SunLED
www.SunLEDusa.com

Part Number: XZMDKDGCBD56W

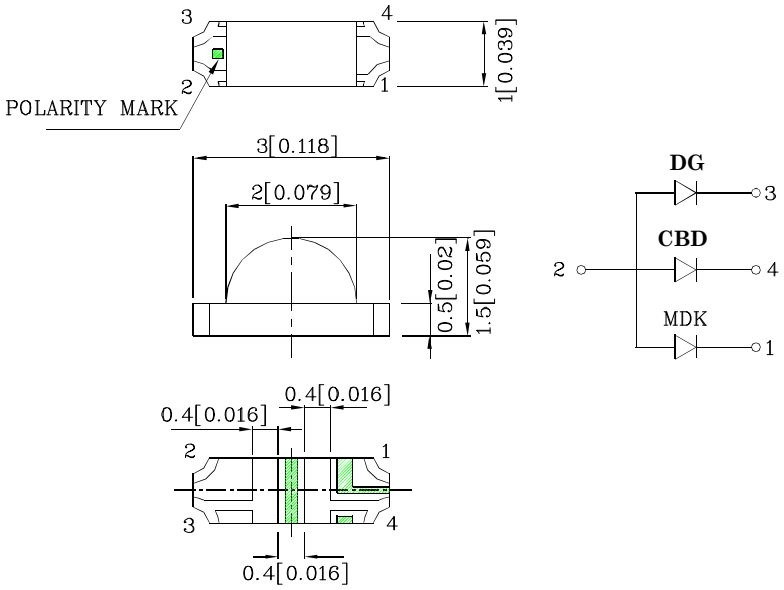
3.0x1.0mm RIGHT ANGLE SMD CHIP LED LAMP

Features

- 3.0 X 1.0 X 1.5mm right angle SMD LED
- Ideal for indication on hand held products
- Low current operation
- Standard Package: 2,000pcs/ Reel
- MSL (Moisture Sensitivity Level): 3
- RoHS compliant

ATTENTION
OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC DISCHARGE SENSITIVE DEVICES

Package Schematics



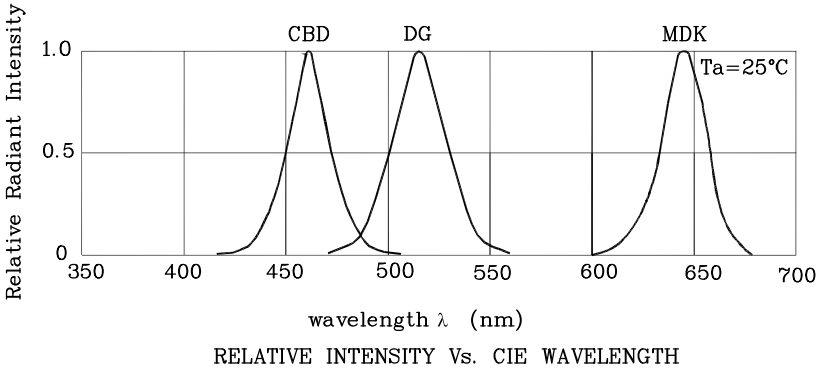
Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.2(0.008") unless otherwise noted.
3. Specifications are subject to change without notice.

Absolute Maximum Ratings (T_A=25°C)		**MDK (AlGaInP)**	**DG (InGaN)**	**CBD (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)		-	450	250	V
Operating Temperature	T_A	-40 ~ +85			°C
Storage Temperature	Tstg				

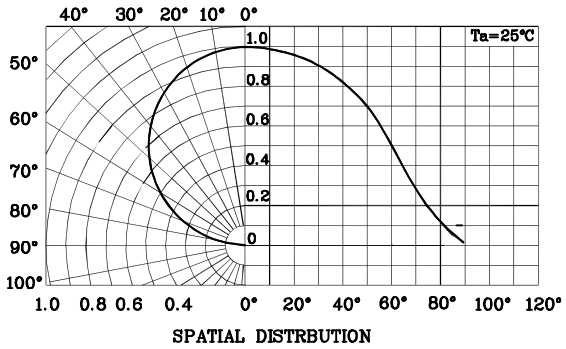
Operating Characteristics (T_A=25°C)		**MDK (AlGaInP)**	**DG (InGaN)**	**CBD (InGaN)**	**Unit**
Forward Voltage (Typ.) (I_F=20mA)	V_F	1.95	3.3	3.3	V
Forward Voltage (Max.) (I_F=20mA)	V_F	2.5	4.1	4.0	V
Reverse Current (Max.) (V_R=5V)	I_R	10	50	50	uA
Wavelength of Peak Emission CIE127-2007*(Typ.) (I_F=20mA)	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	30	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* λP nm	Viewing Angle 2θ 1/2
XZMDKDGCBD56W	Red	AlGaInP	Water Clear	55*	79*	645*	120°
	Green	InGaN		200*	297*	515*	
	Blue	InGaN		40*	69*	468*	

