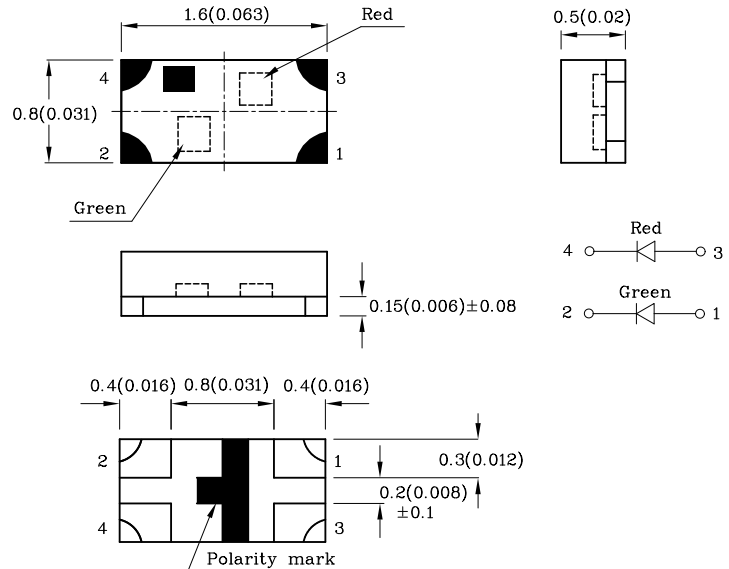## Features

● 1.6mm x 0.8mm SMD LED

● Package height: 0.5mm

● IR-reflow compatible

● Standard Package: 2,000pcs/ Reel

● MSL (Moisture Sensitivity Level): 3

● Halogen-free

● RoHS compliant

ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Package Schematics

Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.15(0.006") unless otherwise noted.
3. Specifications are subject to change without notice.

Absolute Maximum Ratings (T$_A$=25°C)		Green (InGaN)	Red (AlGaInP)	Unit
Reverse Voltage	V$_R$	5	5	V
Forward Current	I$_F$	25	30	mA
Forward Current (Peak) 1/10 Duty Cycle 0.1ms Pulse Width	i$_{FS}$	150	185	mA
Power Dissipation	P$_D$	102.5	75	mW
Electrostatic Discharge Threshold (HBM)		450	3000	V
Operating Temperature	T$_A$	-40 ~ +85		°C
Storage Temperature	Tstg	-40 ~ +85		

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)
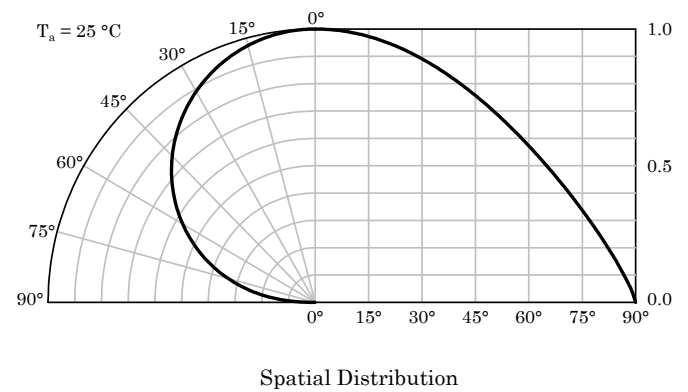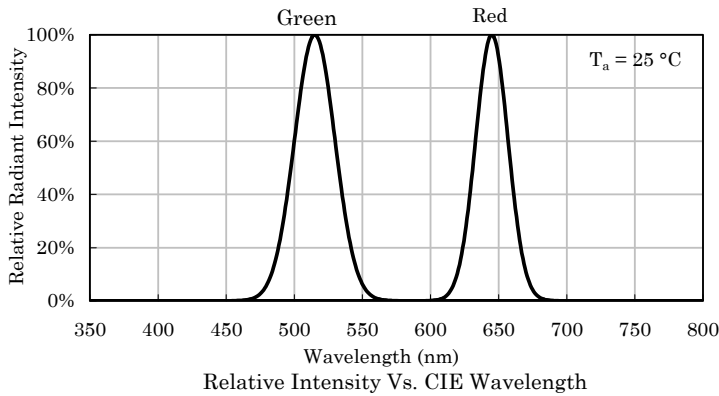
Operating Characteristics (T$_A$=25°C)		Green (InGaN)	Red (AlGaInP)	Unit
Forward Voltage (Typ.) (I$_F$=20mA)	V$_F$	3.3	1.95	V
Forward Voltage (Max.) (I$_F$=20mA)	V$_F$	4.1	2.5	V
Reverse Current (Max.) (V$_R$=5V)	I$_R$	50	10	µA
Wavelength of Peak Emission CIE127-2007* (Typ.) (I$_F$=20mA)	λP	515*	645*	nm
Wavelength of Dominant Emission CIE127-2007* (Typ.) (I$_F$=20mA)	λD	525*	630*	nm
Spectral Line Full Width At Half-Maximum (Typ.) (I$_F$=20mA)	△λ	35	28	nm
Capacitance (Typ.) (V$_F$=0V, f=1MHz)	C	45	35	pF

