SunLED
www.SunLEDusa.com

Features

● Long life and robust package

● Variety of lens types available

● Standard Package: 2000pcs/ Reel

● MSL (Moisture Sensitivity Level): 3

● RoHS compliant

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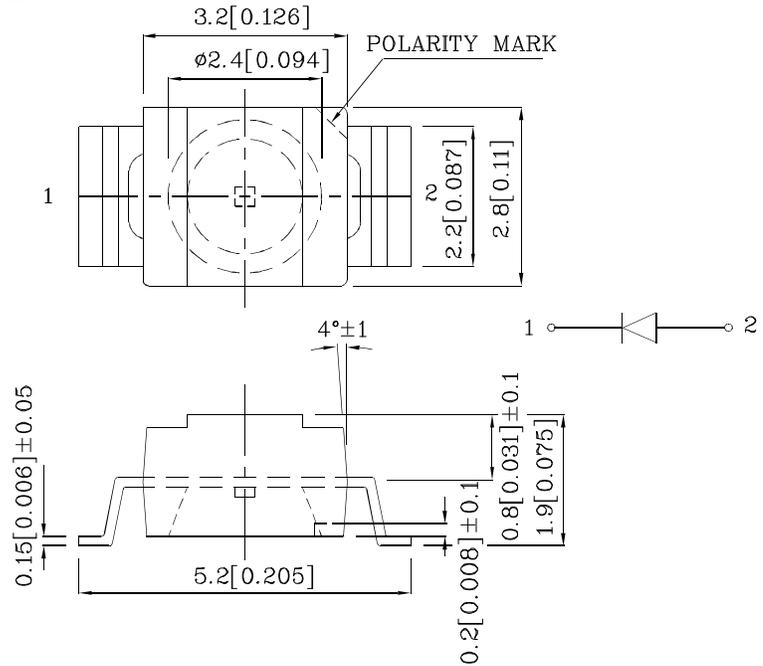
Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. Specifications are subject to change without notice.

Absolute Maximum Ratings (T$_A$=25°C)		THI (GaAlAs)	Unit
Reverse Voltage	V$_R$	5	V
Forward Current	I$_F$	50	mA
Forward Current (Peak) 1/100 Duty Cycle 10us Pulse Width	i$_{FS}$	1200	mA
Power Dissipation	P$_D$	80	mW
Operating Temperature	T$_A$	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +85	

Operating Characteristics (T$_A$=25°C)		THI (GaAlAs)	Unit
Forward Voltage (Typ.) (I$_F$=20mA)	V$_F$	1.3	V
Forward Voltage (Max.) (I$_F$=20mA)	V$_F$	1.6	V
Reverse Current (Max.) (V$_R$=5V)	I$_R$	10	uA
Wavelength of Peak Emission CIE127-2007*(Typ.) (I$_F$=20mA)	λP	880*	nm
Spectral Line Full Width At Half-Maximum (Typ.) (I$_F$=20mA)	△λ	50	nm
Capacitance (Typ.) (V$_F$=0V, f=1MHz)	C	90	pF

Part Number	Emitting Material	Lens-color	Radiant Intensity CIE127-2007* (Po=mW/sr) @20mA		Wavelength CIE127-2007* nm λP	Viewing Angle 2θ 1/2
			min.	typ.		
XZTHI45S-9	GaAlAs	Water Clear	1.2*	2*	880*	120°

*Radiant intensity value and wavelength are in accordance with CIE127-2007 standards.

Oct 31,2012

XDSB5217   V3-Z   Layout: Maggie L.

