

Features

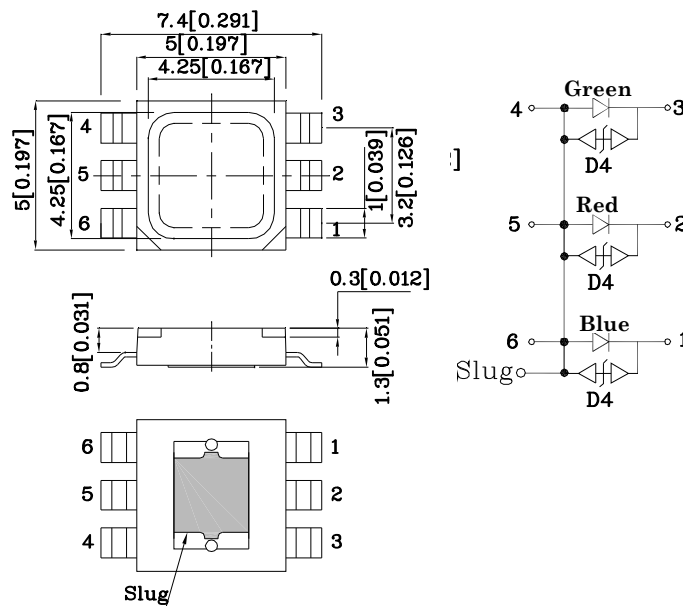
- Ideal for indication light on hand held products
- Long life and robust package
- White SMD package, silicone resin.
- Standard Package: 500pcs/ Reel
- MSL (Moisture Sensitivity Level): 3
- RoHS compliant.



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES



Package Schematics



Notes:

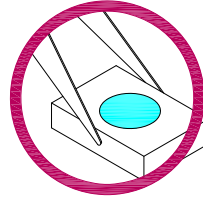
1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.15 [\pm 0.006]$ unless otherwise noted.
3. Specifications are subject to change without notice.

Handling Precautions

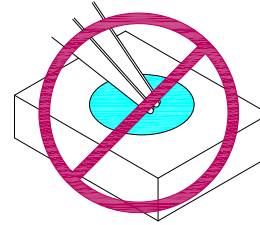
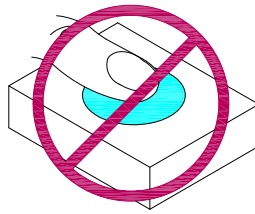
Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more susceptible to damage by external mechanical force.

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.

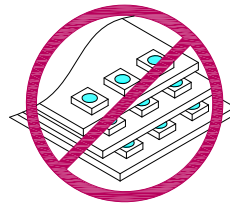
1. Handle the component along the side surfaces by using forceps or appropriate tools.



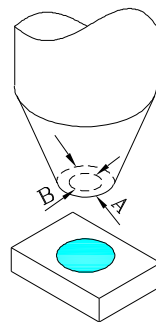
2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.



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_2S 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	Emitting Color	Emitting Material	Lens-color	Luminous Intensity CIE127-2007* [2] (IF=150mA) cd		Luminous Flux CIE127-2007* [2] (IF=150mA) lm			Viewing Angle 2 θ 1/2 [1]
				min.	typ.	min.	typ.	max.	
XZCB25MO24DG25X111S	Blue	InGaN	Water Clear	1*	1.59*	2.9*	4*	6	120°
	Red	AlGaInP		2.7*	4.29*	8.6*	10.7*	17	
	Green	InGaN		4.2*	5.99*	12*	16.7*	29	

Notes:

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
2. 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 Ta=25°C

Parameter	Symbol	Emitting Color	Value	Unit
Power dissipation	PD	Blue	0.6	W
		Red	0.45	
		Green	0.6	
Junction temperature	Tj	Blue	110	°C
		Red	110	
		Green	110	
Operating Temperature	Top	Blue	-40 To +85	°C
		Red		
		Green		
Storage Temperature	Tstg	Blue	-40 To +85	°C
		Red		
		Green		
DC Forward Current [1]	IF	Blue	150	mA
		Red	150	
		Green	150	
Peak Forward Current [2]	IFM	Blue	300	mA
		Red	300	
		Green	300	
Thermal resistance	Rth j-a	Blue	220	°C/W
		Red	270	
		Green	200	
Thermal resistance	Rth j-s	Blue	25	°C/W
		Red	40	
		Green	33	

Notes:

