Electrostatic Discharge	$ESD_{HBM}$	2000	V
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	$I_v$	90	-----	180	mcd	$I_F=5mA$
Viewing Angle	$2\theta_{1/2}$	-----	130	-----	deg	
Forward Voltage	$V_F$	2.70	-----	3.10	V	$V_R=5V$
Reverse Current	$I_R$	-----	-----	50	μA	

Note:

- 1.Tolerance of Luminous Intensity:  $\pm 11\%$
- 2.Tolerance of Forward Voltage  $\pm 0.05V$



### Bin Range of Luminous Intensity

Bin Code	Min.	Max.	Unit	Condition
Q2	90	112	mcd	$I_F = 5\text{mA}$
R1	112	140		
R2	140	180		

### Bin Range Of Luminous Voltage

Bin Code	Min.	Max.	Unit	Condition
29-1	2.70	2.75	V	$I_F = 5\text{mA}$
29-2	2.75	2.80		
30-1	2.80	2.85		
30-2	2.85	2.90		
31-1	2.90	2.95		
31-2	2.95	3.00		
32-1	3.00	3.05		
32-2	3.05	3.10		

Note:

- 1.Tolerance of Luminous Intensity:  $\pm 11\%$
- 2.Tolerance of Forward Voltage  $\pm 0.05\text{V}$

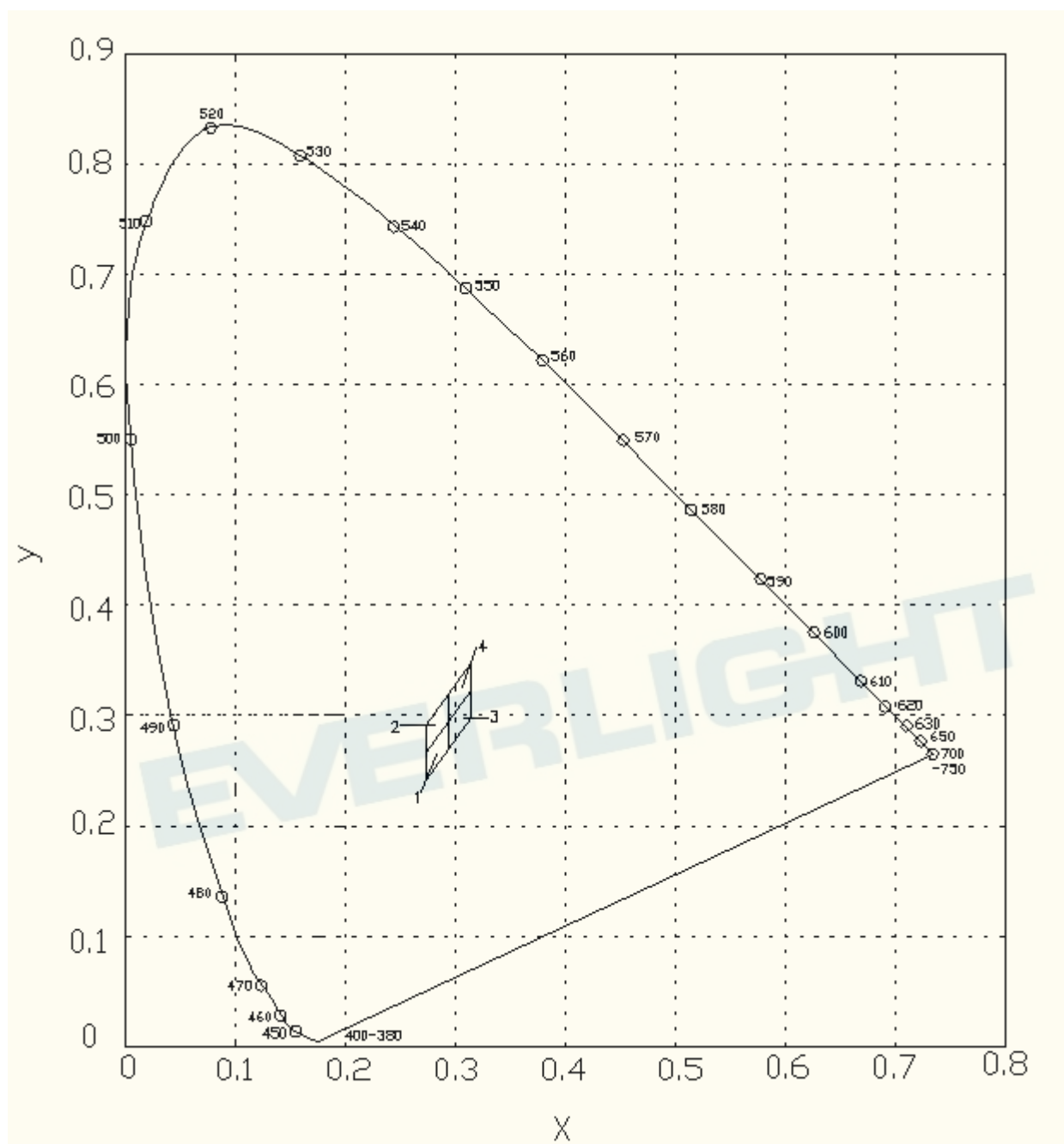
## Chromaticity Coordinates Specifications for Bin Grading

