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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.

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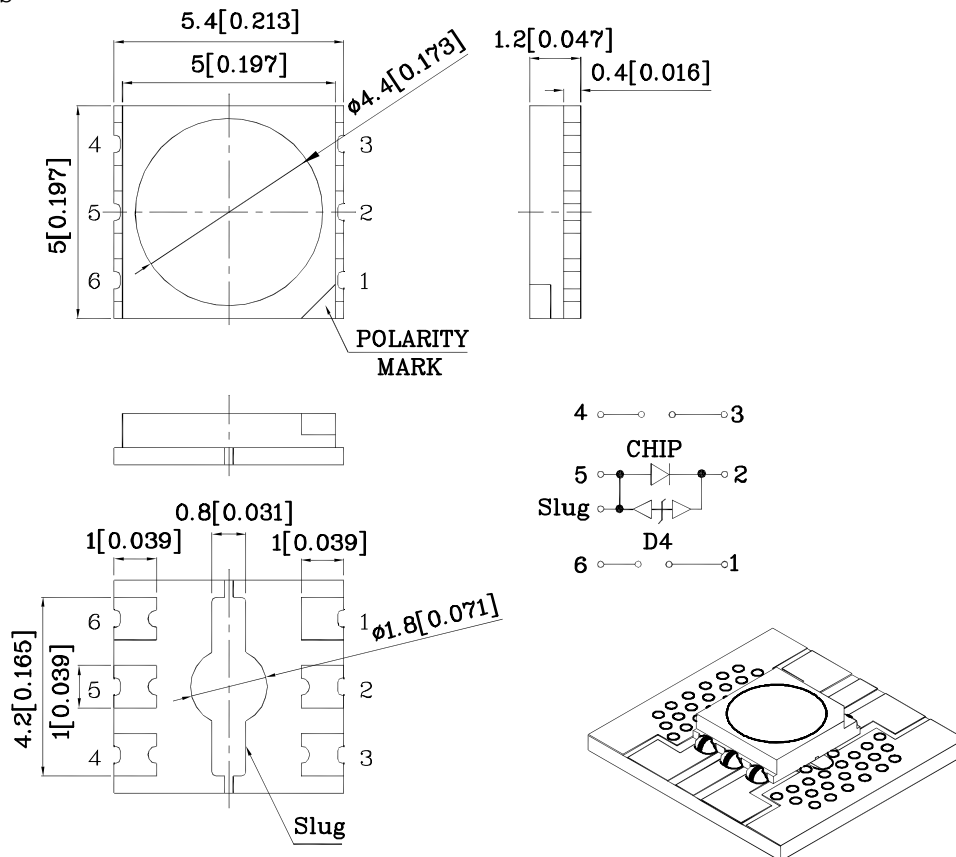
## Features

- 5.0mm X 5.0mm X 1.2mm SMD LED
- Zener diode provided for ESD protection
- IR-reflow compatible
- Standard Package: 500 pcs/Reel
- MSL (Moisture Sensitivity Level): 3
- RoHS compliant.



**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES

## Package Schematics



### Notes:

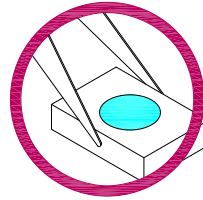
1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25(0.01)$  unless otherwise noted.
3. Specifications are subject to change without notice.
4. The device has a single mounting surface. The device must be mounted according to the specifications.

## Handling Precautions

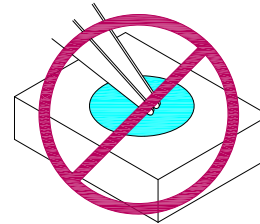
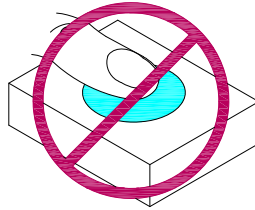
Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more susceptible to damage by external mechanical force.

As a result, special handling precautions need to be observed during assembly using silicone encapsulated LED products. Failure to comply might lead to damage and premature failure of the LED.

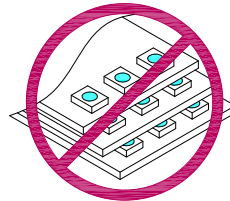
1. Handle the component along the side surfaces by using forceps or appropriate tools.



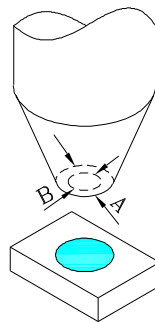
2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.



3. Do not stack together assembled PCBs containing exposed LEDs. Impact may scratch the silicone lens or damage the internal circuitry.