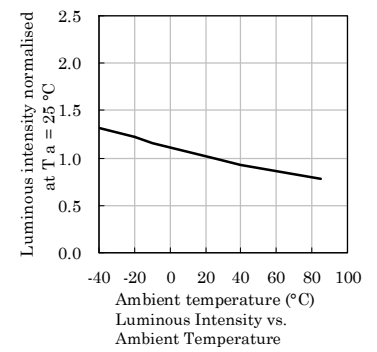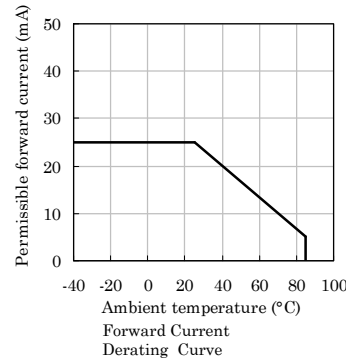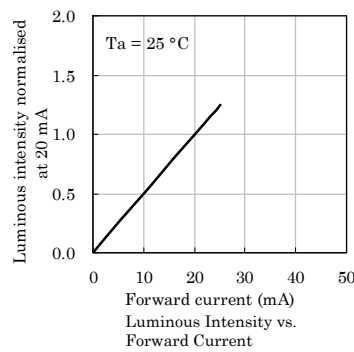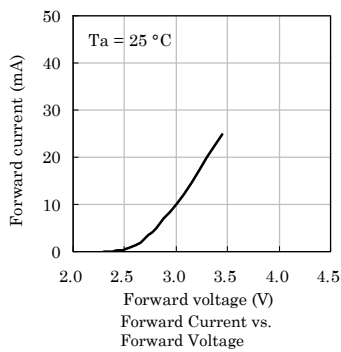| Part Number	Emitting Color	Emitting Material	Lens-color	Luminous Intensity CIE127-2007* (I$_F$=20mA) mcd		Wavelength CIE127-2007* nm λP	Viewing Angle 2θ 1/2
				min.	typ.		
XZDGKMDK53W-9	Green	InGaN	Water Clear	200 200*	347 347*	515*	130°
	Red	AlGaInP		120 40*	248 89*	645*	

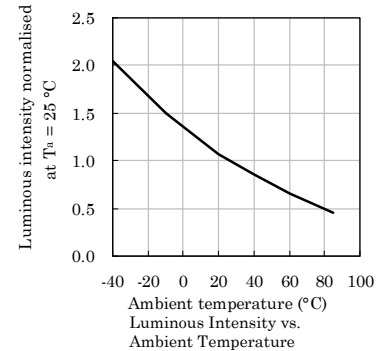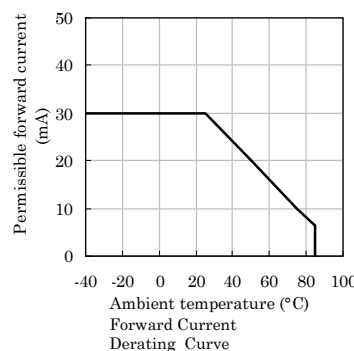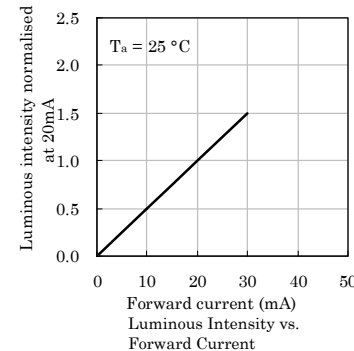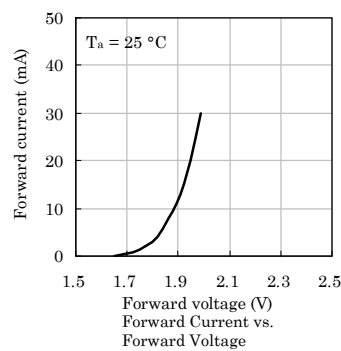*Luminous intensity value and wavelength are in accordance with CIE127-2007 standards.

