

Features

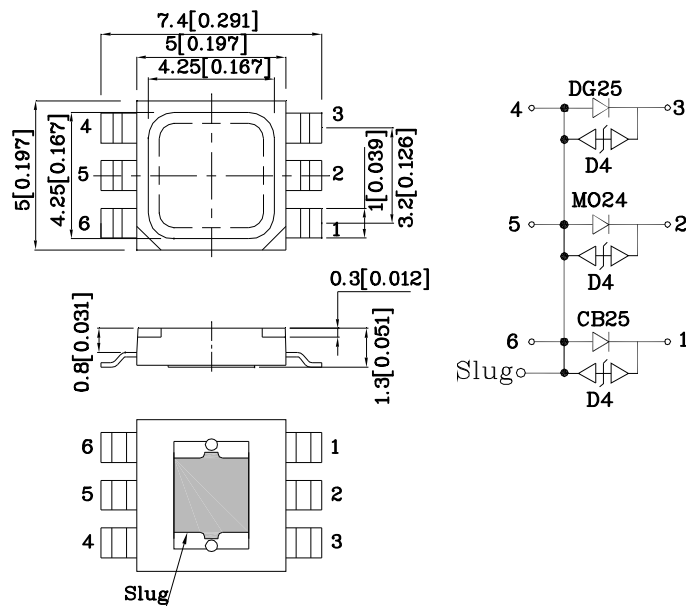
- Ideal for indication light on hand held products
- Long life and robust package
- Variety of lens types and color choices available
- White SMD package, silicone resin.
- Standard Package: 500pcs/ Reel
- MSL (Moisture Sensitivity Level): 3
- RoHS compliant.



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES



Package Schematics



Notes:

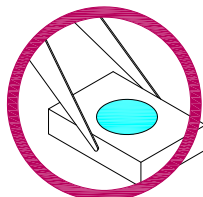
1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.15 [\pm 0.006]$ unless otherwise noted.
3. Specifications are subject to change without notice.

Handling Precautions

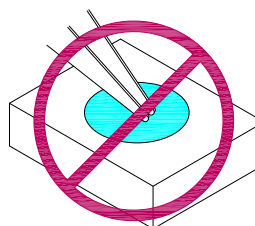
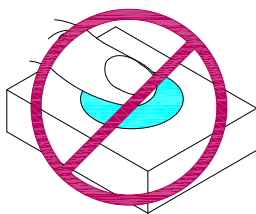
Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more susceptible to damage by external mechanical force.

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.

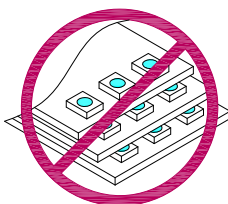
1. Handle the component along the side surfaces by using forceps or appropriate tools.



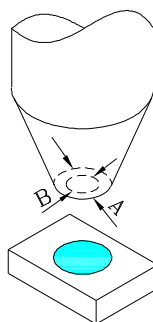
2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.



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.	
XZCB25MO24DG25X111S	Blue	InGaN	Water Clear	1*	1.59*	2.9*	4*	120°
	Red	AlGaInP		2.7*	4.29*	8.6*	10.7*	
	Green	InGaN		4.2*	5.99*	12*	16.7*	

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	Device	Value	Unit	Test Conditions
Power dissipation	Pd	Blue	0.6	W	If=150mA If=150mA If=150mA
		Red	0.45		
		Green	0.6		
Junction temperature	Tj	Blue	110	°C	If=150mA If=150mA If=150mA
		Red	110		
		Green	110		
Operating Temperature	Top	Blue	-40 To +85	°C	If=150mA If=150mA If=150mA
		Red			
		Green			
Storage Temperature	Tstg	Blue	-40 To +85	°C	If=150mA If=150mA If=150mA
		Red			
		Green			
DC Forward Current [1]	If	Blue	150	mA	If=150mA If=150mA If=150mA
		Red	150		
		Green	150		
Peak Forward Current [2]	IFM	Blue	300	mA	If=150mA If=150mA If=150mA
		Red	300		
		Green	300		
Thermal resistance	Rth j-a	Blue	220	°C/W	If=150mA If=150mA If=150mA
		Red	270		
		Green	200		
Thermal resistance	Rth j-s	Blue	25	°C/W	If=150mA If=150mA If=150mA
		Red	40		
		Green	33		
Reverse Current	IR	Blue	10	uA	VR=5V
		Red	10		
		Green	10		

Notes:

1. Results from mounting on Aluminum Board.

2. 1/10 Duty Cycle, 0.1ms Pulse Width.