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

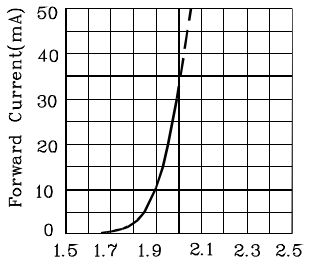


RELATIVE INTENSITY Vs. CIE WAVELENGTH

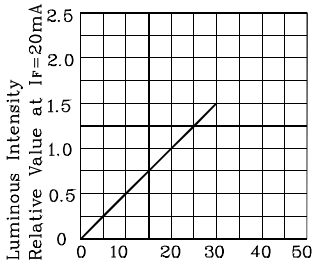


SPATIAL DISTRBUTION

❖ MDK

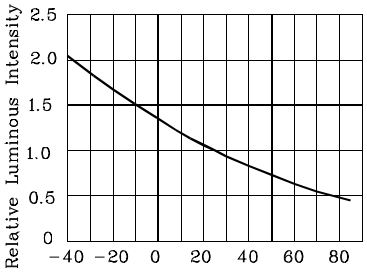


FORWARD CURRENT Vs.
FORWARD VOLTAGE



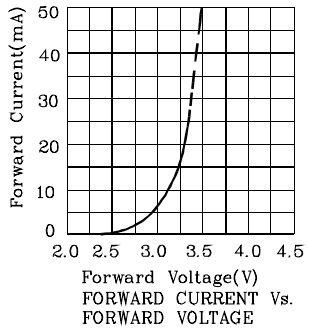
LUMINOUS INTENSITY Vs.
FORWARD CURRENT

FORWARD CURRENT
DERATING CURVE

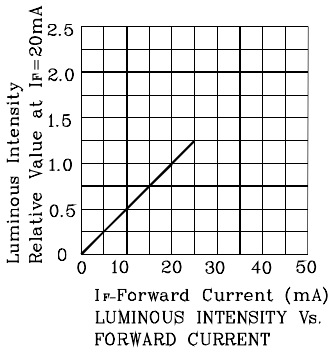


LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

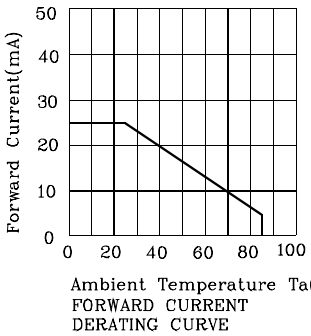
❖ DG



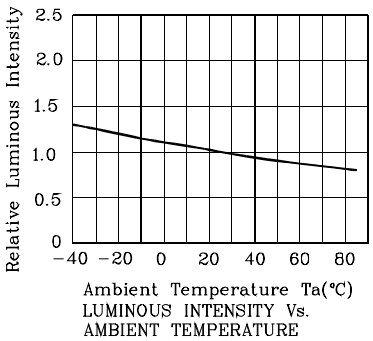
FORWARD CURRENT Vs.
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT

