SunLED
www.SunLEDusa.com

Part Number: XZMDKDGCBD110W

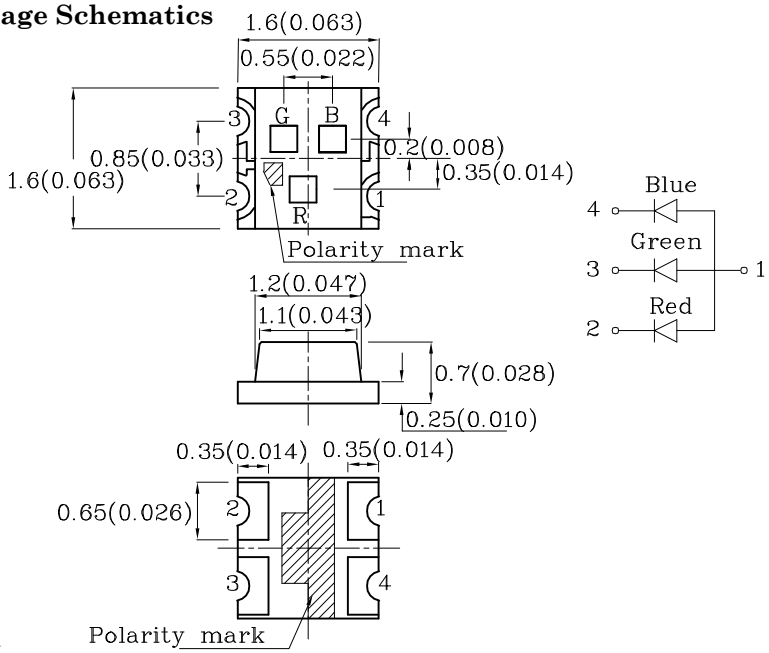
1.6x1.6mm FULL-COLOR SURFACE MOUNT LED

Features

- Ideal for indication light on hand held products
- Long life and robust package
- Standard Package: 2,000pcs/ 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 ±0.2(0.008") unless otherwise noted.
3. Specifications are subject to change without notice.

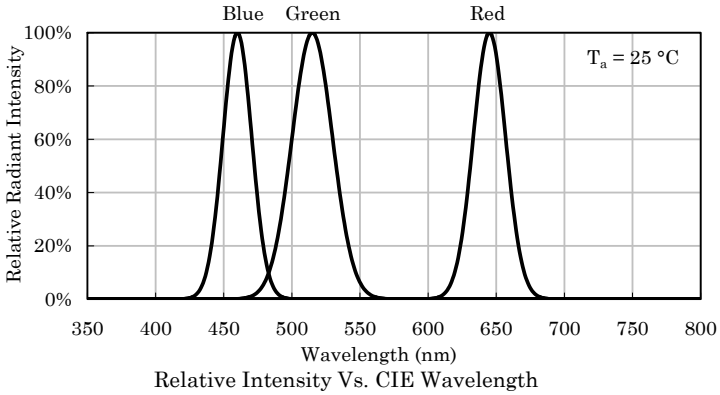
Absolute Maximum Ratings (T_A=25°C)		**Red (AlGaInP)**	**Green (InGaN)**	**Blue (InGaN)**	**Unit**
Reverse Voltage	V_R	5	5	5	V
Forward Current	I_F	30	25	30	mA
Forward Current (Peak) 1/10 Duty Cycle 0.1ms Pulse Width	i_{FS}	185	150	150	mA
Power Dissipation	P_D	75	102.5	120	mW
Electrostatic Discharge Threshold (HBM)		3000	450	250	V
Operating Temperature	T_A	-40 ~ +85			°C
Storage Temperature	Tstg				

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)

