SunLED

www.SunLEDusa.com

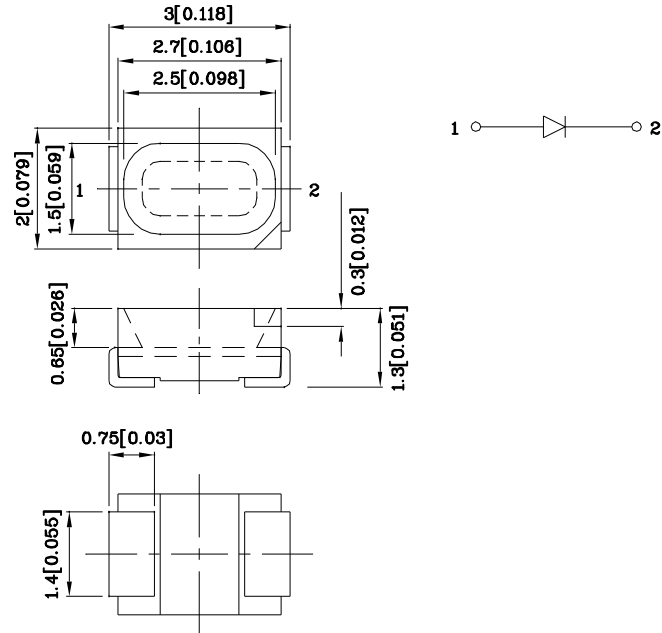## Features

- Ideal for indication light on hand held products
- Long life and robust package
- Variety of lens types and color choices available
- Package : 2000pcs / reel
- Moisture sensitivity level : 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 ±0.2(0.008") unless otherwise noted.
3. Specifications are subject to change without notice.

Absolute Maximum Ratings (T$_A$=25°C)		CBD (InGaN)	Unit
Reverse Voltage	V$_R$	5	V
Forward Current	I$_F$	30	mA
Forward Current (Peak) 1/10 Duty Cycle 0.1ms Pulse Width	i$_{FS}$	150	mA
Power Dissipation	P$_D$	120	mW
Operating Temperature	T$_A$	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +85	°C
Electrostatic Discharge Threshold (HBM)		250	V

| Operating Characteristics (T$_A$=25°C)		CBD (InGaN)	Unit
Forward Voltage (Typ.) (I$_F$=20mA)	V$_F$	3.3	V
Forward Voltage (Max.) (I$_F$=20mA)	V$_F$	4	V
Reverse Current (Max.) (V$_R$=5V)	I$_R$	50	uA
Wavelength of Peak Emission (Typ.) (I$_F$=20mA)	λP	468	nm
Wavelength of Dominant Emission (Typ.) (I$_F$=20mA)	λD	470	nm
Spectral Line Full Width At Half-Maximum (Typ.) (I$_F$=20mA)	△λ	25	nm
Capacitance (Typ.) (V$_F$=0V, f=1MHz)	C	100	pF

Part Number	Emitting Color	Emitting Material	Lens-color	Luminous Intensity (I$_F$=20mA) mcd		Wavelength nm λP	Viewing Angle 2θ 1/2
				min.	typ.		
XZCBD105S	Blue	InGaN	Water Clear	120	228	468	125°

Feb 22,2011

XDSB4949   V3   Layout: Maggie L.