Bin Code	CIE_x	CIE_y	Condition
1	0.2740	0.2420	I <sub>F</sub> =5mA
	0.2740	0.2665	
	0.2940	0.2945	
	0.2940	0.2700	
2	0.2740	0.2665	
	0.2740	0.2910	
	0.2940	0.3190	
	0.2940	0.2945	
3	0.3140	0.2980	
	0.3140	0.3225	
	0.2940	0.2945	
	0.2940	0.2700	
4	0.2940	0.3190	
	0.2940	0.2945	
	0.3140	0.3225	
	0.3140	0.3470	

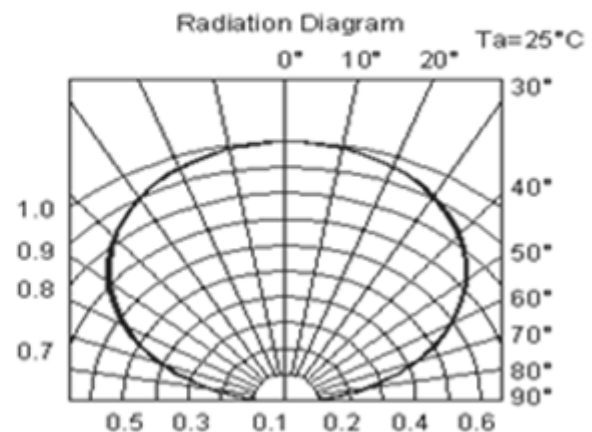