Green   Red

Relative Radiant Intensity

T_a = 25 °C

Wavelength (nm)

Relative Intensity Vs. CIE Wavelength

T_a = 25 °C

Spatial Distribution

❖ **Green**

Forward current (mA)

Ta = 25 °C

Forward voltage (V)
Forward Current vs.
Forward Voltage

Luminous intensity normalised at 20 mA

Ta = 25 °C

Forward current (mA)
Luminous Intensity vs.
Forward Current

Permissible forward current (mA)

Ambient temperature (°C)
Forward Current
Derating Curve

Luminous intensity normalised at T a = 25 °C

Ambient temperature (°C)
Luminous Intensity vs.
Ambient Temperature

❖ **Red**

Forward current (mA)

Ta = 25 °C

Forward voltage (V)
Forward Current vs.
Forward Voltage

Luminous intensity normalised at 20mA

Ta = 25 °C

Forward current (mA)
Luminous Intensity vs.
Forward Current

Permissible forward current (mA)

Ambient temperature (°C)
Forward Current
Derating Curve

Luminous intensity normalised at T a = 25 °C

Ambient temperature (°C)
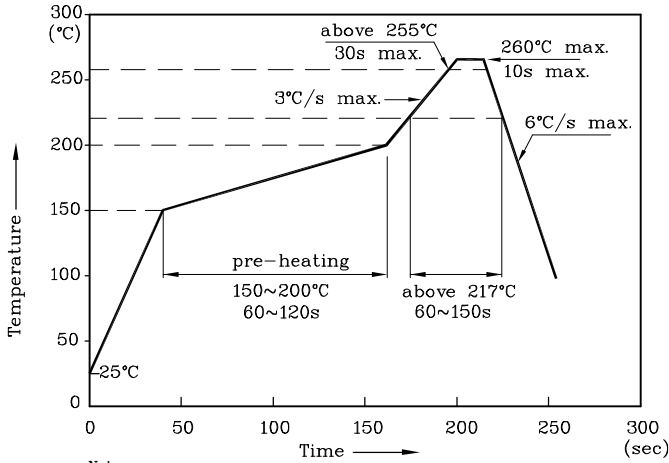Luminous Intensity vs.
Ambient Temperature

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

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

Notes:
1. All temperatures refer to the center of the package, measured on the package body surface facing up during reflow.
2. Do not apply any stress to the LED during high temperature conditions.
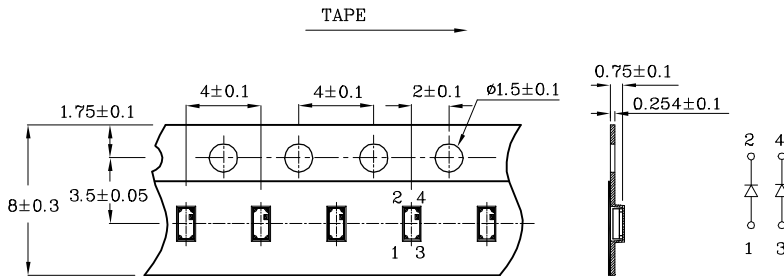3. Maximum number of soldering passes: 2