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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.
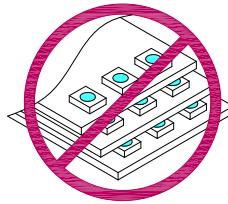
1. Handle the component along the side surfaces by using forceps or appropriate tools.
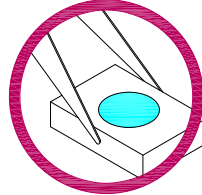
2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.
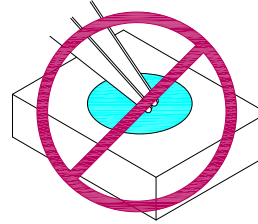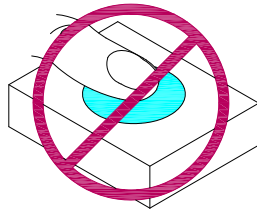
3. Do not stack together assembled PCBs containing exposed LEDs. Impact may scratch the silicone lens or damage the internal circuitry.
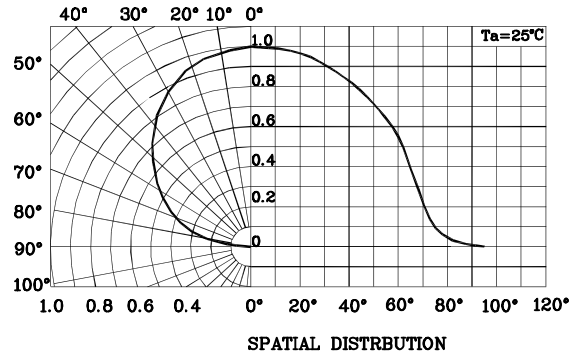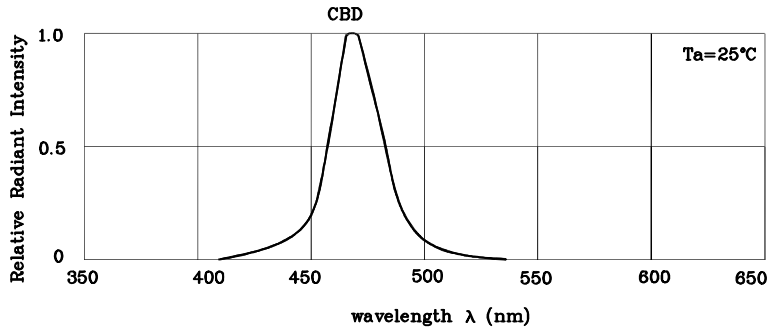
4.1. The outer diameter of the SMD pickup nozzle should not exceed the size of the LED to prevent air leaks. The inner diameter of the nozzle should be as large as possible.
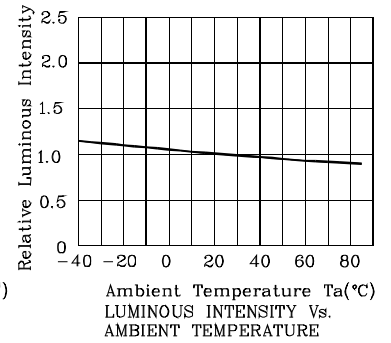4.2. A pliable material is suggested for the nozzle tip to avoid scratching or damaging the LED surface during pickup.
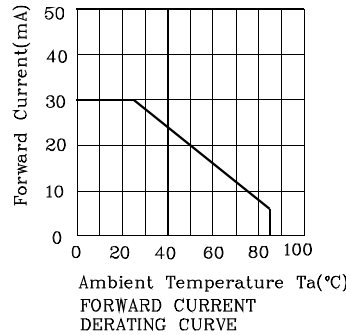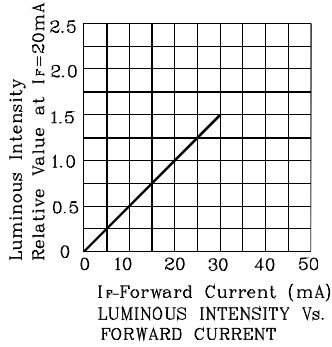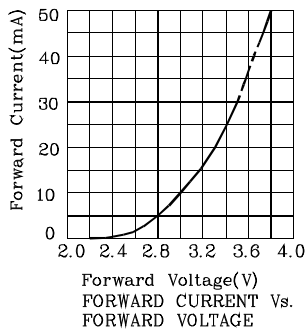4.3. The dimensions of the component must be accurately programmed in the pick-and-place machine to insure precise pickup and avoid damage during production.
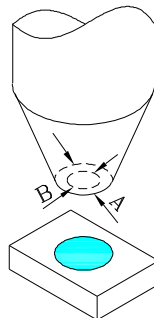
5. As silicone encapsulation is permeable to gases, some corrosive substances such as H_2S might corrode silver plating of lead-frame. Special care should be taken if an LED with silicone encapsulation is to be used near such substances.