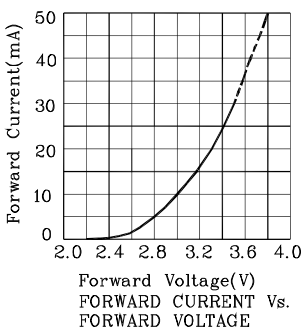


FORWARD CURRENT
DERATING CURVE

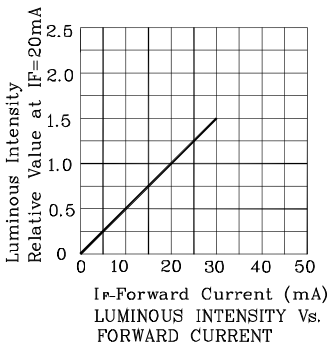


LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

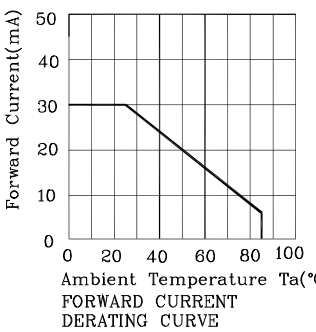
❖ CBD



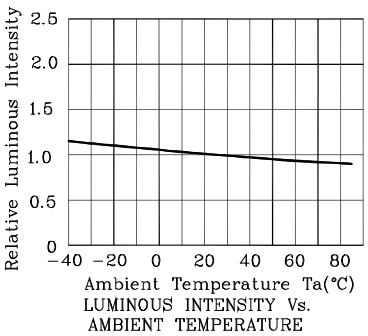
FORWARD CURRENT Vs.
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT



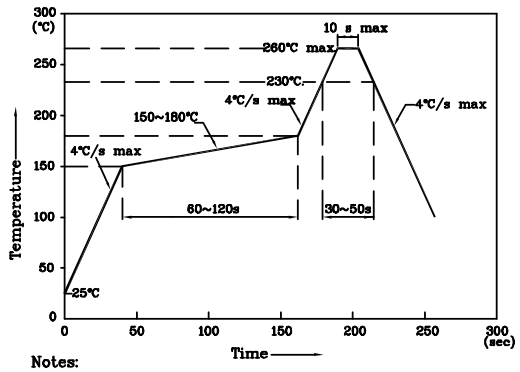
FORWARD CURRENT
DERATING CURVE



LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

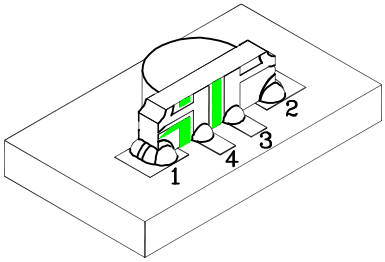
❖ **LED is recommended for reflow soldering and soldering profile is shown below.**

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

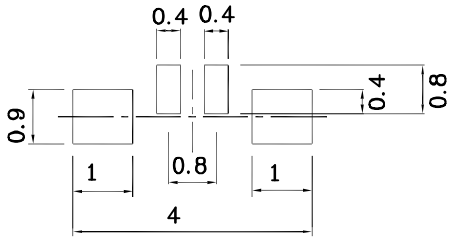


Notes:
1. Maximum soldering temperature should not exceed 260℃
2. Recommended reflow temperature: 145℃−260℃
3. Do not put stress to the epoxy resin during high temperatures conditions

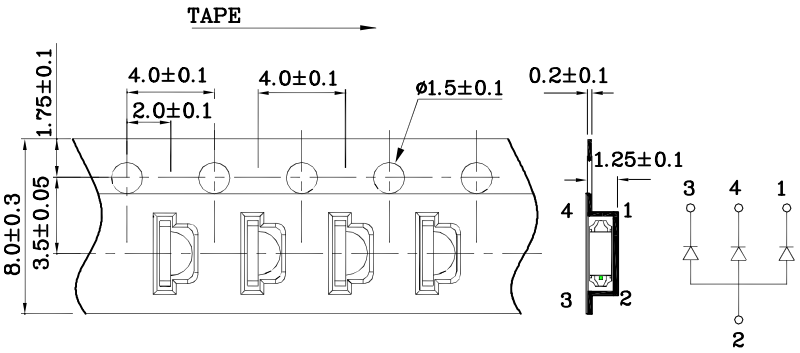
❖ **The device has a single mounting surface. The device must be mounted according to the specifications.**



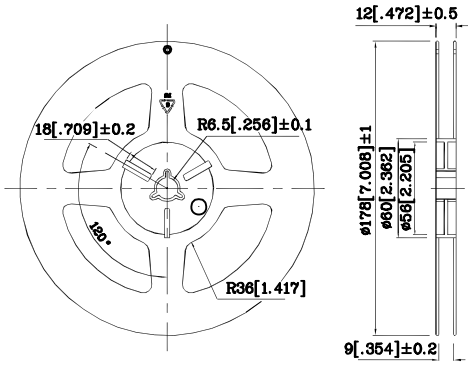
❖ **Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)**