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Handling Precautions

P. 2/5

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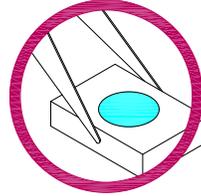
2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.
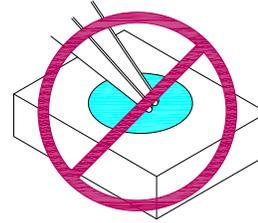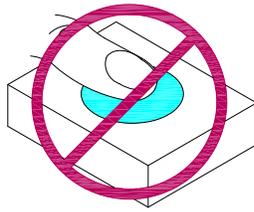
3. Do not stack together assembled PCBs containing exposed LEDs. Impact may scratch the silicone lens or damage the internal circuitry.
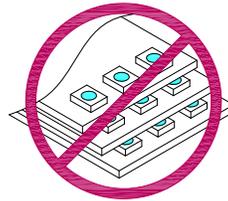
4.1. The inner diameter of the SMD pickup nozzle should not exceed the size of the LED to prevent air leaks.
4.2. A pliable material is suggested for the nozzle tip to avoid scratching or damaging the LED surface during pickup.
4.3. The dimensions of the component must be accurately programmed in the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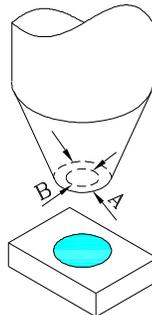
5. As silicone encapsulation is permeable to gases, some corrosive substances such as H_2S might corrode silver plating of lead-frame. Special care should be taken if an LED with silicone encapsulation is to be used near such substances.

THI

Ta=25℃

RELATIVE INTENSITY Vs. CIE WAVELENGTH

Ta=25℃

SPATIAL DISTRBUTION

❖ **THI**

FORWARD CURRENT Vs.
FORWARD VOLTAGE

RADIANT INTENSITY Vs.
FORWARD CURRENT

RADIANT INTENSITY Vs.
AMBIENT TEMPERATURE
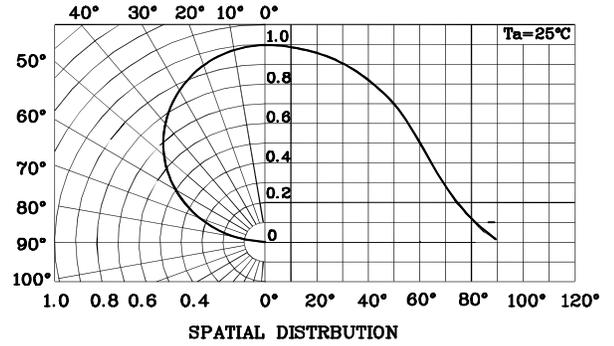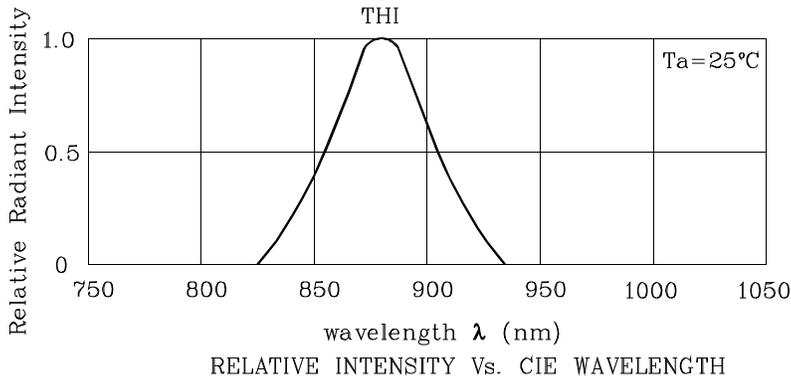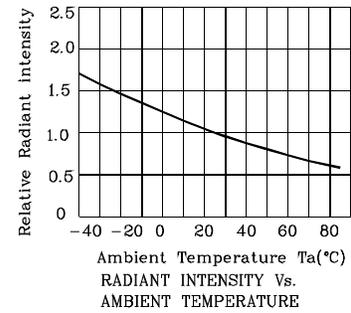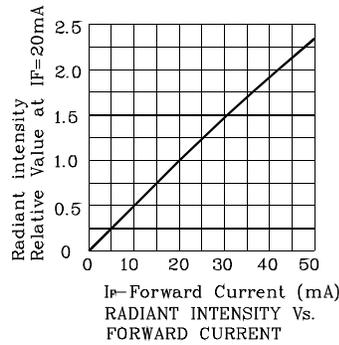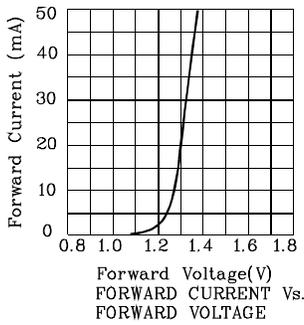
LED is recommended for reflow soldering and soldering profile is shown below.