- 4.1. The inner diameter of the SMD pickup nozzle should not exceed the size of the LED to prevent air leaks.
- 4.2. A pliable material is suggested for the nozzle tip to avoid scratching or damaging the LED surface during pickup.
- 4.3. The dimensions of the component must be accurately programmed in the pick-and-place machine to insure precise pickup and avoid damage during production.



5. As silicone encapsulation is permeable to gases, some corrosive substances such as H<sub>2</sub>S might corrode silver plating of leadframe. Special care should be taken if an LED with silicone encapsulation is to be used near such substances.

## Selection Guide

Part Number	Dice	Lens-color	Luminous Intensity CIE127-2007* ( $I_F=350\text{mA}$ ) [2] cd		Luminous Flux CIE127-2007* ( $I_F=350\text{mA}$ )*[2] lm		Viewing Angle $2\theta$ 1/2 [1]
			Min.	Typ.	Min.	Typ.	
XZCB14X146S	Blue (InGaN)	Water Clear	4.2*	5.49*	14*	19.7*	120°

Notes:

- $\theta$  1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
- Luminous intensity / luminous flux: +/-15%.\*LEDs are binned according to their luminous flux.
- \* Luminous Intensity/Luminous Flux value is in accordance with CIE127-2007 standards.

## Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

Parameter	Symbol	Value	Unit
Power Dissipation	$P_D$	1.33	W
DC Forward Current [1]	$I_F$	350	mA
Peak Forward Current [2]	$I_{FP}$	600	mA
Reverse Voltage	$V_R$	5	V
Junction temperature	$T_J$	110	$^\circ\text{C}$
Operating Temperature	$T_{op}$	-40 To +100	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-40 To +110	$^\circ\text{C}$
Thermal Resistance [1]	$R_{th\ j-a}$	23.8	$^\circ\text{C/W}$
Electrostatic Discharge Threshold (HBM)		8000	V

Notes:

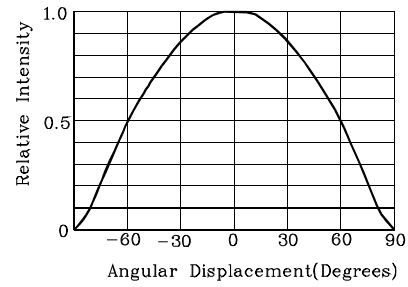
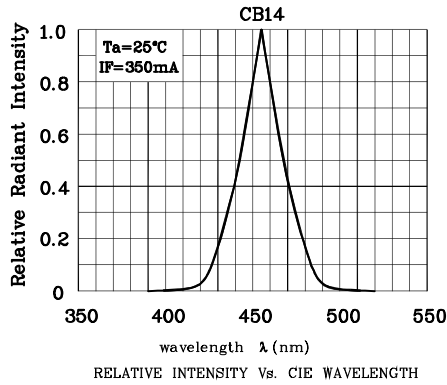
- Results from mounting on metal core PCB, mounted on pc board-metal core PCB is recommend for lowest thermal resistance.
- 1/10 Duty Cycle, 0.1ms Pulse Width.