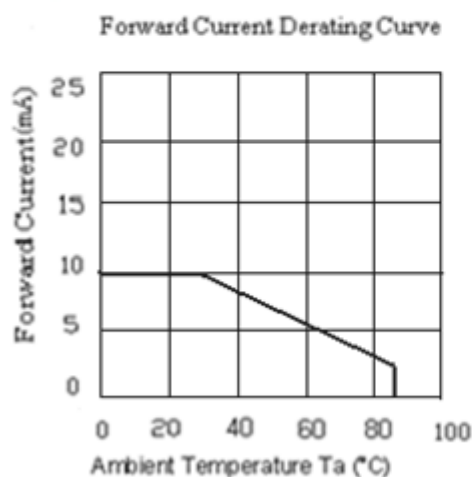
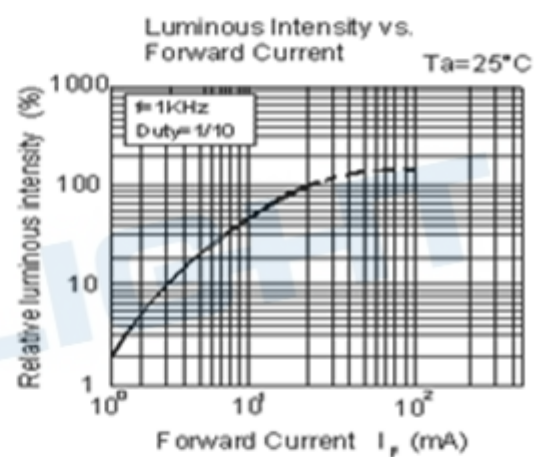
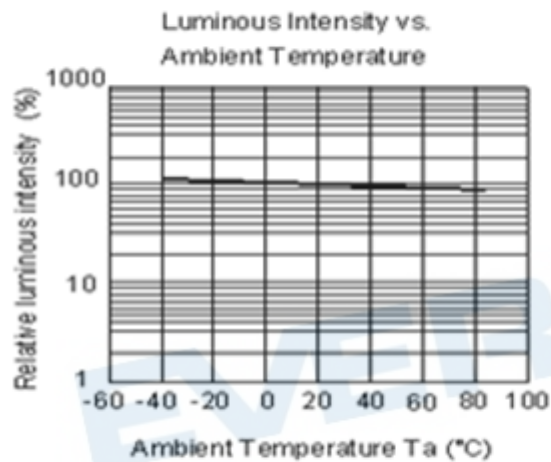
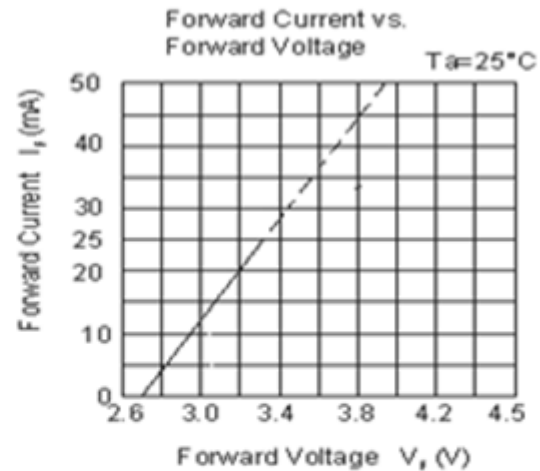
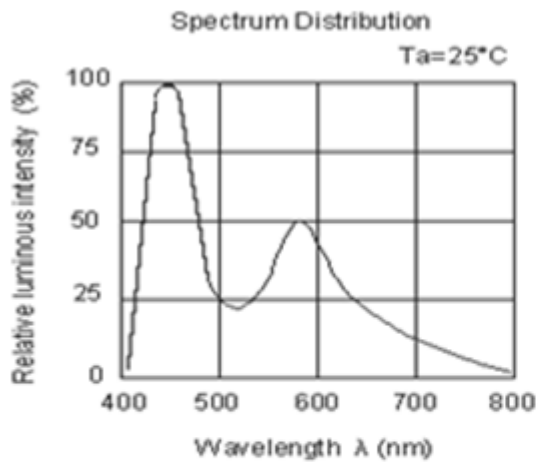
### Notes:

- 1.The C.I.E. 1931 chromaticity diagram ( Tolerance  $\pm 0.01$ ).
- 2.The products are sensitive to static electricity and care must be fully taken when handling products.