1. Results from mounting on Aluminum Board.
2. 1/10 Duty Cycle, 0.1ms Pulse Width.
3. A Relative Humidity between 40% and 60% is recommended in ESD-protected work areas to reduce static build up during assembly process (Reference JEDEC/ JESD625-A and JEDEC/J-STD-033)

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

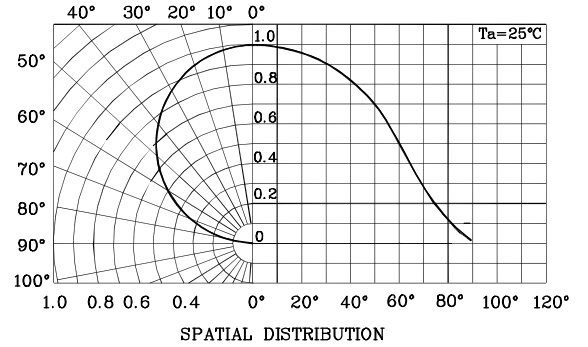
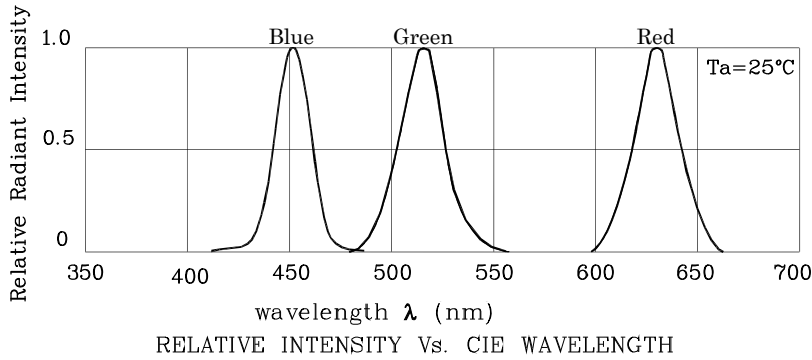
Parameter	Symbol	Emitting Color	Value			Unit
			Min.	Typ.	Max.	
Wavelength at peak emission CIE127-2007* $I_F=150\text{mA}$	λ_{peak}	Blue		452*		nm
Wavelength at peak emission CIE127-2007* $I_F=150\text{mA}$		Red		635*		
Wavelength at peak emission CIE127-2007* $I_F=150\text{mA}$		Green		515*		
Dominant Wavelength CIE127-2007* $I_F=150\text{mA}$	$\lambda_{\text{dom}} [1]$	Blue		460*	473*	nm
Dominant Wavelength CIE127-2007* $I_F=150\text{mA}$		Red		624*	-	
Dominant Wavelength CIE127-2007* $I_F=150\text{mA}$		Green		525*	535*	
Spectral Line Half-width $I_F=150\text{mA}$	$\Delta\lambda_{1/2}$	Blue		20		nm
Spectral Line Half-width $I_F=150\text{mA}$		Red		20		
Spectral Line Half-width $I_F=150\text{mA}$		Green		30		
Forward Voltage $I_F=150\text{mA}$	$V_F [2]$	Blue	3.0	3.5	4.0	V
Forward Voltage $I_F=150\text{mA}$		Red	2.0	2.5	3.0	
Forward Voltage $I_F=150\text{mA}$		Green	3.0	3.5	4.0	
Reverse Voltage	V_R	Blue			5	V
		Red			5	
		Green			5	
Temperature coefficient of λ_{peak} $I_F=150\text{mA}$, $-10^{\circ}\text{C} \leq T \leq 100^{\circ}\text{C}$	$TC\lambda_{\text{peak}}$	Blue		0.12		nm/ $^{\circ}\text{C}$
Temperature coefficient of λ_{peak} $I_F=150\text{mA}$, $-10^{\circ}\text{C} \leq T \leq 100^{\circ}\text{C}$		Red		0.09		
Temperature coefficient of λ_{peak} $I_F=150\text{mA}$, $-10^{\circ}\text{C} \leq T \leq 100^{\circ}\text{C}$		Green		0.13		
Temperature coefficient of λ_{dom} $I_F=150\text{mA}$, $-10^{\circ}\text{C} \leq T \leq 100^{\circ}\text{C}$	$TC\lambda_{\text{dom}}$	Blue		0.1		nm/ $^{\circ}\text{C}$
Temperature coefficient of λ_{dom} $I_F=150\text{mA}$, $-10^{\circ}\text{C} \leq T \leq 100^{\circ}\text{C}$		Red		0.03		
Temperature coefficient of λ_{dom} $I_F=150\text{mA}$, $-10^{\circ}\text{C} \leq T \leq 100^{\circ}\text{C}$		Green		0.11		
Temperature coefficient of V_F $I_F=150\text{mA}$, $-10^{\circ}\text{C} \leq T \leq 100^{\circ}\text{C}$	TCV	Blue		-2.3		mV/ $^{\circ}\text{C}$
Temperature coefficient of V_F $I_F=150\text{mA}$, $-10^{\circ}\text{C} \leq T \leq 100^{\circ}\text{C}$		Red		-2.7		
Temperature coefficient of V_F $I_F=150\text{mA}$, $-10^{\circ}\text{C} \leq T \leq 100^{\circ}\text{C}$		Green		-3.9		