## Electrical / Optical Characteristics at $T_A=25^\circ\text{C}$

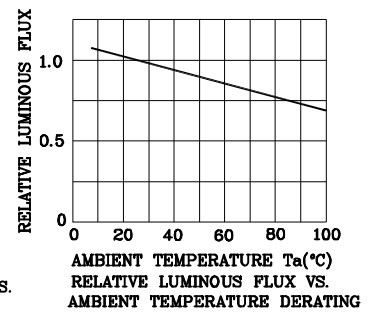
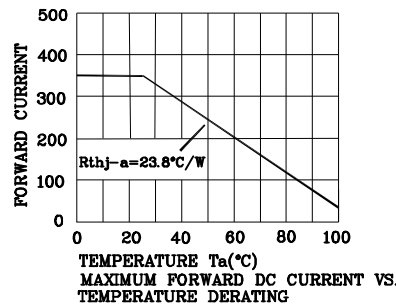
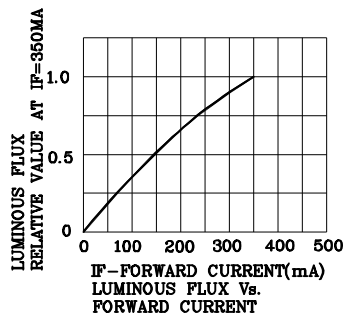
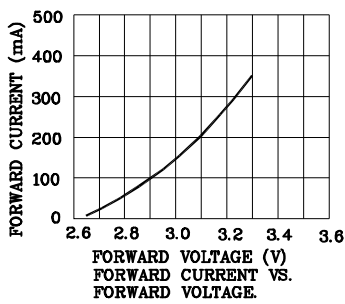
Parameter	Symbol	Value	Unit
Wavelength at peak emission $I_F = 350\text{mA}$ CIE127-2007* [Typ.]	$\lambda_{peak}$	455*	nm
Dominant Wavelength $I_F = 350\text{mA}$ CIE127-2007* [Typ.]	$\lambda_{dom}$ [1]	460*	nm
Spectral bandwidth at 50% $\Phi_{REL\ MAX}$ $I_F = 350\text{mA}$ [Typ.]	$\Delta\lambda$	25	nm
Forward Voltage $I_F=350\text{mA}$ [Typ.]	$V_F$ [2]	3.3	V
Forward Voltage $I_F=350\text{mA}$ [Max.]		3.8	
Allowable Reverse Current [Max.]	$I_R$	85	mA
Temperature coefficient of $\lambda_{peak}$ $I_F = 350\text{mA}$ , $-10^\circ\text{C} \leq T \leq 100^\circ\text{C}$ [Typ.]	$TC_{\lambda_{peak}}$	0.2	nm/ $^\circ\text{C}$
Temperature coefficient of $\lambda_{dom}$ $I_F = 350\text{mA}$ , $-10^\circ\text{C} \leq T \leq 100^\circ\text{C}$ [Typ.]	$TC_{\lambda_{dom}}$	0.1	nm/ $^\circ\text{C}$
Temperature coefficient of $V_F$ $I_F = 350\text{mA}$ , $-10^\circ\text{C} \leq T \leq 100^\circ\text{C}$ [Typ.]	$TC_V$	-2.3	mV/ $^\circ\text{C}$

Notes:

- Wavelength : +/-1nm.
- Forward Voltage: +/-0.1V.
- \*wavelength value is in accordance with CIE127-2007 standards.

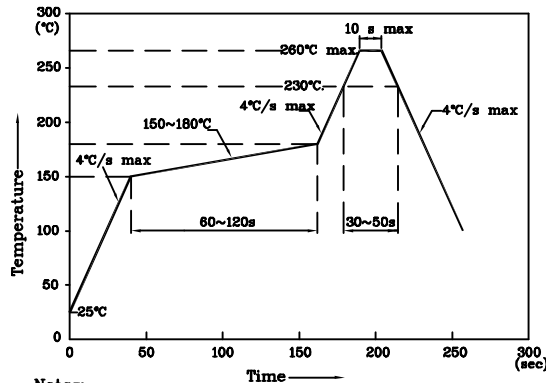


❖ CB14



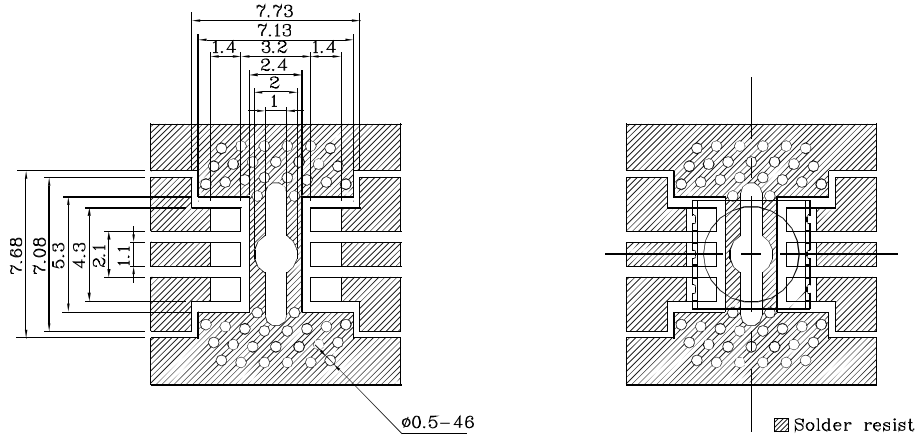
LED is recommended for reflow soldering and soldering profile is shown below.

