

1.6x1.6mm FULL-COLOR SURFACE MOUNT LED

Features

- \bullet Ideal for indication light on hand held products
- Long life and robust package
- Standard Package: 2,000pcs/ Reel
- \bullet MSL (Moisture Sensitivity Level): 3
- RoHS compliant

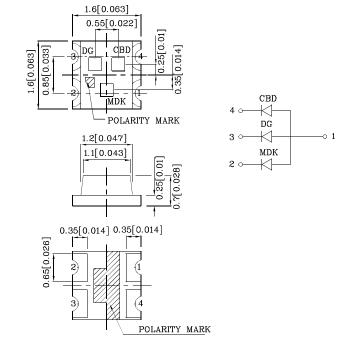






ATTENTION OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC DISCHARGE SENSITIVE DEVICES

Package Schematics



- Notes:
- 1. All dimensions are in millimeters (inches).
- 2. Tolerance is $\pm 0.2(0.008")$ unless otherwise noted.
- 3. Specifications are subject to change without notice.

Absolute Maximum Ratings (T _A =25°C)		MDK (AlGaI nP)	DG (InGa N)	CBD (InGa N)	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	185 150		mA
Power Dissipation	P_{D}	75	102.5	120	mW
Electrostatic Discharge Threshold (HBM)		-	450	250	V
Operating Temperature	$T_{\rm A}$		°C		
Storage Temperature	Tstg	-40 ~ +85			

Operating Characteristics (T _A =25°C)		MDK (AlGaInP)	DG (InGaN)	CBD (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	uA
Wavelength of Peak Emission (Typ.) (I _F =20mA)	λР	645*	515*	460*	nm
Wavelength of Dominant Emission (Typ.) $(I_F=20 \text{mA})$	λD	630*	525*	465*	nm
Spectral Line Full Width At Half-Maximum (Typ.) (I _F =20mA)	Δλ	28	30	25	nm
Capacitance (Typ.) (V _F =0V, f=1MHz)	С	35	45	100	pF

40*

69*

Part Number	Emitting Color	Emitting Material	Lens-color	Luminous Intensity CIE127-2007* (I _F =20mA) mcd		Wavelength CIE127-2007* nm λP	Viewing Angle 20 1/2
				min.	typ.		
	Red	AlGaInP		40*	79*	645*	
XZMDKDGCBD110W	Green	InGaN	Water Clear	200*	297*	515*	120°

InGaN

Blue

XDSB4378 V4-Z Layout: Maggie L.

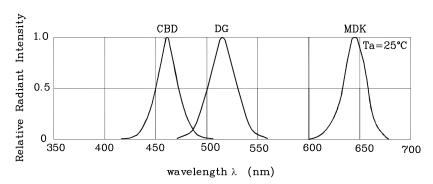
460*

^{*}Luminous intensity value and wavelength are in accordance with CIE127-2007 standards. Mar $25,\,2014$

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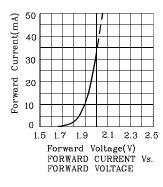


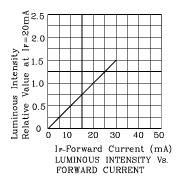


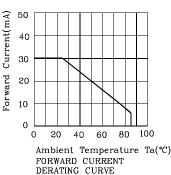
30° 20° 10° 0° 50° 0.8 60° 0.4 70° 80° 909 100 1.0 0.8 0.6 0° 20° 40° 60° 100° 120° SPATIAL DISTRIBUTION