Notes:

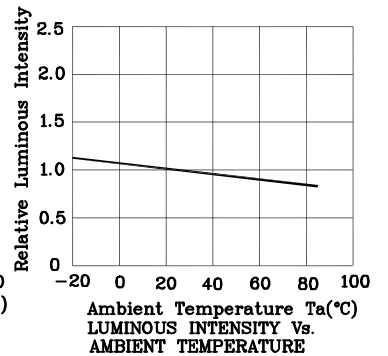
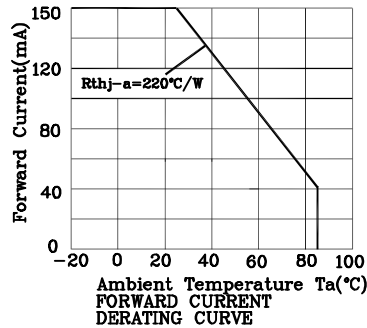
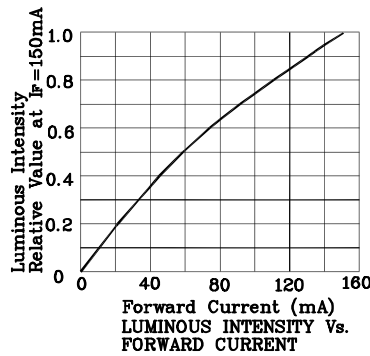
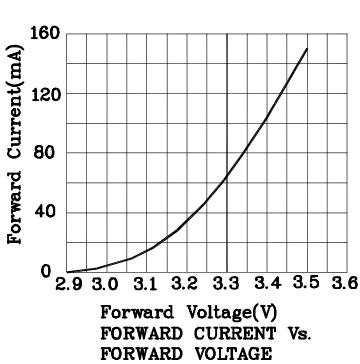
1. Wavelength: +/-1nm.

2. Forward Voltage: +/-0.2V.

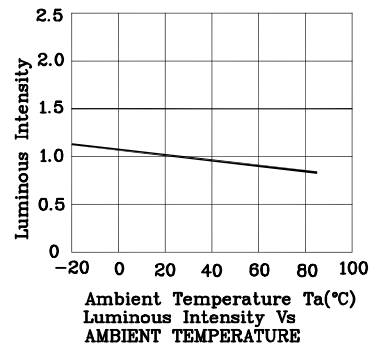
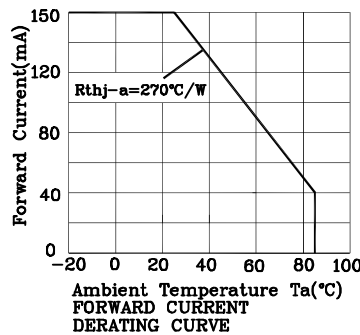
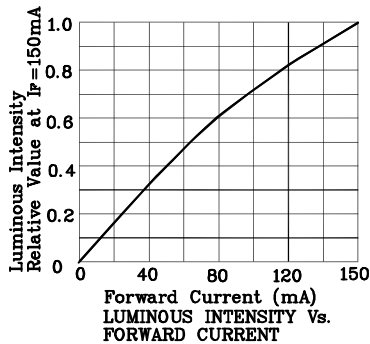
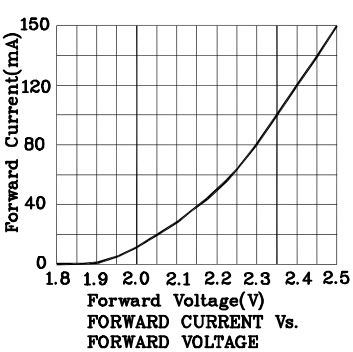
*wavelength is in accordance with CIE127-2007 standards.



