SunLED
www.SunLED.com

Part Number: **XZMDBB45W**

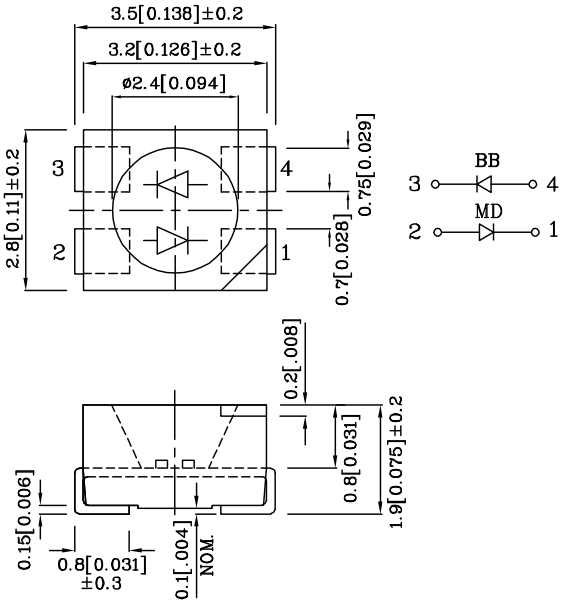
3.5x2.8mm SURFACE MOUNT LED LAMP

PRELIMINARY SPEC

Features

- BOTH CHIPS CAN BE CONTROLLED SEPARATELY.
- SUITABLE FOR ALL SMT ASSEMBLY AND SOLDER PROCESS.
- AVAILABLE ON TAPE AND REEL.
- PACKAGE: 1500PCS / REEL.
- RoHS COMPLIANT.

ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES



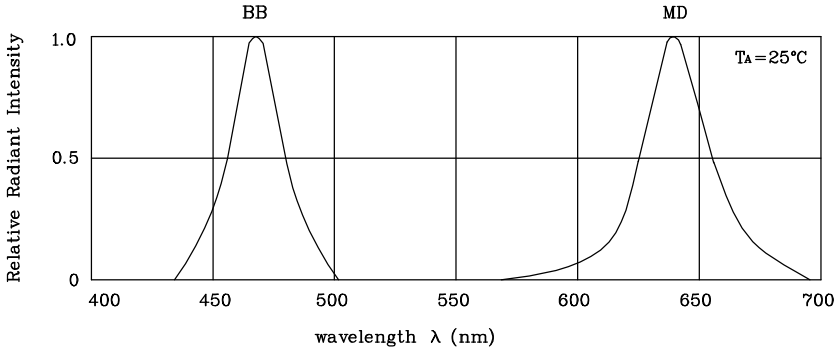
Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.25(0.01") unless otherwise noted.

Absolute maximum ratings (T_A=25°C)		**MD (InGaAlP)**	**BB (InGaN)**	**Unit**
Reverse Voltage	V_R	5	5	V
Forward Current	I_F	50	30	mA
Forward Current (Peak) 1/10 Duty Cycle 0.1ms Pulse Width	i_{FS}	185	160	mA
Power Dissipation	P_T	125	126	mW
Operating Temperature	T_A	-40 ~ +85		°C
Storage Temperature	Tstg	-40 ~ +85		

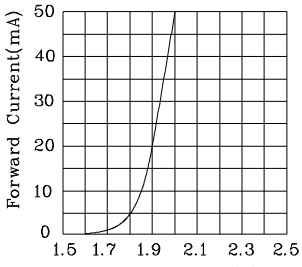
Operating Characteristics (T_A=25°C)		**MD (InGaAlP)**	**BB (InGaN)**	**Unit**
Forward Voltage (Typ.) (I_F=20mA)	V_F	1.9	3.65	V
Forward Voltage (Max.) (I_F=20mA)	V_F	2.5	4.2	V
Reverse Current (V_R=5V)	I_R	10	10	uA
Wavelength of Peak Emission (I_F=20mA)	λ P	640	468	nm
Wavelength of Dominant Emission (I_F=20mA)	λ D	628	470	nm
Spectral Line Full Width At Half-Maximum (I_F=20mA)	Δλ	27	25	nm
Capacitance (V_F=0V, f=1MHz)	C	45	65	pF

Part Number	Emitting Color	Emitting Material	Lens-color	Luminous Intensity (IF=20mA) mcd min.	Luminous Intensity (IF=20mA) mcd typ.	Wavelength nm λ P	Viewing Angle 2 θ 1/2
XZMDBB45W	Red	InGaAlP	Water Clear	70	218	640	120°
	Blue	InGaN		36	69	468	

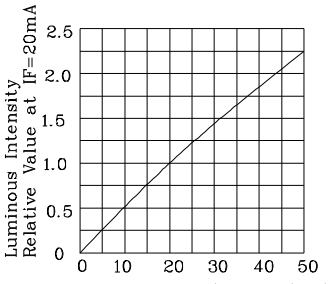


RELATIVE INTENSITY Vs. WAVELENGTH

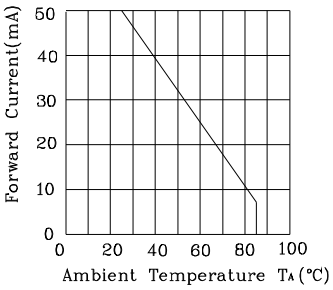
❖ MD



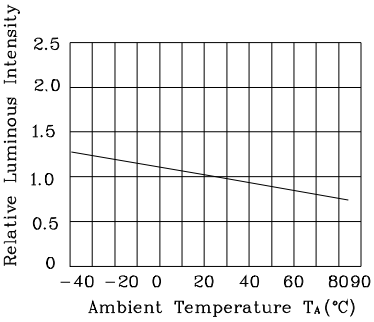
FORWARD CURRENT Vs.
FORWARD VOLTAGE



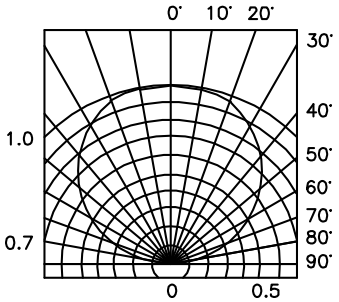
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE

