Part Number: XZVGMDK53W-9

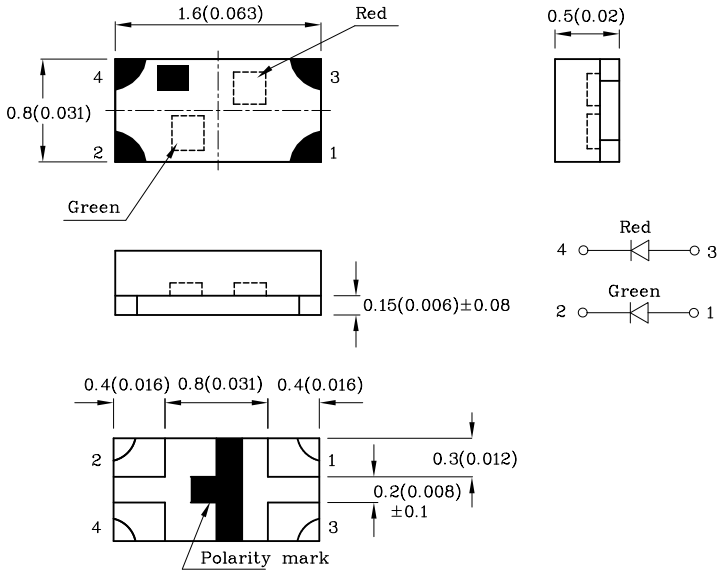
1.6 x 0.8 x 0.5 mm Bi-Color Surface Mount LED

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.

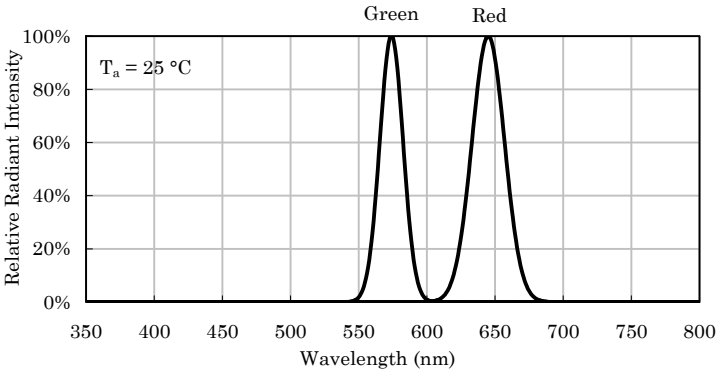
Absolute Maximum Ratings (T_A=25°C)		Green (AlGaInP)	Red (AlGaInP)	Unit
Reverse Voltage	V_R	5	5	V
Forward Current	I_F	30	30	mA
Forward Current (Peak) 1/10 Duty Cycle 0.1ms Pulse Width	i_{FS}	150	185	mA
Power Dissipation	P_D	75	75	mW
Operating Temperature	T_A	-40 ~ +85		°C
Storage Temperature	Tstg	-40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

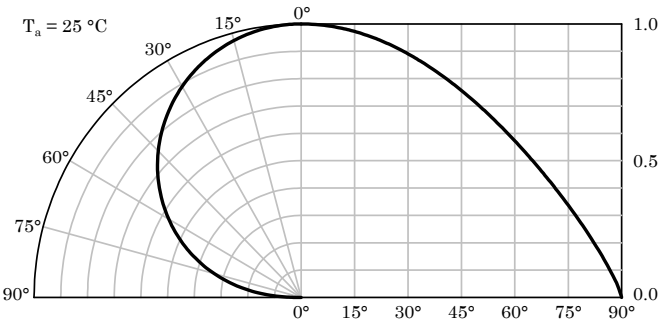
Operating Characteristics (T_A=25°C)		Green (AlGaInP)	Red (AlGaInP)	Unit
Forward Voltage (Typ.) (I_F=20mA)	V_F	2.1	1.95	V
Forward Voltage (Max.) (I_F=20mA)	V_F	2.5	2.5	V
Reverse Current (Max.) (V_R=5V)	I_R	10	10	μA
Wavelength of Peak Emission CIE127-2007* (Typ.) (I_F=20mA)	λP	574*	645*	nm
Wavelength of Dominant Emission CIE127-2007* (Typ.) (I_F=20mA)	λD	570*	630*	nm
Spectral Line Full Width At Half-Maximum (Typ.) (I_F=20mA)	Δλ	20	28	nm
Capacitance (Typ.) (V_F=0V, f=1MHz)	C	15	35	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
XZVGMDK53W-9	Green	AlGaInP	Water Clear	20 20*	49 49*	574*	130°
	Red	AlGaInP		120 40*	248 89*	645*	