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

10 s max
260℃ max
230℃
4℃/s max
4℃/s max
150~180℃
4℃/s max
60~120s
30~50s
25℃
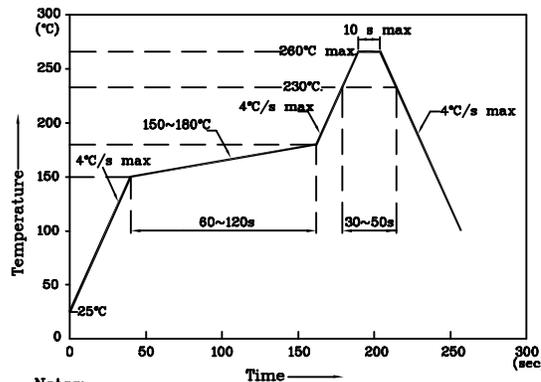
Notes:
1. Maximum soldering temperature should not exceed 260℃
2. Recommended reflow temperature: 145℃-260℃
3. Do not put stress to the epoxy resin during high temperatures conditions

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❖ **The device has a single mounting surface. The device must be mounted according to the specifications.**
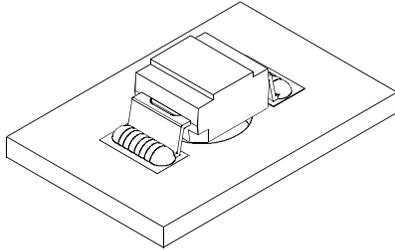
❖ **Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)**

5.2

2.6

1.4

⌀3.2±0.1
HOLE

❖ **Reel Dimension**

33.5[1.319]

16.55[.652]±0.2

2.1[.083]±0.2

R59[R2.323]

30[1.181]

6[.236]

⌀178[7.008]±1

⌀13.5[.531]±0.2

83[3.268]

13.7[.539]±0.2
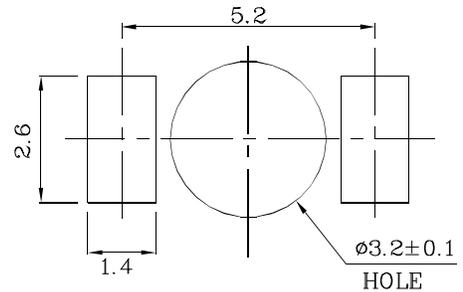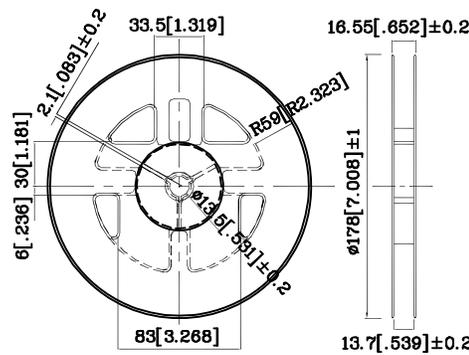
❖ **Tape Specification (Units : mm)**