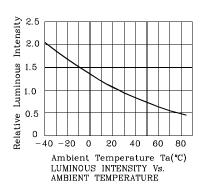
RELATIVE INTENSITY Vs. CIE WAVELENGTH

❖ MDK

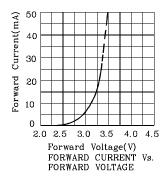


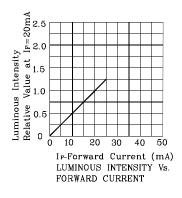


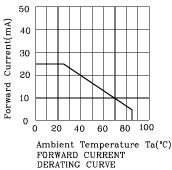


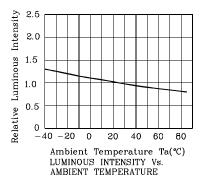


♦ DG

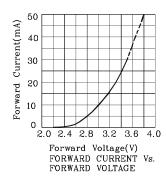


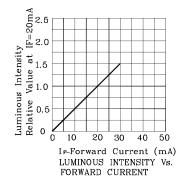


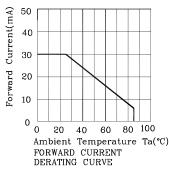


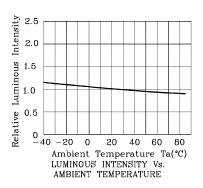


♦ CBD







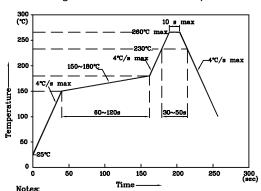




❖ LED is recommended for reflow soldering and soldering profile is shown below.

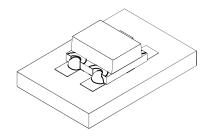
www.SunLEDusa.com

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

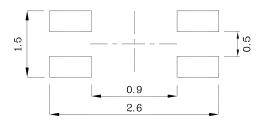


- 1. Maximum soldering temperature should not exceed 260°C
- 2. Recommended reflow temperature: 145°C-260°C
- 3. Do not put stress to the epoxy resin during high temperatures conditions

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



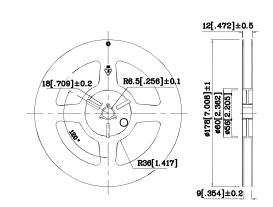
♦ Recommended Soldering Pattern (Units: mm; Tolerance: ± 0.1)



❖ Tape Specification (Units:mm)

TAPE 4.0±0.1 2.0±0.1 4.0±0.1 0.23±0.1 1.05±0.1 2.3 1.4 1.4 1

❖ Reel Dimension



Remarks:

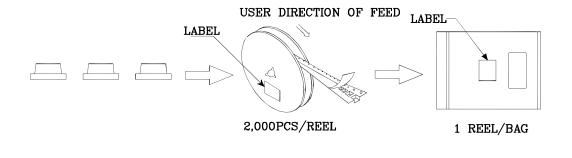
If special sorting is required (e.g. binning based on forward voltage, Luminous intensity / luminous flux, or wavelength), the typical accuracy of the sorting process is as follows:

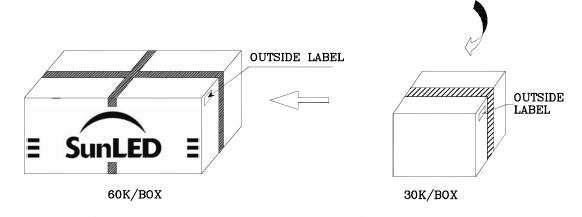
- 1. Wavelength: +/-1nm
- 2. Luminous intensity / luminous flux: +/-15%
- 3. Forward Voltage: \pm -0.1V

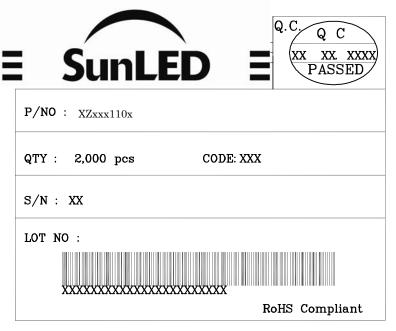
Note: Accuracy may depend on the sorting parameters.



PACKING & LABEL SPECIFICATIONS







TERMS OF USE

- 1. Data presented in this document reflect statistical figures and should be treated as technical reference only.
- 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.
- 5. The contents within this document may not be altered without prior consent by SunLED.
- 6. Additional technical notes are available at http://www.SunLEDusa.com/TechnicalNotes.asp

Mar 25, 2014