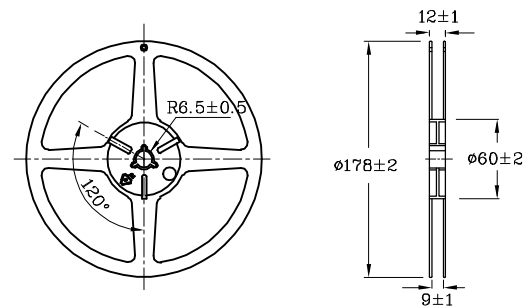❖ **The device has a single mounting surface. The device must be mounted according to the specifications.**
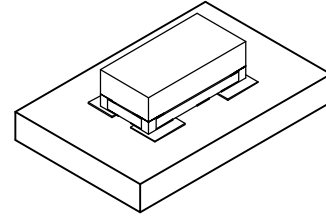
❖ **Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)**
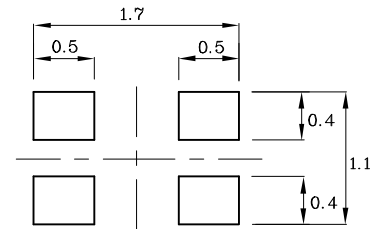
❖ **Tape Specification (Units : mm)**
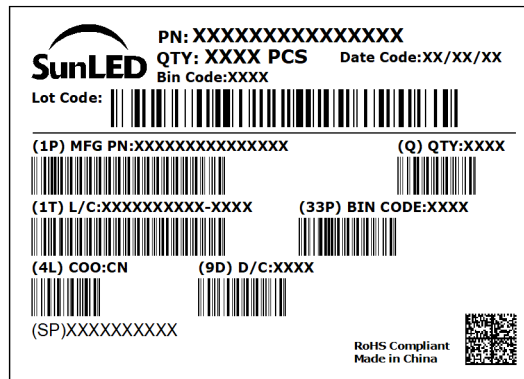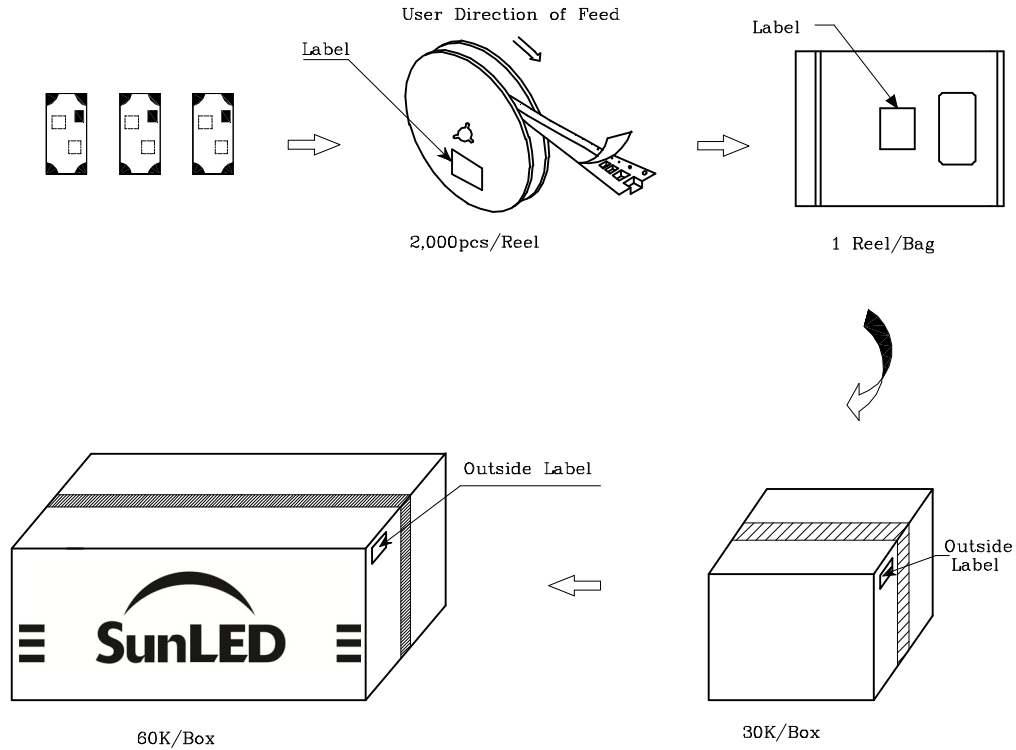

❖ **Reel Dimension (Units : mm)**

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.

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PACKING & LABEL SPECIFICATIONS

User Direction of Feed

Label

2,000pcs/Reel

Label

1 Reel/Bag

Outside Label

60K/Box

Outside Label

30K/Box

PN: XXXXXXXXXXXXXXX
QTY: XXXX PCS   Date Code:XX/XX/XX
Bin Code:XXXX
Lot Code:

(1P) MFG PN:XXXXXXXXXXXXXX   (Q) QTY:XXXX

(1T) L/C:XXXXXXXXXX-XXXX   (33P) BIN CODE:XXXX

(4L) COO:CN   (9D) D/C:XXXX

(SP)XXXXXXXXXX

RoHS Compliant
Made in China

TERMS OF USE

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2. Contents within this document are subject to improvement and enhancement changes without notice.
3. The product(s) in this document are designed to be operated within the electrical and environmental specifications indicated on the datasheet.
   User accepts full risk and responsibility when operating the product(s) beyond their intended specifications.
4. The product(s) described in this document are intended for electronic applications in which a person's life is not reliant upon the LED. Please
   consult with a SunLED representative for special applications where the LED may have a direct impact on a person's life.
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