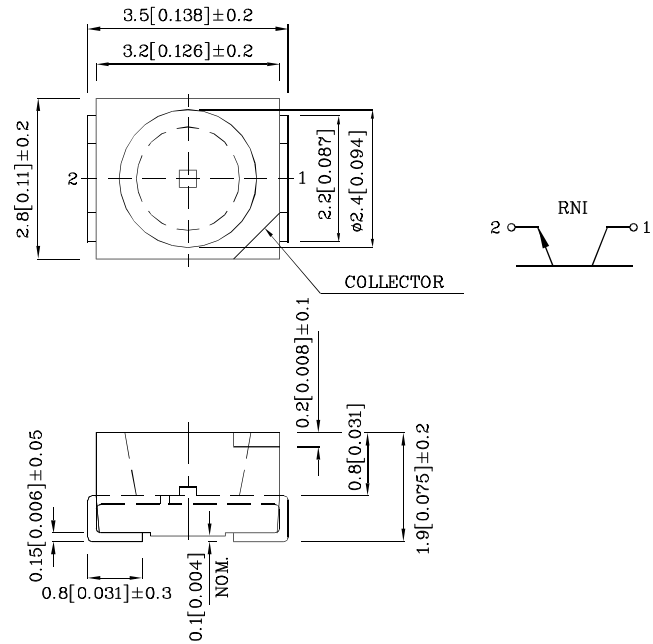


### Features

- Long life and robust package
- Standard Package: 2000pcs/ Reel
- MSL (Moisture Sensitivity Level): 3
- RoHS compliant



### Package Schematics



#### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. Specifications are subject to change without notice.

### Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Condition
VBR CEO	Collector-to-Emitter Breakdown Voltage	30			V	IC=100μA Ee=0mW/cm <sup>2</sup>
VBR ECO	Emitter-to-Collector Breakdown Voltage	5			V	IE=100μA Ee=0mW/cm <sup>2</sup>
VCE(SAT)	Collector-to-Emitter Saturation Voltage			0.8	V	IC=2mA Ee=20mW/cm <sup>2</sup>
ICEO	Collector Dark Current			100	nA	VCE=10V Ee=0mW/cm <sup>2</sup>
TR	Rise Time (10% to 90%)		15		μs	VCE=5V IC=1mA RL=1KΩ
TF	Fall Time (90% to 10%)		15		μs	
I(ON)	On State Collector Current	0.2	0.4		mA	VCE=5V Ee=1mW/cm <sup>2</sup> λ=940nm

### Absolute Maximum Ratings at TA=25°C

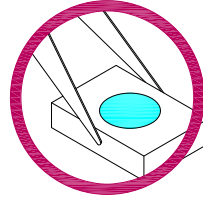
Parameter	Maximum Ratings
Collector-to-Emitter Voltage	30V
Emitter-to-Collector Voltage	5V
Power Dissipation at (or below) 25°C Free Air Temperature	100mW
Operating / Storage Temperature Range	-40°C To +85°C

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)

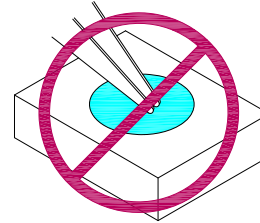
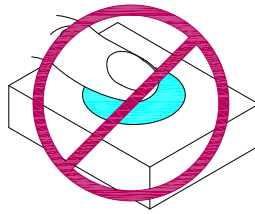
### Handling Precautions

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.

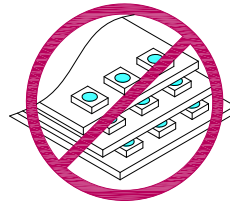
1. Handle the component along the side surfaces by using forceps or appropriate tools.



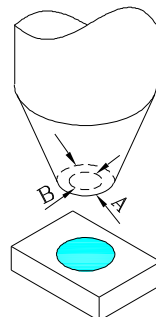
2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.



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.

Typical Electro-Optical Characteristics Curves

Fig.1 Collector Power Dissipation vs. Ambient Temperature

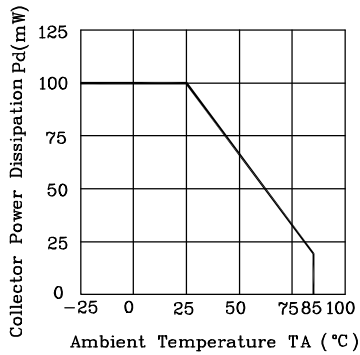


Fig.2 Spectral Sensitivity

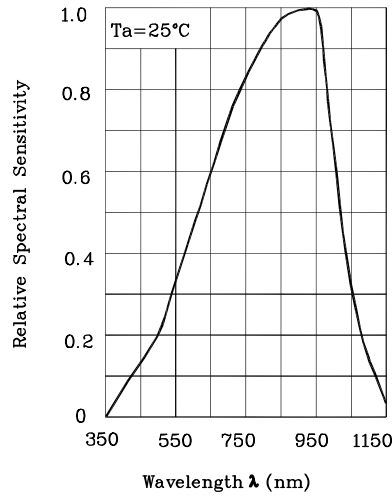


Fig.3 Relative Collector Current vs. Ambient Temperature

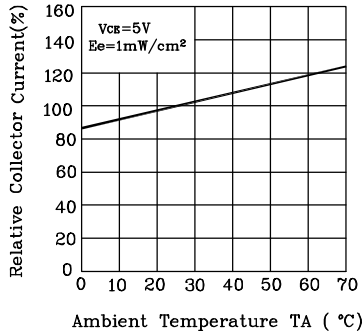


Fig.4 Collector Current  $I_c = f(E_e), V_{ce} = 5\text{V}, T_a = 25^\circ\text{C}$