TAPE

1.75±0.1

4.0±0.1

2.0±0.1

4.0±0.1

⌀1.55±0.1

0.25±0.1

2.1±0.1

12±0.3

5.5±0.05
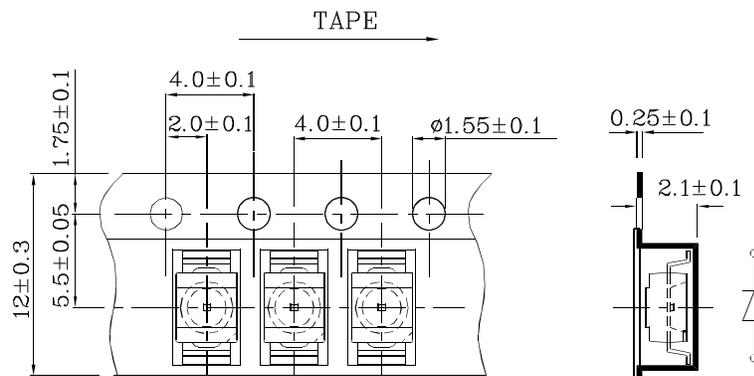
Remarks:

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

the typical accuracy of the sorting process is as follows:

1. Radiant Intensity / Luminous Flux: +/-15%

2. Forward Voltage: +/-0.1V

Note: Accuracy may depend on the sorting parameters

PACKING & LABEL SPECIFICATIONS

USER DIRECTION OF FEED

LABEL

LABEL

2,000pcs/Reel

1Reel/Bag

OUTSIDE LABEL

OUTSIDE LABEL

SunLED

40K/BOX

20K/Box
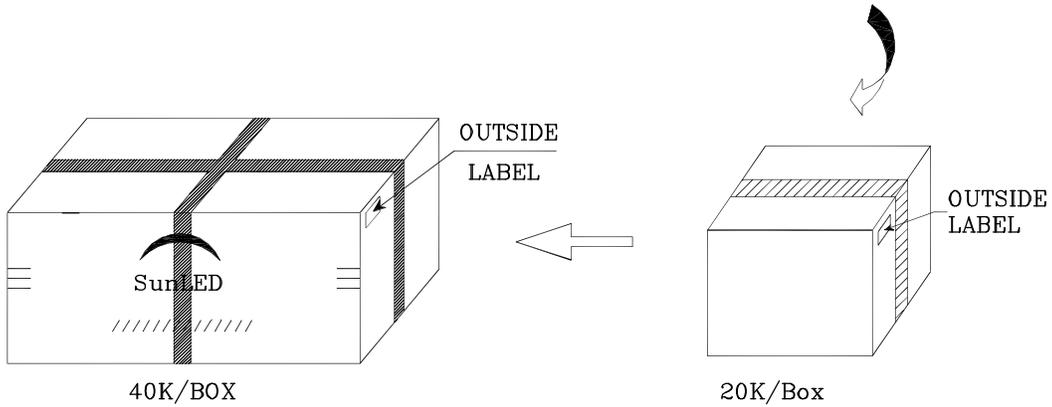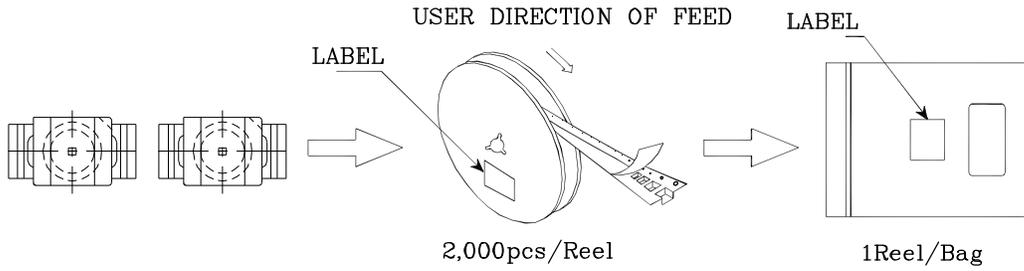
Q.C.

Q C

XX XX. XXX

PASSED

P/NO : XZxx45x

QTY : 2,000 pcs   CODE: XXX

S/N : XX

LOT NO:

XXXXXXXXXXXXXXXXXXXXX

RoHS Compliant