CBD

Ta=25℃

RELATIVE INTENSITY Vs. WAVELENGTH

Ta=25℃

SPATIAL DISTRBUTION

❖ **CBD**

FORWARD CURRENT Vs.
FORWARD VOLTAGE

LUMINOUS INTENSITY Vs.
FORWARD CURRENT

FORWARD CURRENT
DERATING CURVE

LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

LED is recommended for reflow soldering and soldering profile is shown below.
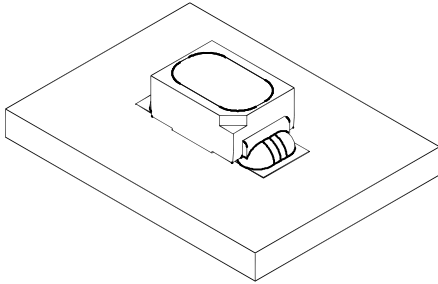
Reflow Soldering Profile for SMD Products (Pb-Free Components)
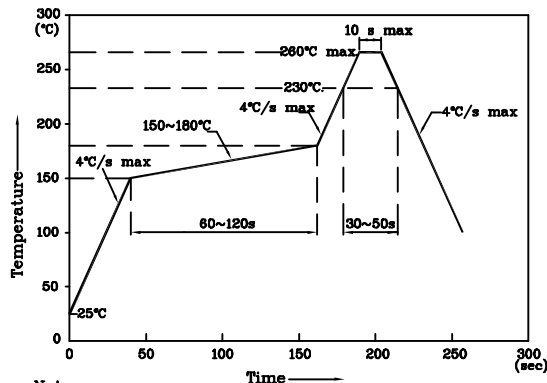
Notes:
1. Maximum soldering temperature should not exceed 260℃
2. Recommended reflow temperature: 145℃-260℃
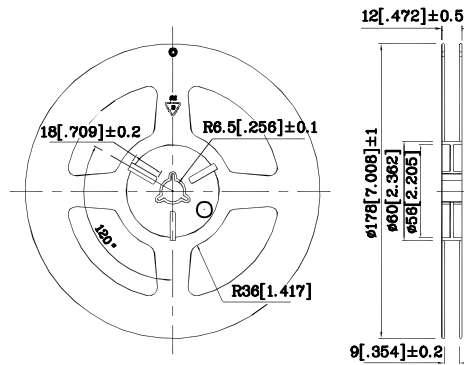3. Do not put stress to the epoxy resin during high temperatures conditions

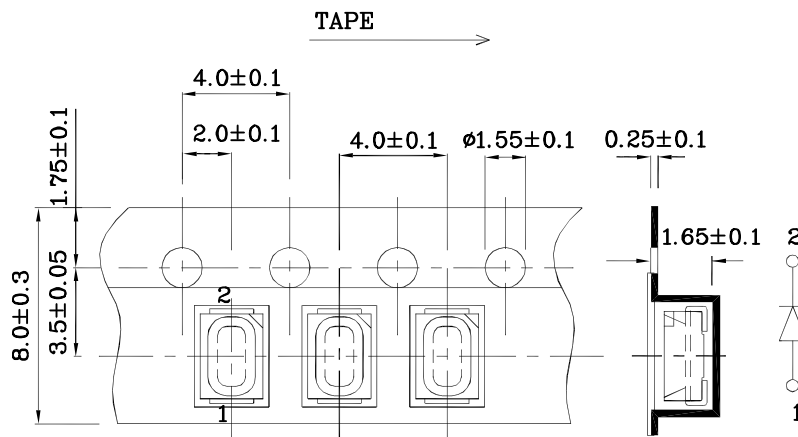❖ **The device has a single mounting surface. The device must be mounted according to the specifications.**