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

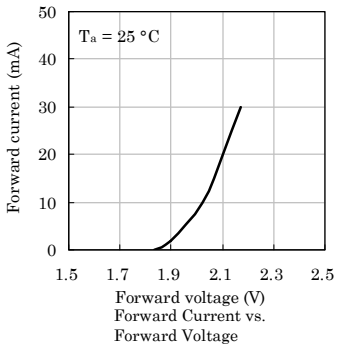


Relative Intensity Vs. CIE Wavelength

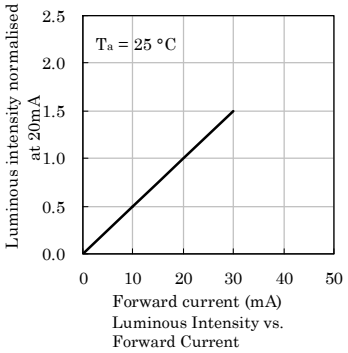


Spatial Distribution

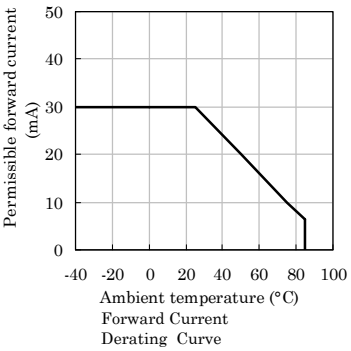
❖ Green



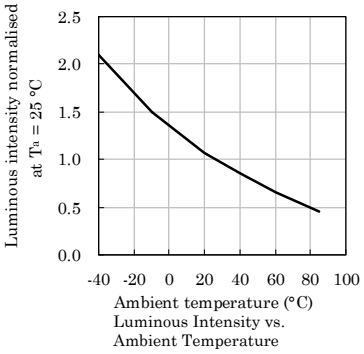
Forward Current vs.
Forward Voltage



Luminous Intensity vs.
Forward Current

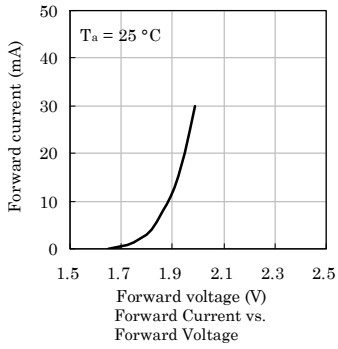


Forward Current
Derating Curve

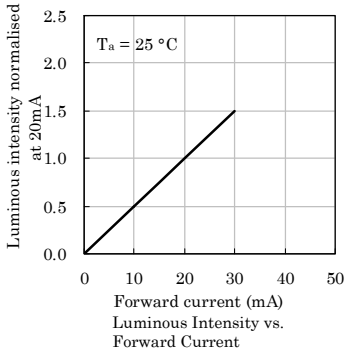


Luminous Intensity vs.
Ambient Temperature

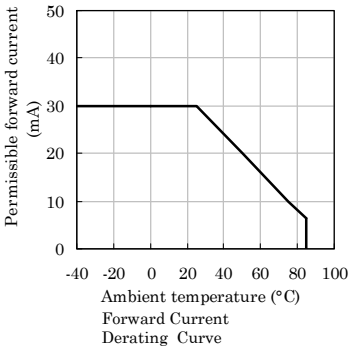
❖ Red



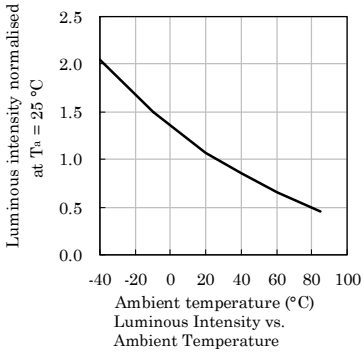
Forward Current vs.
Forward Voltage



Luminous Intensity vs.
Forward Current