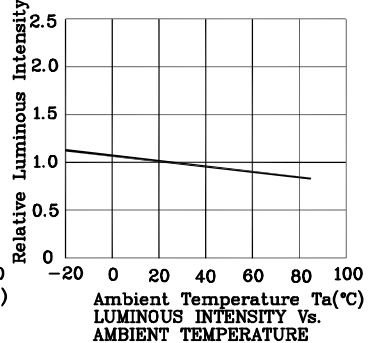
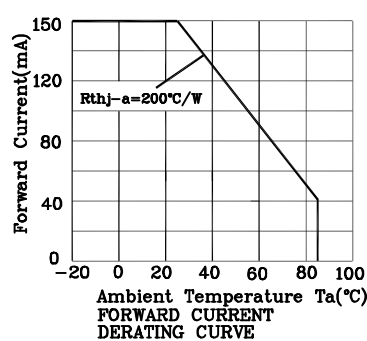
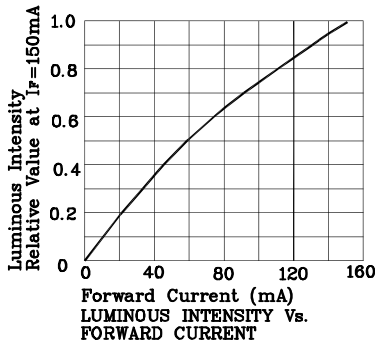
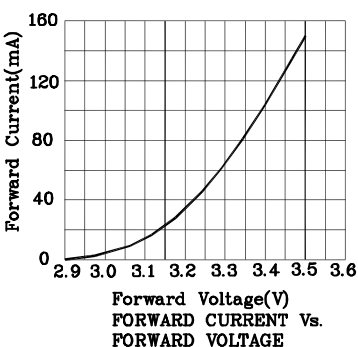
❖ Blue



❖ Red

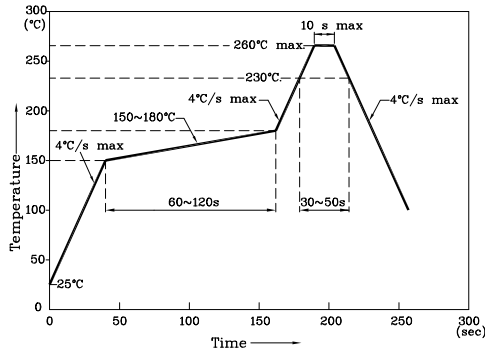


❖ Green



Reflow soldering is recommended and the soldering profile is shown below.
Other soldering methods are not recommended as they might cause damage to the product.

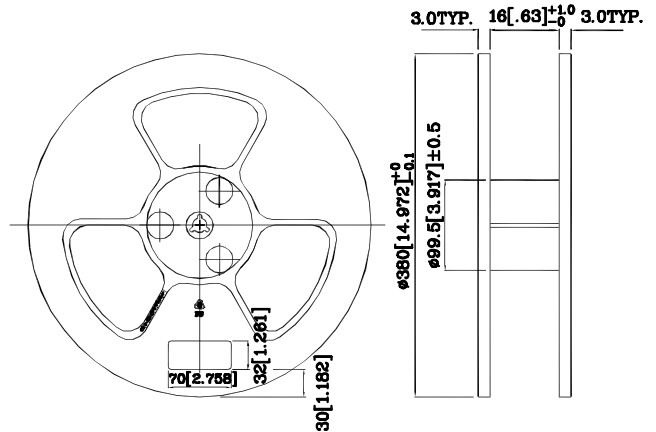
Reflow Soldering Profile For Lead-free SMT Process.



NOTES:

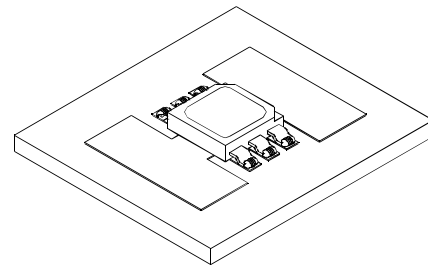
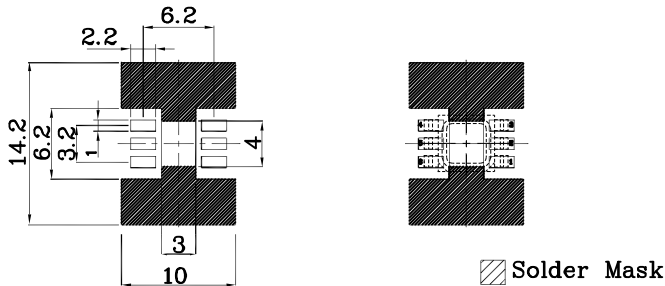
1. Maximum soldering temperature should not exceed 260°C.
2. Recommended reflow temperature: 145°C-260°C.
3. Do not put stress to the epoxy resin during high temperatures conditions.