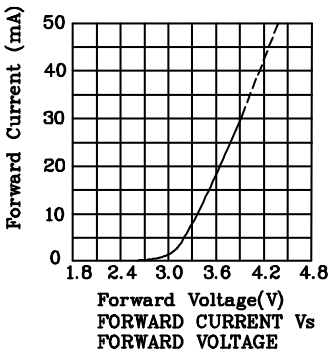


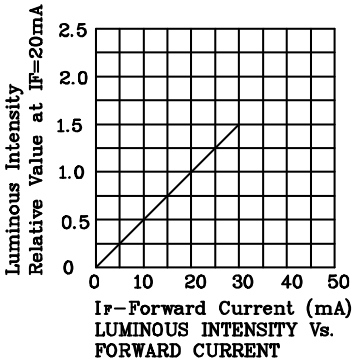
LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

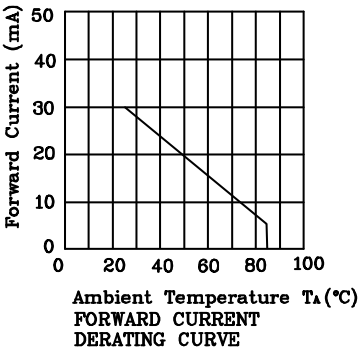


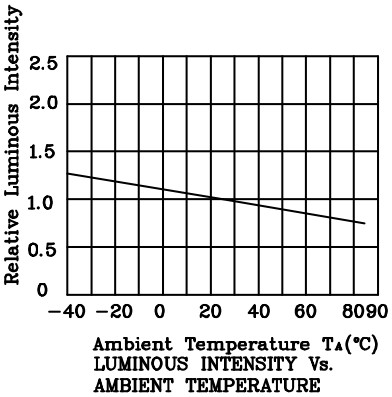
SPATIAL DISTRIBUTION

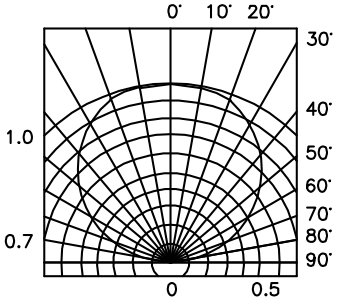
❖ **BB**





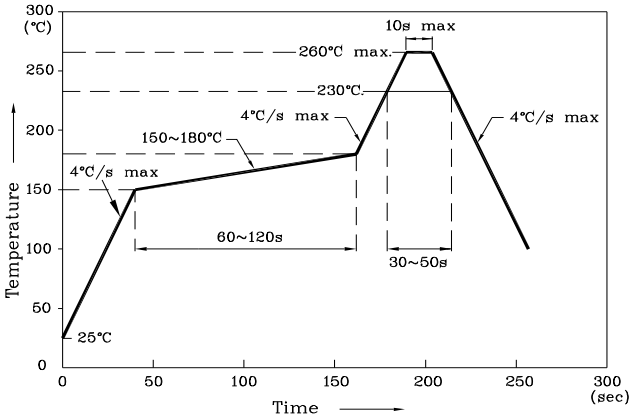






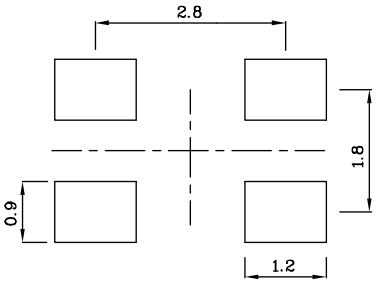
SPATIAL DISTRIBUTION

Reflow Soldering Profile For Lead-free SMT Process.

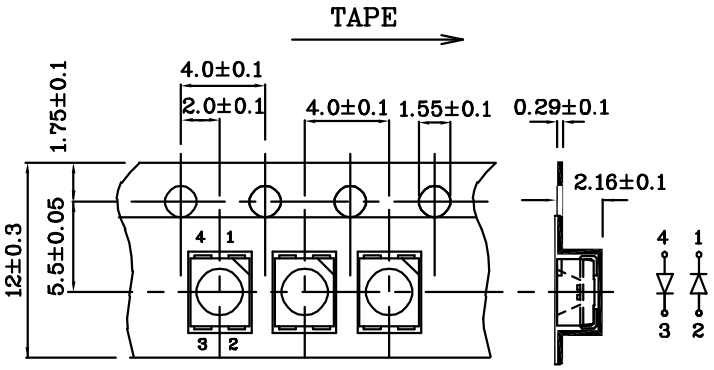


Notes:
1. Maximum soldering temperature should not exceed 260℃.
2. Recommended reflow temperature: 145℃-260℃.
3. Do not put stress to the epoxy resin during high temperatures conditions.

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



❖ Tape Specification (Units : mm)



Remarks:
If special sorting is required (e.g. binning based on forward voltage, luminous intensity or wavelength), the typical accuracy of the sorting process is as follows:
1. Wavelength: +/-1nm
2. Luminous Intensity: +/-15%
3. Forward Voltage: +/-0.1V
Note: Accuracy may depend on the sorting parameters.