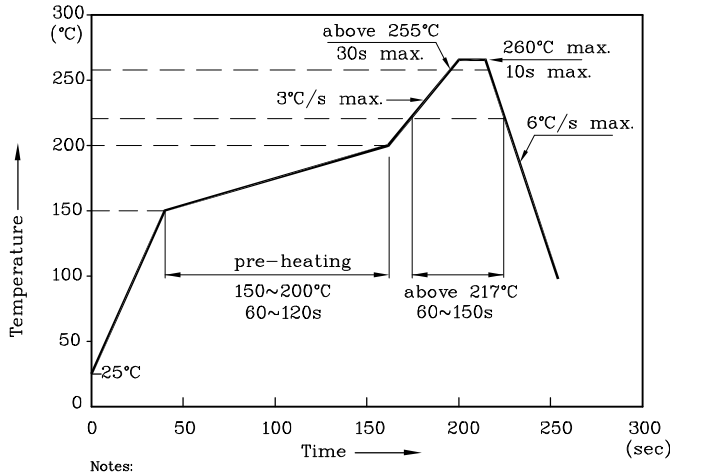
Forward Current
Derating Curve



Luminous Intensity vs.
Ambient Temperature

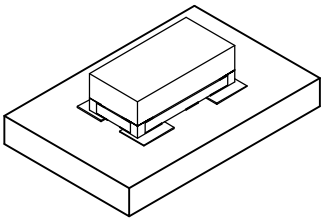
LED is recommended for reflow soldering and soldering profile is shown below.

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

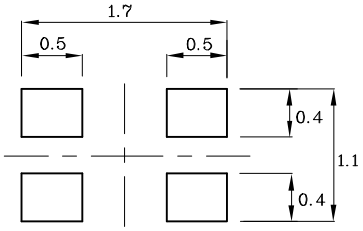


Notes:
1. All temperatures refer to the center of the package, measured on the package body surface facing up during reflow.
2. Do not apply any stress to the LED during high temperature conditions.
3. Maximum number of soldering passes: 2

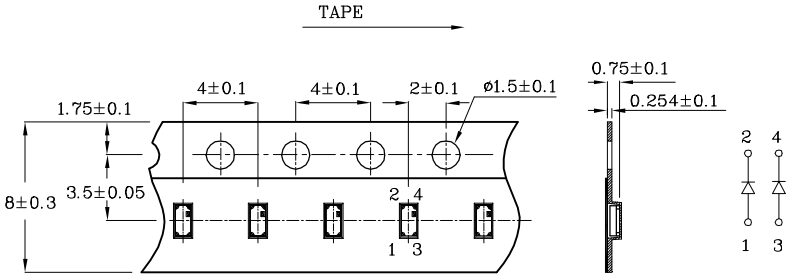
❖ The device has a single mounting surface. The device must be mounted according to the specifications.