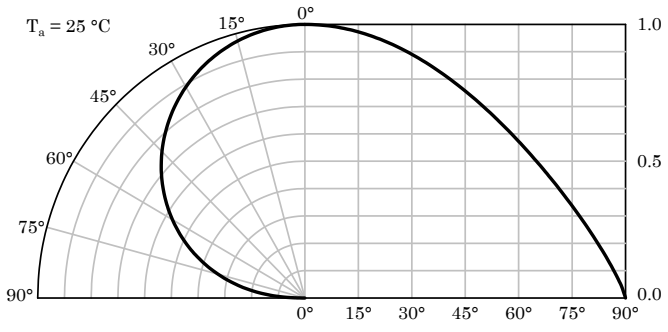
Operating Characteristics (T_A=25°C)		**Red (AlGaInP)**	**Green (InGaN)**	**Blue (InGaN)**	**Unit**
Forward Voltage (Typ.) (I_F=20mA)	V_F	1.95	3.3	3.3	V
Forward Voltage (Max.) (I_F=20mA)	V_F	2.5	4.1	4.0	V
Reverse Current (Max.) (V_R=5V)	I_R	10	50	50	μA
Wavelength of Peak Emission CIE127-2007* (Typ.) (I_F=20mA)	λP	645*	515*	460*	nm
Wavelength of Dominant Emission CIE127-2007* (Typ.) (I_F=20mA)	λD	630*	525*	465*	nm
Spectral Line Full Width At Half-Maximum (Typ.) (I_F=20mA)	△λ	28	35	25	nm
Capacitance (Typ.) (V_F=0V, f=1MHz)	C	35	45	100	pF

Part Number	Emitting Color	Emitting Material	Lens-color	Luminous Intensity CIE127-2007* (I_F=20mA) mcd min.	Luminous Intensity CIE127-2007* (I_F=20mA) mcd typ.	Wavelength CIE127-2007* nm λP	Viewing Angle 2θ 1/2
XZMDKDGCBD110W	Red	AlGaInP	Water Clear	40*	79*	645*	130°
	Green	InGaN		120*	278*	515*	
	Blue	InGaN		40*	69*	460*	

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

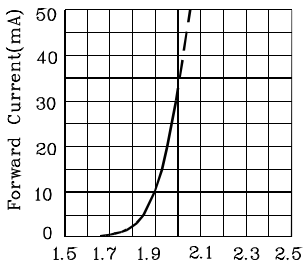


Relative Intensity Vs. CIE Wavelength

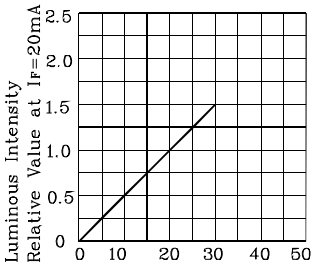


Spatial Distribution

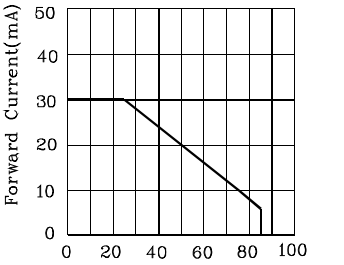
❖ Red



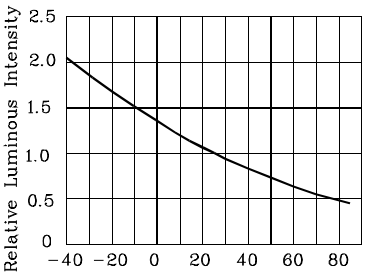
FORWARD CURRENT Vs.
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT

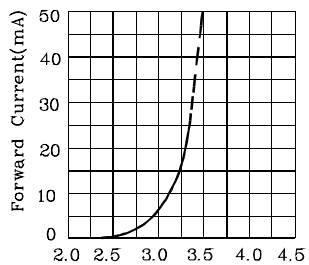


FORWARD CURRENT
DERATING CURVE

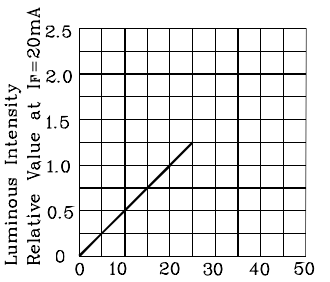


LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

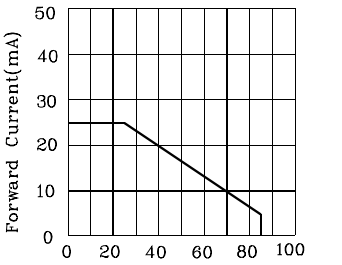
❖ Green



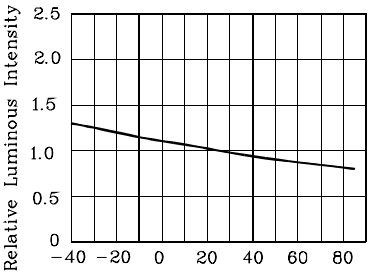
FORWARD CURRENT Vs.
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT

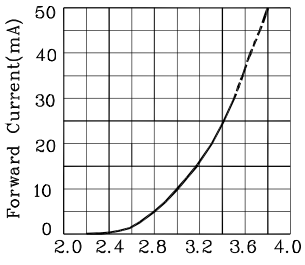


FORWARD CURRENT
DERATING CURVE

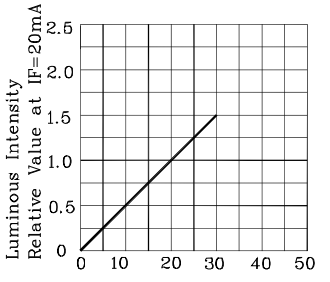


LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

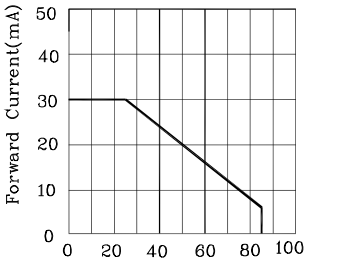
❖ Blue



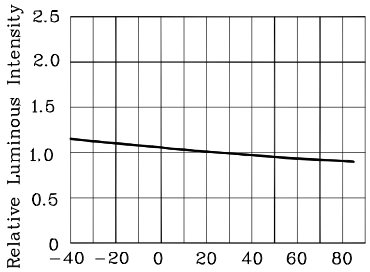
FORWARD CURRENT Vs.
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT

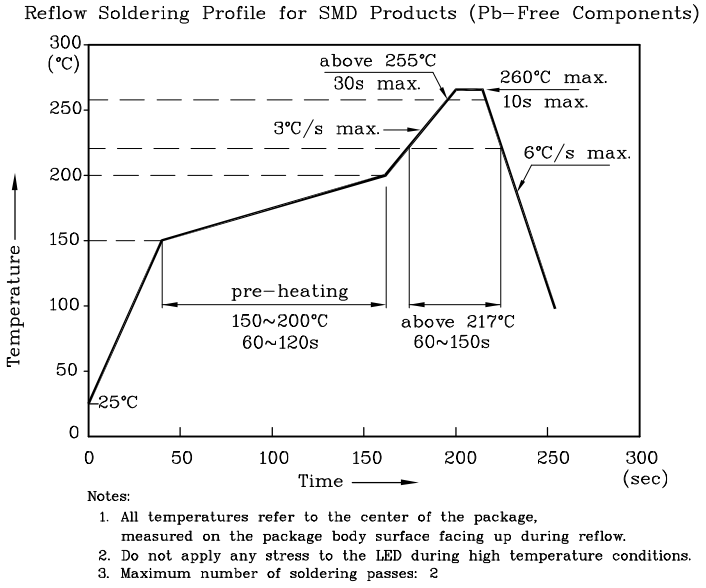


FORWARD CURRENT
DERATING CURVE

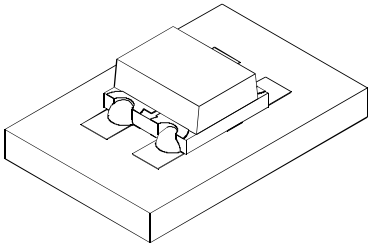


LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

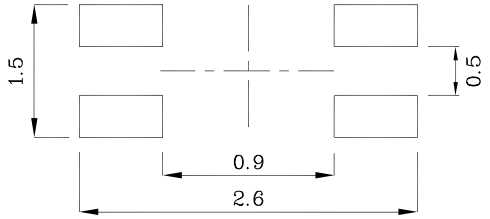
❖ LED is recommended for reflow soldering and soldering profile is shown below.



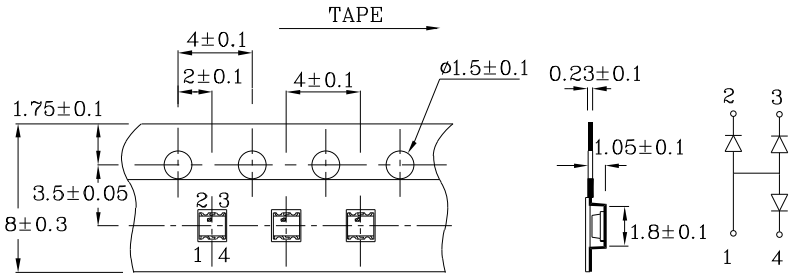
❖ The device has a single mounting surface. The device must be mounted according to the specifications.