❖ **Tape Specification (Units : mm)**



❖ **Reel Dimension**



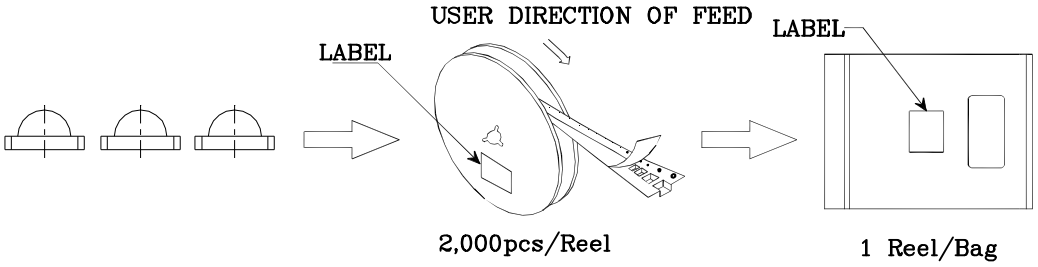
Remarks:

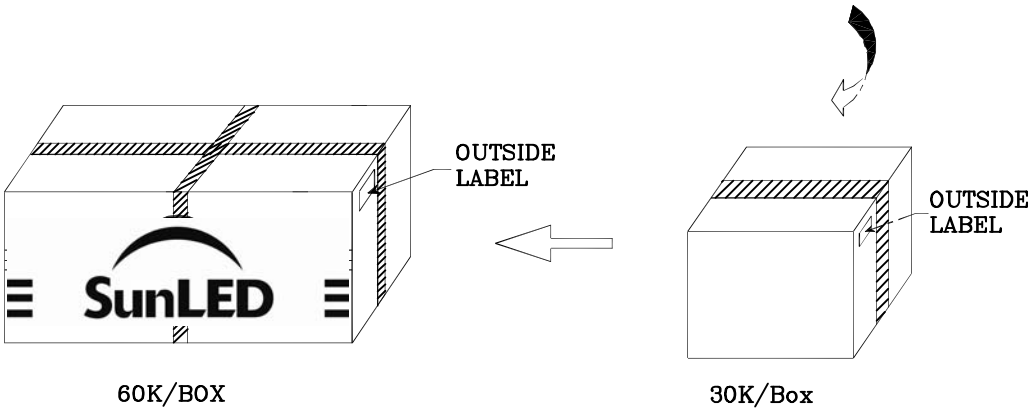
If special sorting is required (e.g. binning based on forward voltage, Luminous intensity / luminous flux, or wavelength), the typical accuracy of the sorting process is as follows:

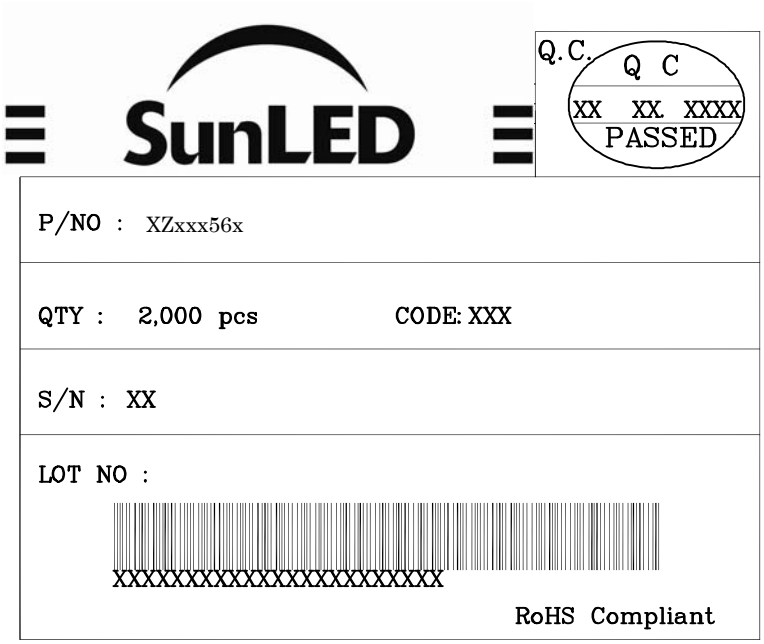
1. Wavelength: +/-1nm
2. Luminous intensity / luminous flux: +/-15%
3. Forward Voltage: +/-0.1V

Note: Accuracy may depend on the sorting parameters.

PACKING & LABEL SPECIFICATIONS







TERMS OF USE

1. Data presented in this document reflect statistical figures and should be treated as technical reference only.
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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.
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