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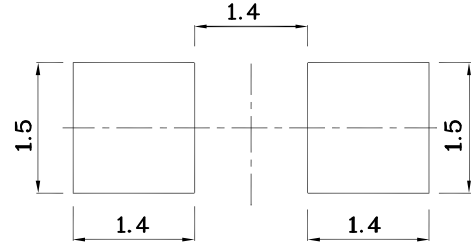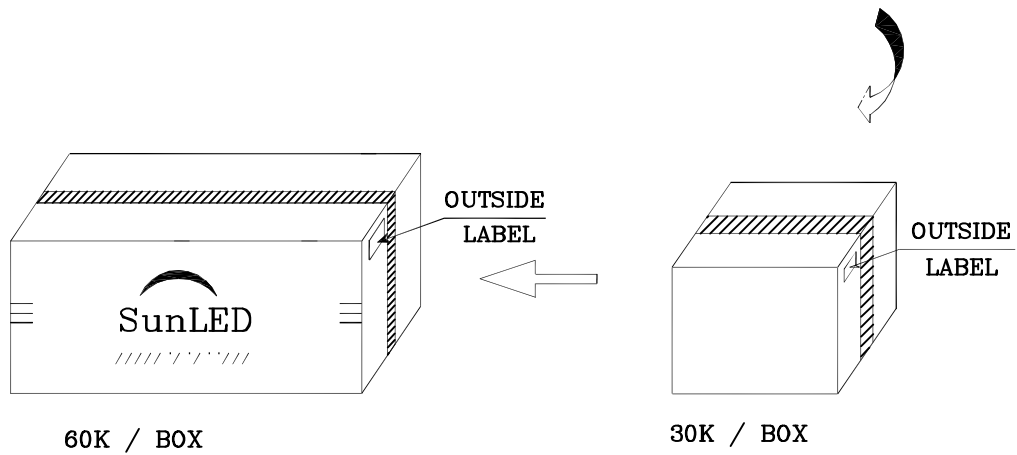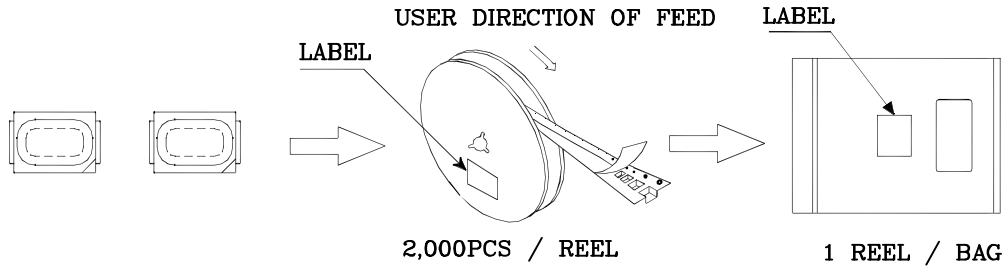
❖ **Reel Dimension**

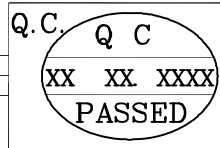❖ **Tape Specification (Units : mm)**

Remarks:

If special sorting is required (e.g. binning based on forward voltage, Luminous intensity / luminous flux, or wavelength),

the typical accuracy of the sorting process is as follows:

1. Wavelength: +/-1nm

2. Luminous intensity / luminous flux: +/-15%

3. Forward Voltage: +/-0.1V

Note: Accuracy may depend on the sorting parameters.

Feb 22,2011

XDSB4949   V3   Layout: Maggie L.

PACKING & LABEL SPECIFICATIONS

USER DIRECTION OF FEED
LABEL
LABEL
LABEL

2,000PCS / REEL

1 REEL / BAG

OUTSIDE LABEL

OUTSIDE LABEL

60K / BOX

30K / BOX

Q.C.

QC
XX XX. XXXX
PASSED

P/NO : XZxxx105x

QTY : 2,000 pcs   CODE: XXX

S/N : XX

LOT NO :

XXXXXXXXXXXXXXXXXXXXX

RoHS Compliant