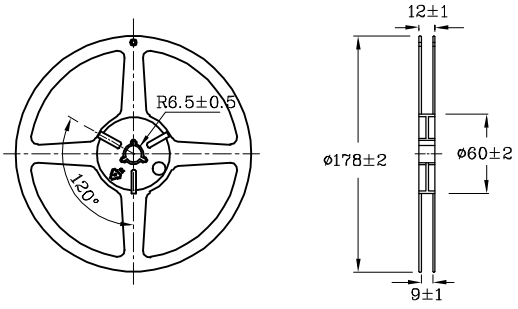
❖ Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



❖ Tape Specification (Units : mm)



❖ Reel Dimension (Units : mm)



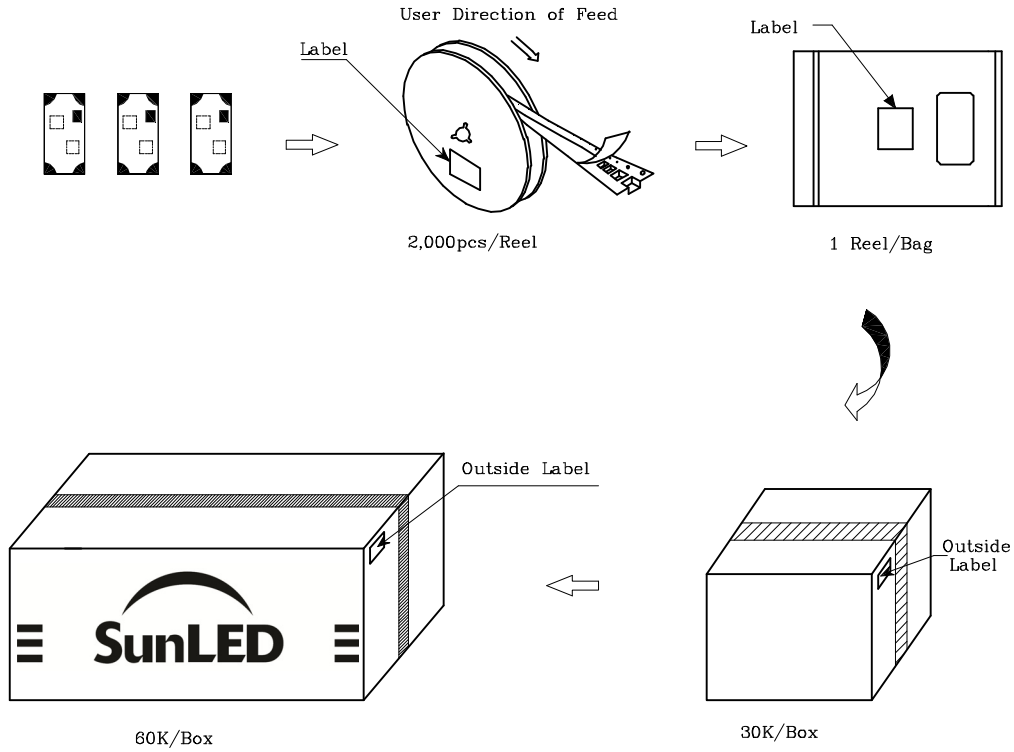
Remarks:

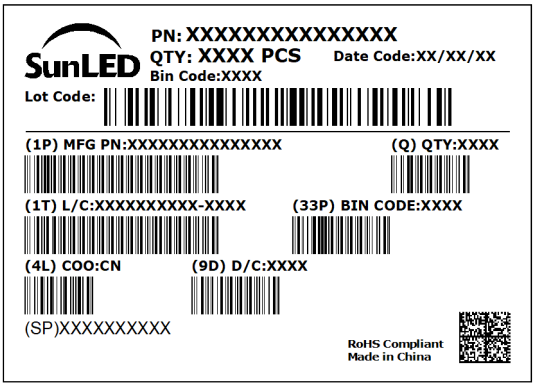
If special sorting is required (e.g. binning based on forward voltage, Luminous intensity / luminous flux, or wavelength), the typical accuracy of the sorting process is as follows:

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

Note: Accuracy may depend on the sorting parameters.

PACKING & LABEL SPECIFICATIONS





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