Electrical / Optical Characteristics at Ta=25°C

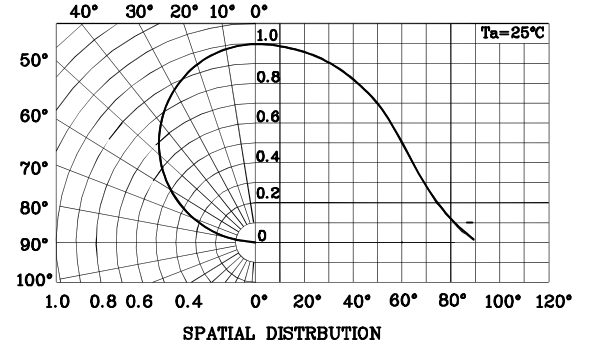
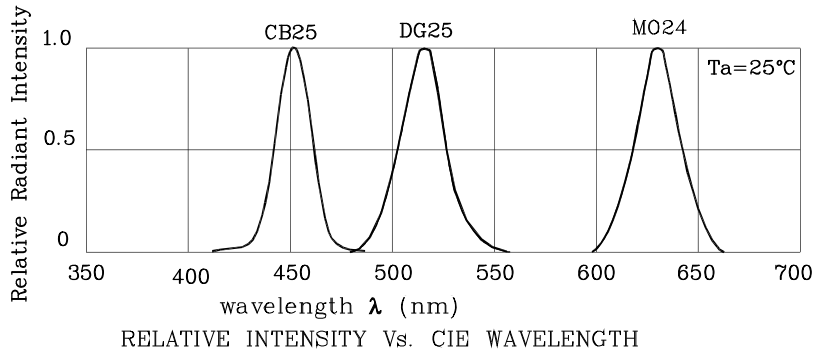
Parameter	Symbol	Device	Value			Unit
			Min.	Typ.	Max.	
Wavelength at peak emission CIE127-2007* If=150mA	λ_{peak}	Blue		452*		nm
Wavelength at peak emission CIE127-2007* If=150mA		Red		635*		
Wavelength at peak emission CIE127-2007* If=150mA		Green		515*		
Dominant Wavelength CIE127-2007* If=150mA	λ_{dom}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

Notes:

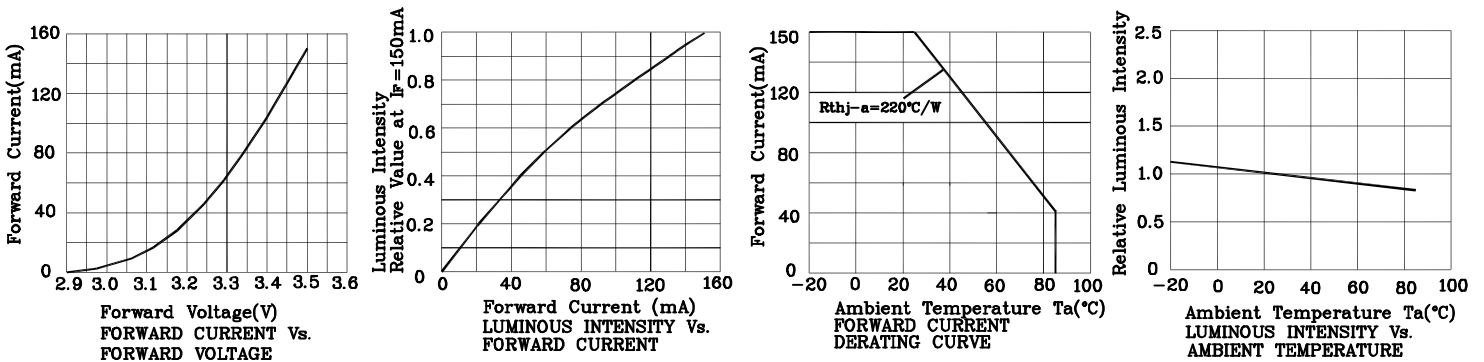
1. Wavelength: +/-1nm.

2. Forward Voltage: +/-0.2V.

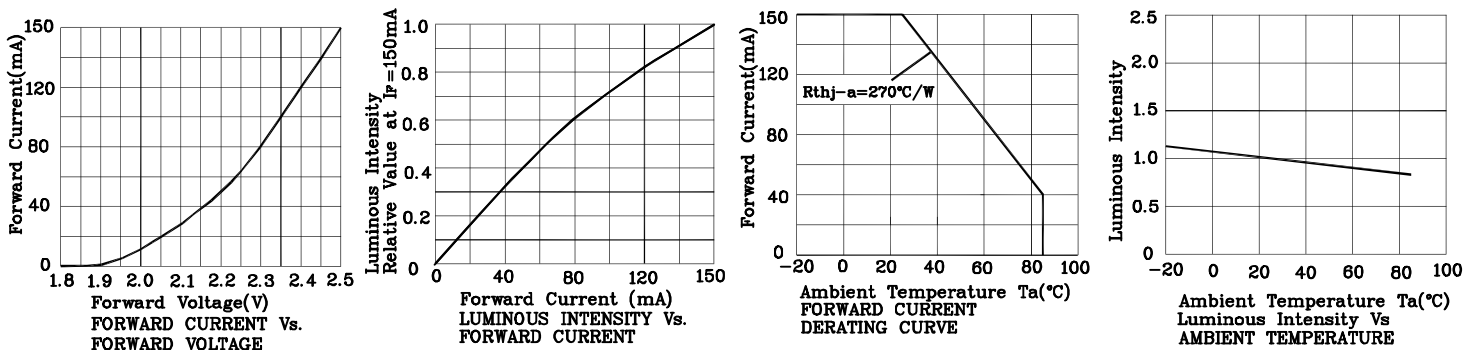
*wavelength is in accordance with CIE127-2007 standards.