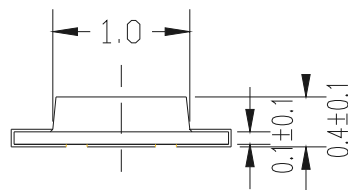
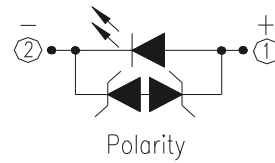
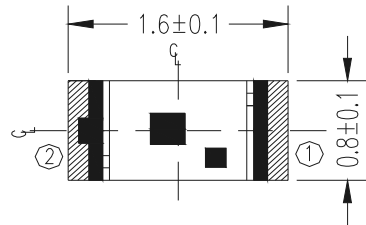
## CIE Chromaticity Diagram



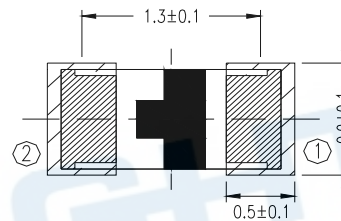
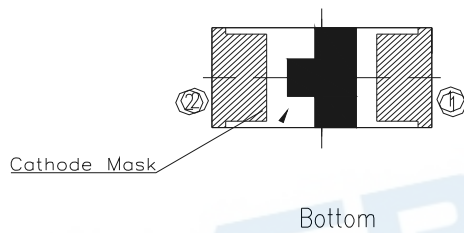
## Typical Electro-Optical Characteristics Curves



## Package Outline Dimensions



Recommend Soldering Pad



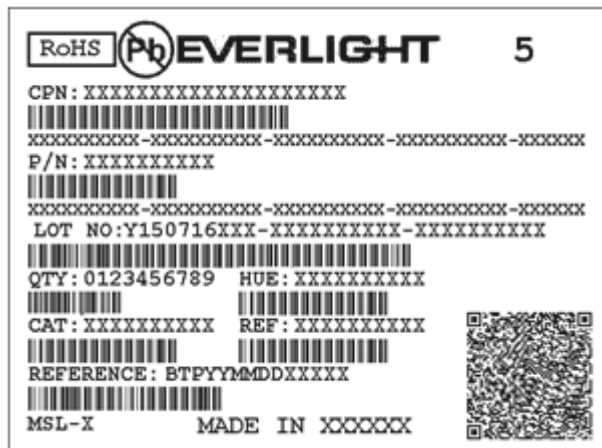
Suggested pad dimension is just for reference only.  
Please modify the pad dimension based on individual need.

Note: Tolerances unless mentioned  $\pm 0.1$ mm. Unit = mm



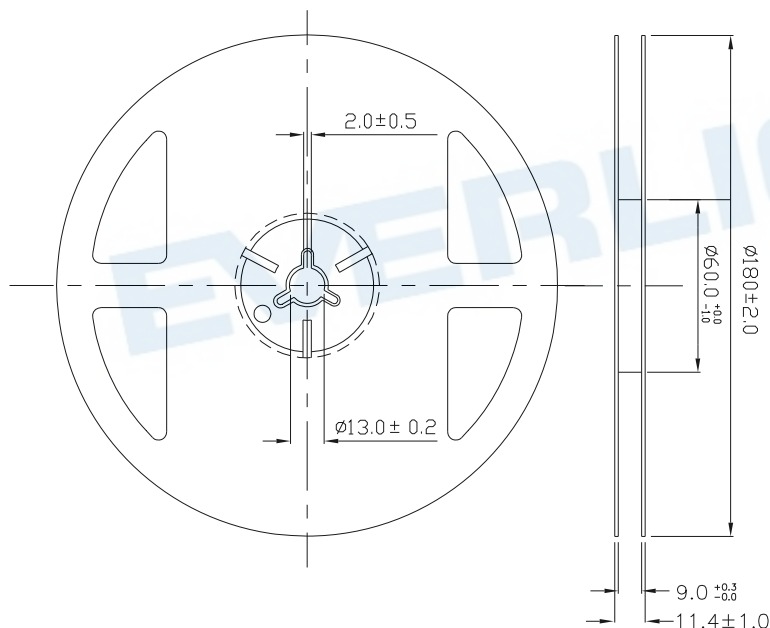
## Moisture Resistant Packing Materials

## Label Explanation



- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Chromaticity Coordinates & Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number