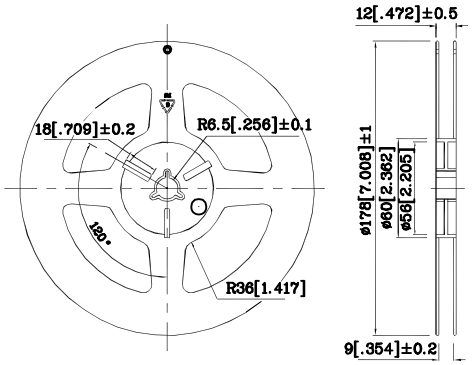
❖ Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



❖ Tape Specification (Units : mm)



❖ Reel Dimension



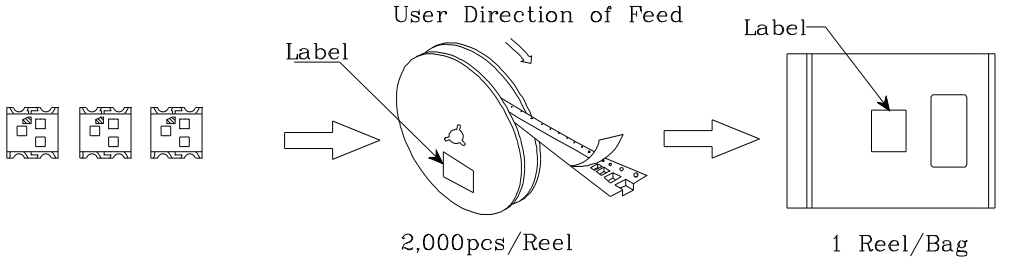
Remarks:

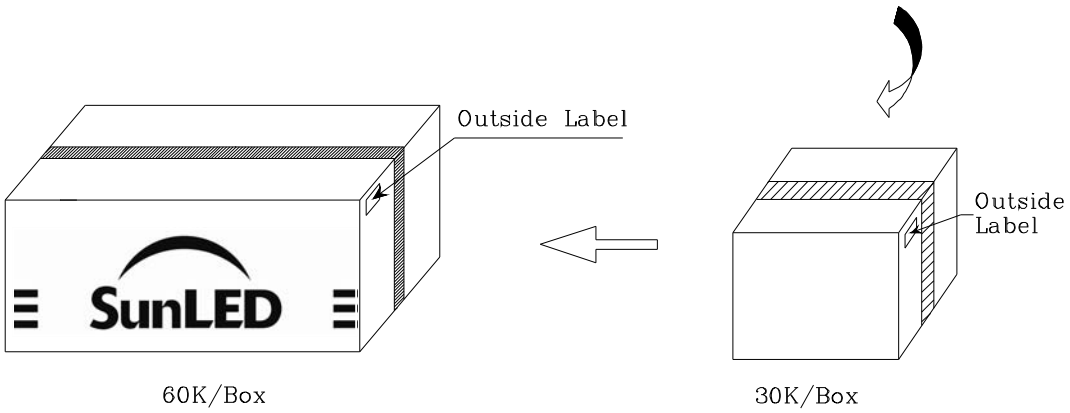
If special sorting is required (e.g. binning based on forward voltage, Luminous intensity / luminous flux, or wavelength), the typical accuracy of the sorting process is as follows:

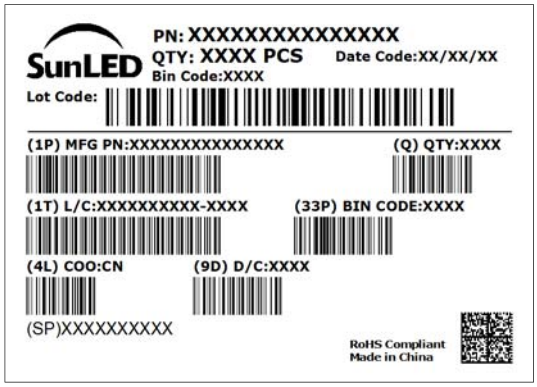
1. Wavelength: +/-1nm
2. Luminous intensity / luminous flux: +/-15%
3. Forward Voltage: +/-0.1V

Note: Accuracy may depend on the sorting parameters.

PACKING & LABEL SPECIFICATIONS







TERMS OF USE

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2. Contents within this document are subject to improvement and enhancement changes without notice.
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