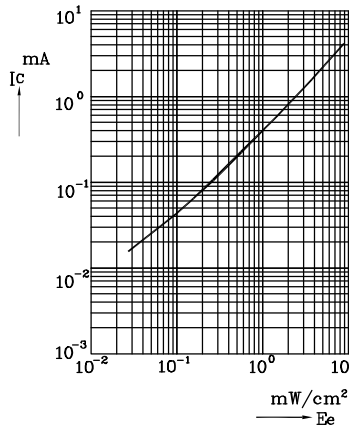


Fig.5 Collector Dark Current vs. Ambient Temperature

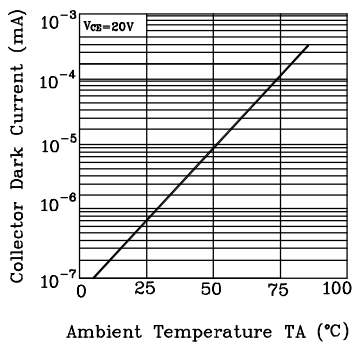


Fig.6 Collector Current vs. Collector-Emmitter Voltage

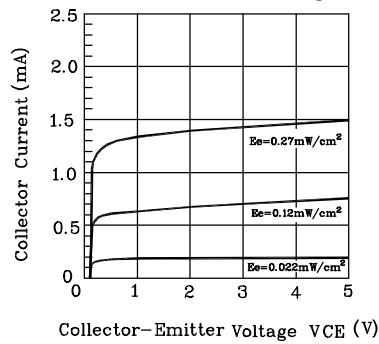
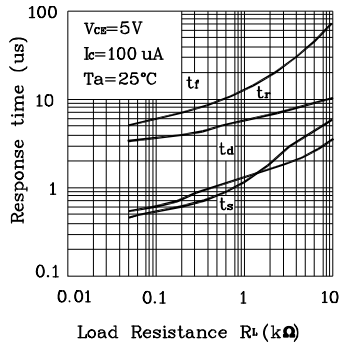
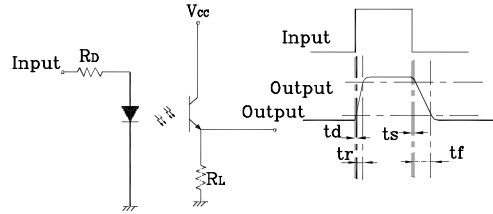


Fig.7 Response Time vs. Load Resistance

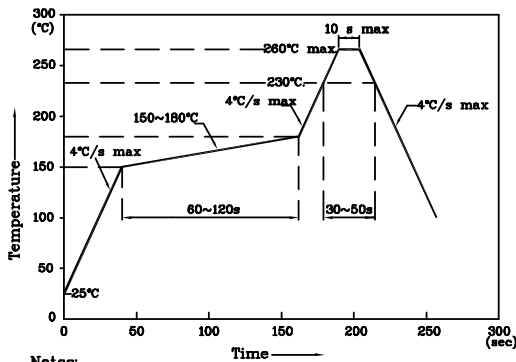


Test Circuit for Response Time



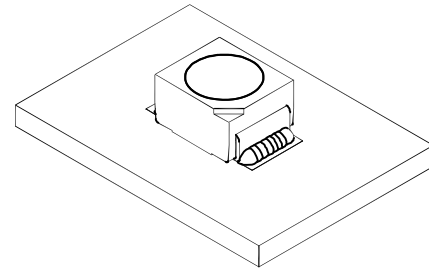
❖ LED is recommended for reflow soldering and soldering profile is shown below.