Reflow Soldering Profile for SMD Products (Pb-Free Components)

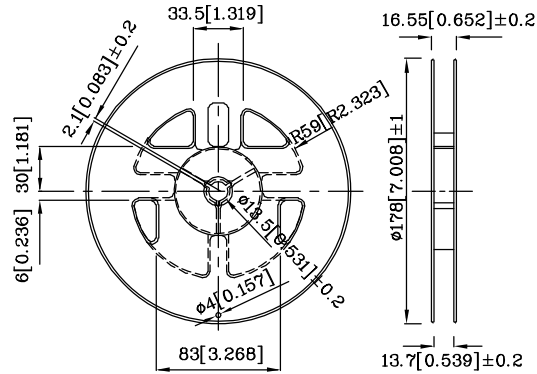


- Notes:
1. Maximum soldering temperature should not exceed 260°C
  2. Recommended reflow temperature: 145°C-260°C
  3. Do not put stress to the epoxy resin during high temperatures conditions

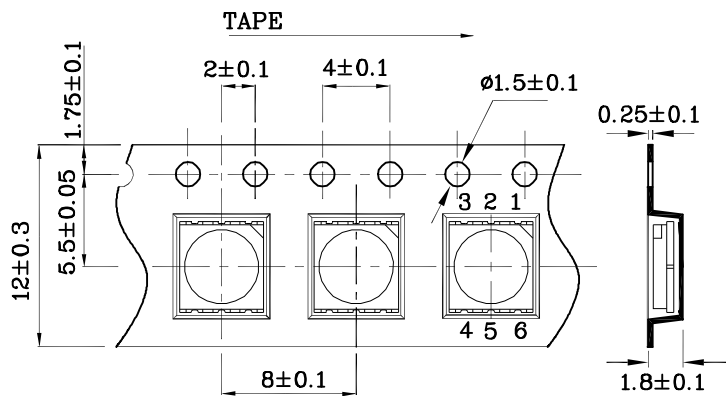
❖ Recommended Soldering Pattern  
(Units : mm; Tolerance:  $\pm 0.1$ )



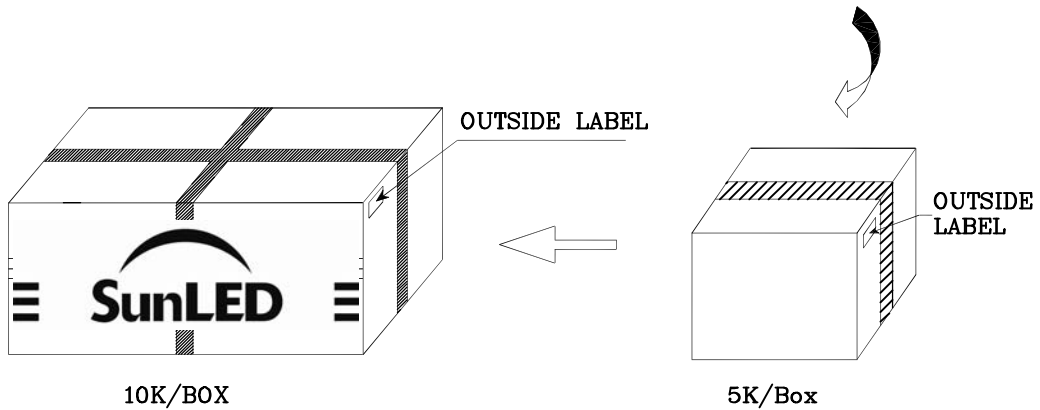
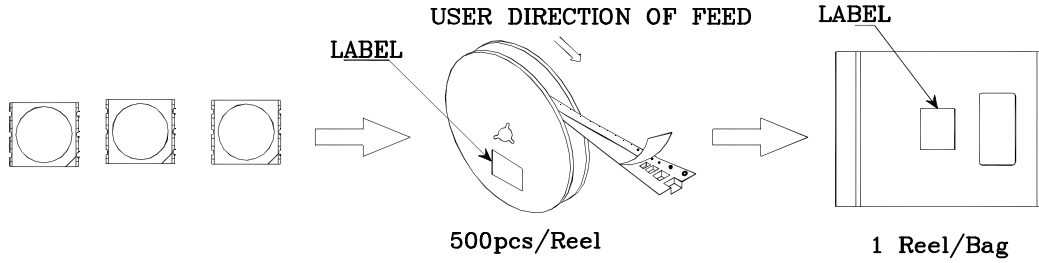
❖ Reel Dimension


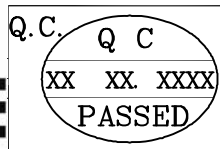



❖ Tape Specification (Units : mm)



**PACKING & LABEL SPECIFICATIONS**



		
P/NO : XZxxx146x		
QTY : 500 pcs	CODE: XXX	
S/N : XX		
LOT NO :		
 XXXXXXXXXXXXXXXXXXXXXXXXXXXX		
RoHS Compliant		

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