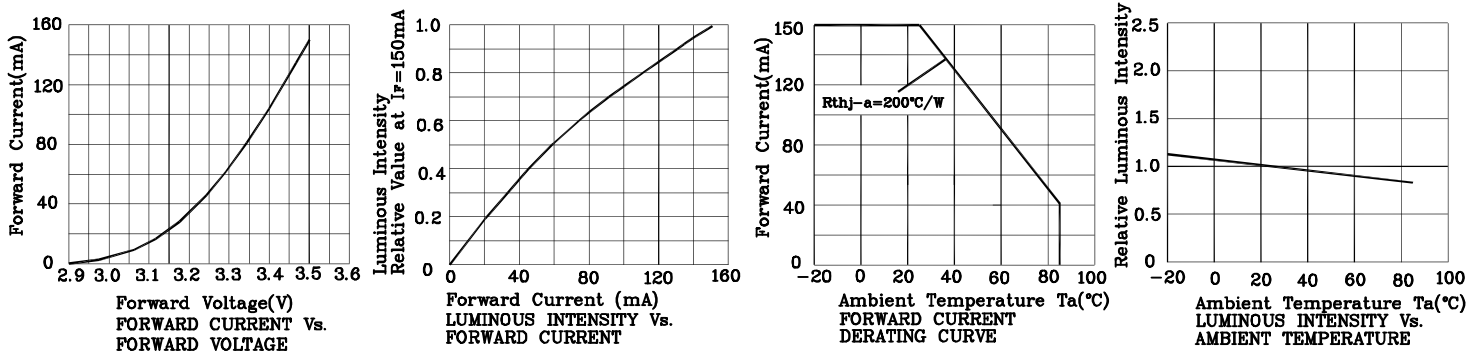
❖ CB25



❖ MO24

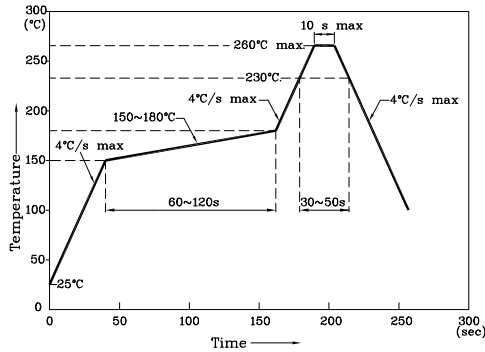


❖ DG25



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.

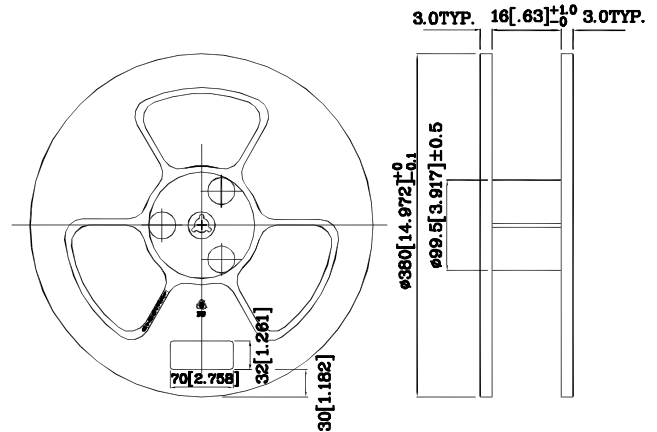
Reflow Soldering Profile For Lead-free SMT Process.