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

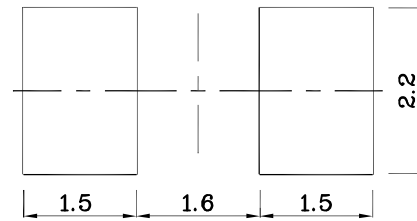


- Notes:
1. Maximum soldering temperature should not exceed 260°C
  2. Recommended reflow temperature: 145°C-260°C
  3. Do not put stress to the epoxy resin during high temperatures conditions

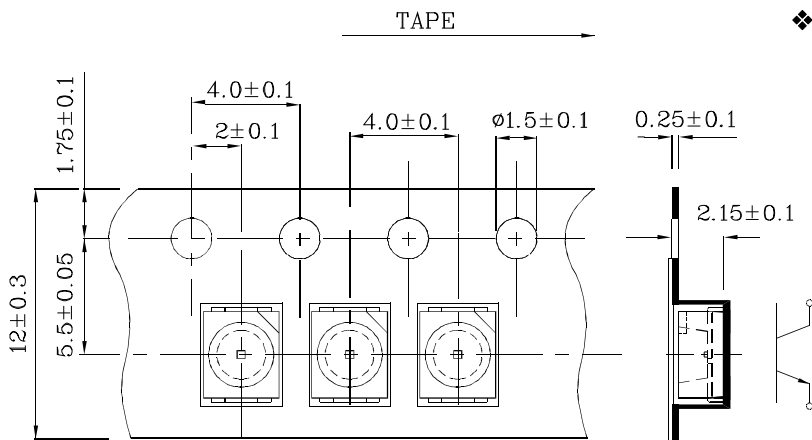
❖ The device has a single mounting surface. The device must be mounted according to the specifications.



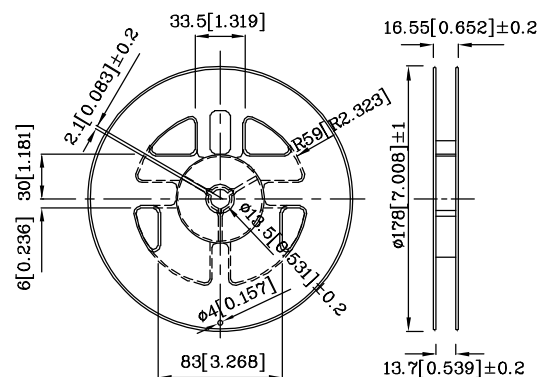
❖ Recommended Soldering Pattern (Units : mm; Tolerance:  $\pm 0.1$ )



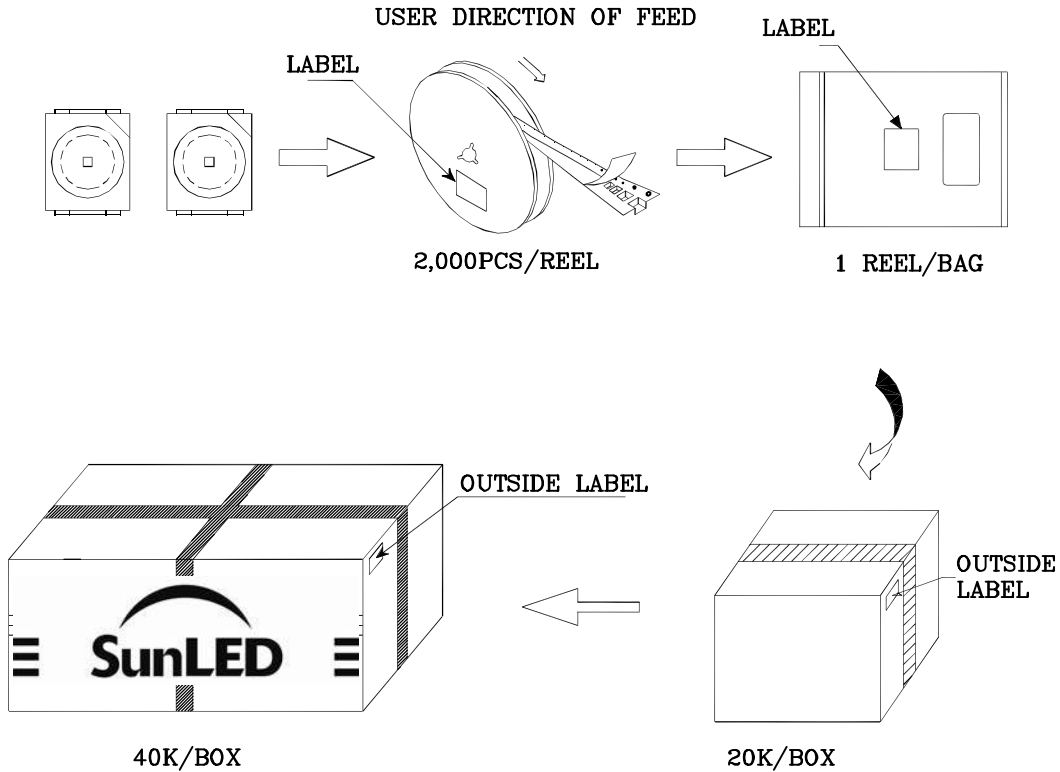
❖ Tape Specification (Units : mm)


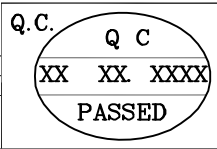



❖ Reel Dimension



**PACKING & LABEL SPECIFICATIONS**



		
P/NO : XZxxx45x		
QTY : 2,000 pcs		CODE: XXX
S/N : XX		
LOT NO:		
 XXXXXXXXXXXXXXXXXXXX		
RoHS Compliant		

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