Reel Dimension

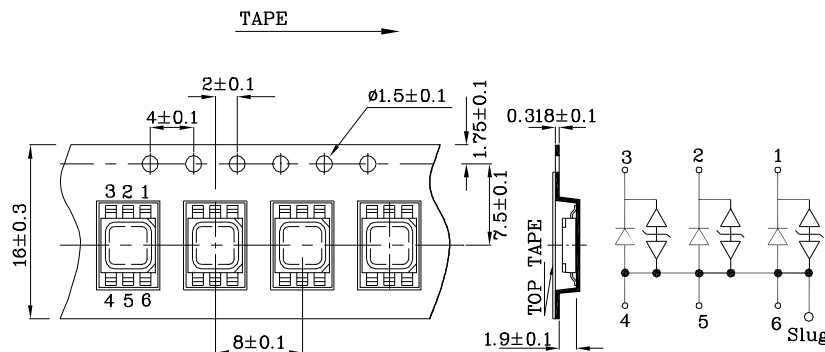


❖ Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)

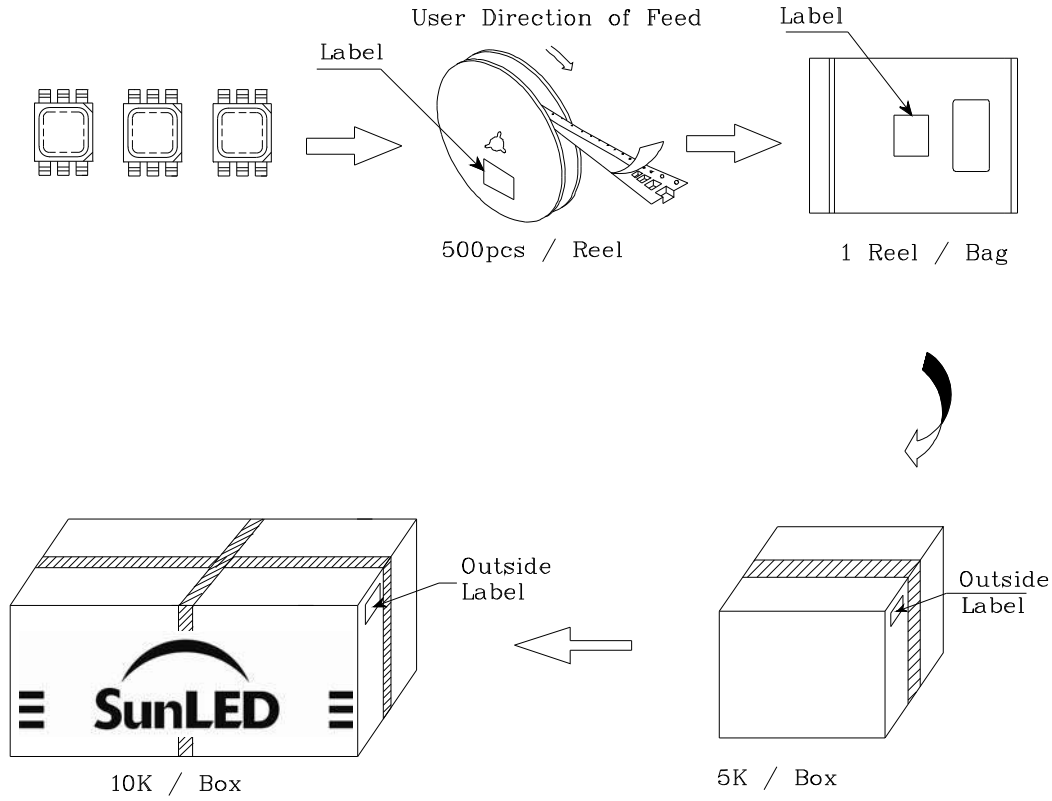

❖ The device has a single mounting surface. The device must be mounted according to the specifications.




❖ Tape Specification (Units : mm)



PACKING & LABEL SPECIFICATIONS

P/NO : XZxxx111x	
QTY : 500 pcs	CODE: XXX
S/N : XX	
LOT NO :	
 XXXXXXXXXXXXXXXXXXXXXXXXXXXX	
RoHS Compliant	

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