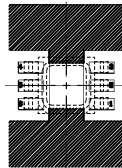
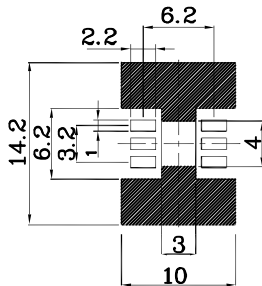
NOTES:

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

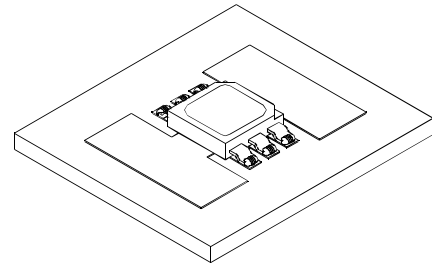


❖ Recommended Soldering Pattern
(Units : mm; Tolerance: ± 0.1)

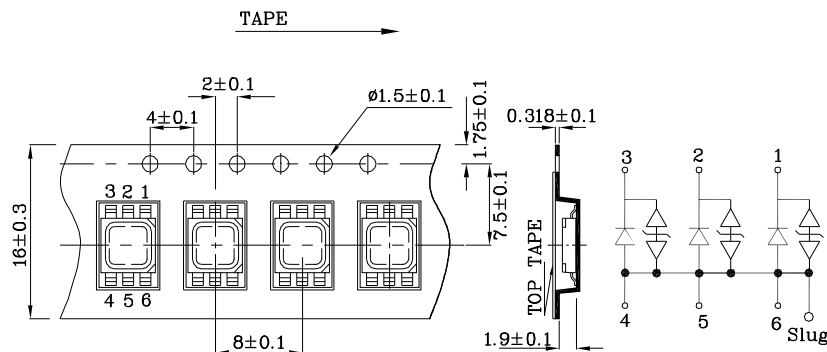


▨ Solder Mask

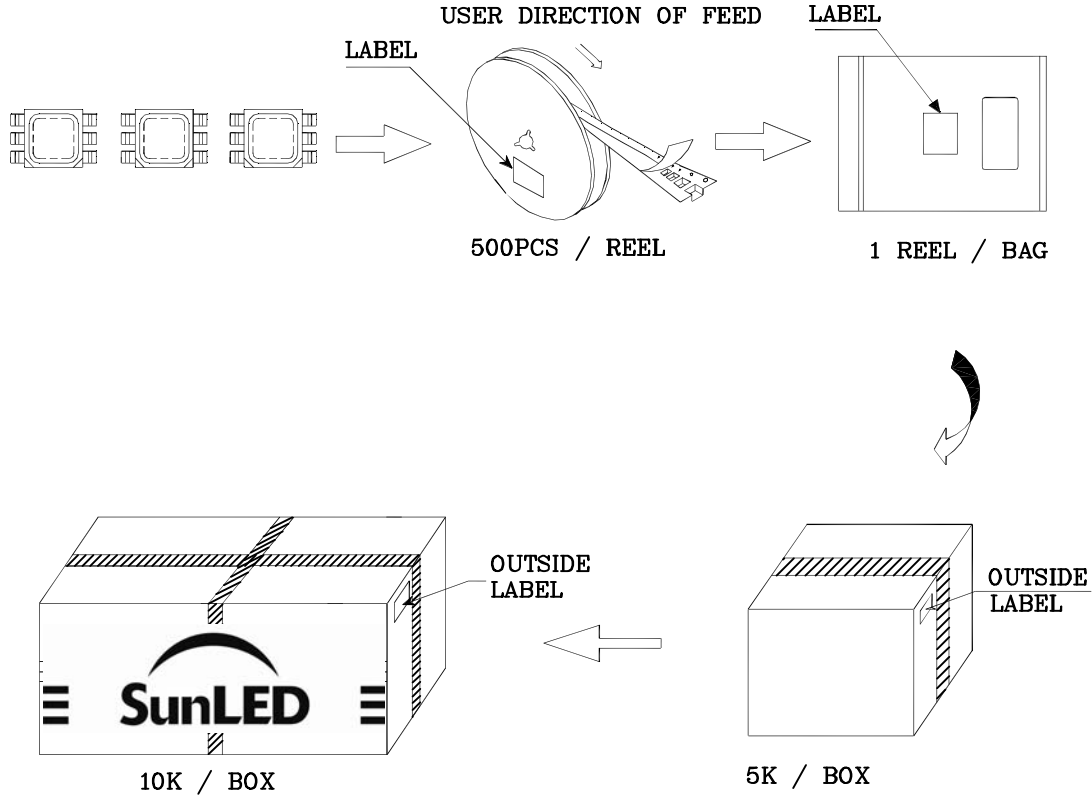
❖ The device has a single mounting surface. The device must be mounted according to the specifications.

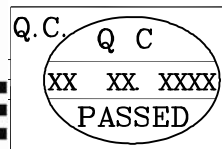


❖ Tape Specification (Units : mm)



PACKING & LABEL SPECIFICATIONS



 	
P/NO : XZ111xxx	
QTY : 500 pcs	CODE: XXX
S/N : X ^{XZxxx111x}	
LOT NO :	
 XXXXXXXXXXXXXXXXXXXXX	
RoHS Compliant	

TERMS OF USE

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