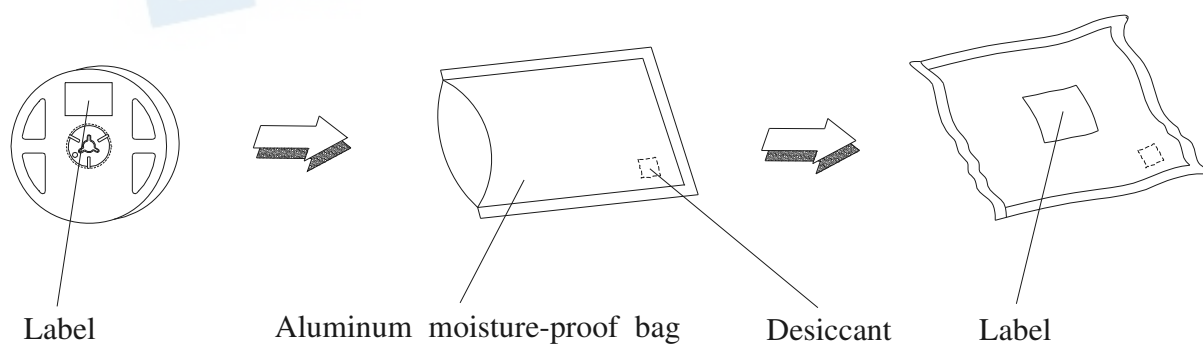
## Reel Dimensions



**Note:** The tolerances unless mentioned is  $\pm 0.1\text{mm}$ , Unit = mm

Technical drawing of a 5-hole punch. The drawing includes a top view and a side view. The top view shows a rectangular body with a width of 8.0 and a length of 15.0. There are five circular holes spaced 4.0 apart, with a 2.0 gap from the left edge and a 4.0 gap from the right edge. The side view shows a height of 1.82 and a base width of 0.6. A circuit diagram is shown in the bottom left corner, featuring a battery, a switch, and a buzzer. The text 'Progressive direction' is written above the top view with an arrow pointing right.

## Moisture Resistant Packaging



## 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°C or less and 90%RH or less.

2.3 The LEDs should be used within 168 hours (7days) after opening the package .

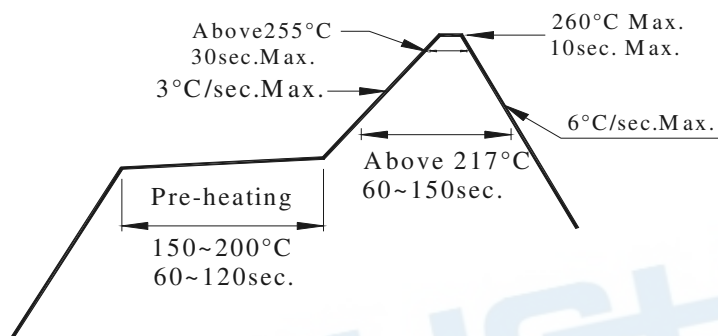
If unused LEDs remain, it should be stored in moisture proof packages.

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.

### 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.

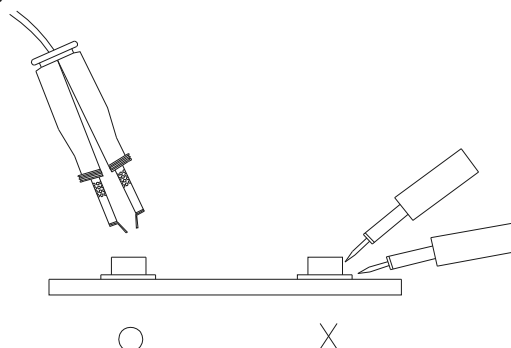
3.4 After soldering, do not warp the circuit board.

### 4. Soldering Iron

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

EVERLIGHT

## 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.

EVERLIGHT