SunLED
www.us.SunLED.com

Part Number: **XZMDBGABBE86W**

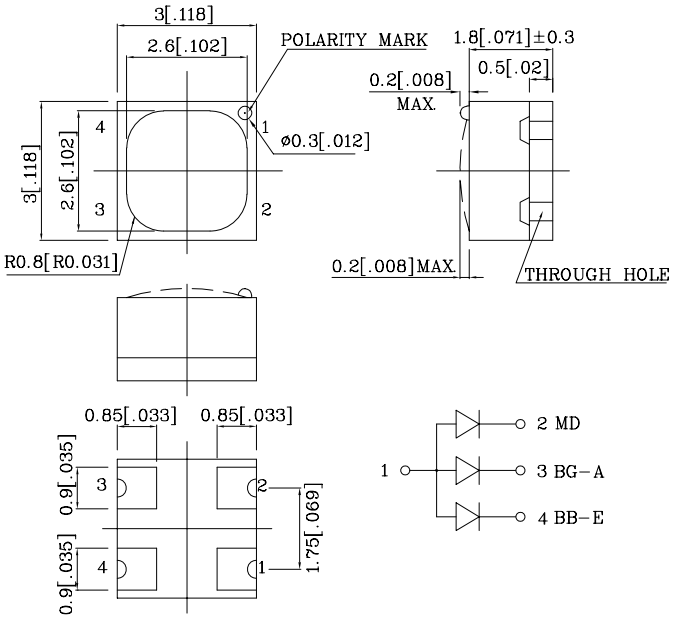
3.0mmx3.0mm FULL-COLOR SURFACE MOUNT LED LAMP

PRELIMINARY SPEC

Features

- LOW POWER CONSUMPTION.
- 3.0mmx3.0mm SMT LED, 2.0mm(MAX.) THICKNESS.
- ONE RED, ONE GREEN AND ONE BLUE CHIPS IN ONE PACKAGE.
- CAN PRODUCE ANY COLOR IN VISIBLE SPECTRUM, IN CLUDING WHITE LIGHT.
- PACKAGE : 1000PCS / REEL.
- MOISTURE SENSITIVITY LEVEL : LEVEL 4.
- RoHS COMPLIANT.

ATTENTION
OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC DISCHARGE SENSITIVE DEVICES



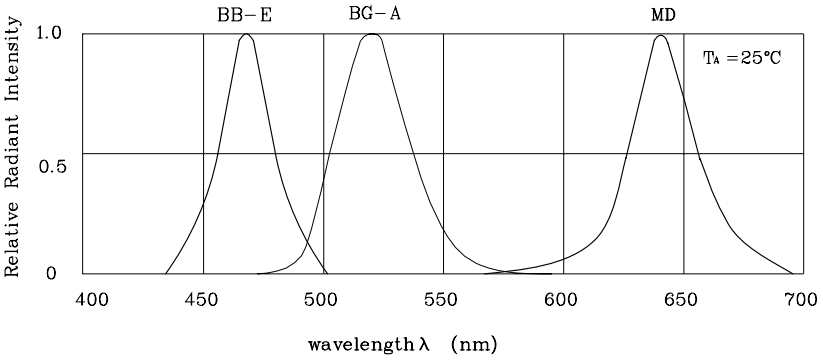
Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.2(0.008") unless otherwise noted.

Absolute Maximum Ratings (TA=25°C)		**MD (InGaAlP)**	**BG-A (InGaN)**	**BB-E (InGaN)**	**Unit**
Reverse Voltage	VR	5	5	5	V
Forward Current	IF	30	30	30	mA
Forward Current (Peak) 1/10 Duty Cycle 0.1ms Pulse Width	iFS	185	100	160	mA
Power Dissipation	PT	75	120	129	mW
Operating Temperature	TA	-40 ~ +85			°C
Storage Temperature	Tstg	-40 ~ +85			
Electrostatic Discharge Threshold (HBM)		—	1000	1000	V

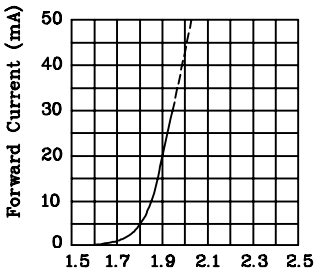
Operating Characteristics (TA=25°C)		**MD (InGaAlP)**	**BG-A (InGaN)**	**BB-E (InGaN)**	**Unit**
Forward Voltage (Typ.) (IF=20mA)	VF	1.9	3.2	3.7	V
Forward Voltage (Max.) (IF=20mA)	VF	2.5	4.0	4.3	V
Reverse Current (Max.) (VR=5V)	IR	10	10	10	uA
Wavelength of Peak Emission (Typ.) (IF=20mA)	λ P	640	520	465	nm
Wavelength of Dominant Emission (Typ.) (IF=20mA)	λ D	628	525	470	nm
Spectral Line Full Width At Half-Maximum (Typ.) (IF=20mA)	Δλ	27	35	25	nm
Capacitance (Typ.) (VF=0V, f=1MHz)	C	45	100	110	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
XZMDBGABBE86W	Red	InGaAlP	Water Clear	110	218	640	100°
	Green	InGaN		110	248	520	
	Blue	InGaN		50	118	465	

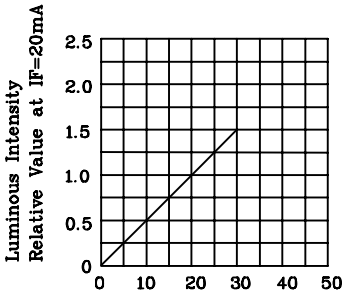


RELATIVE INTENSITY Vs. WAVELENGTH

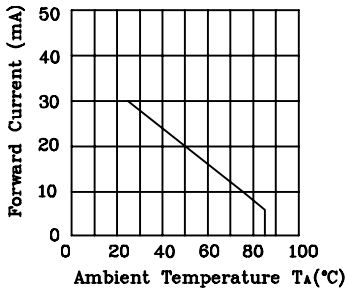
❖ MD



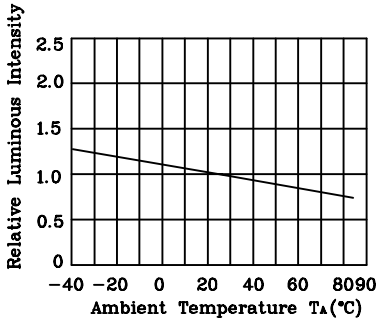
FORWARD CURRENT Vs.
FORWARD VOLTAGE



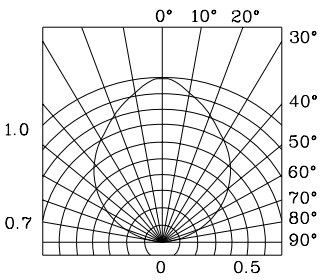
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE

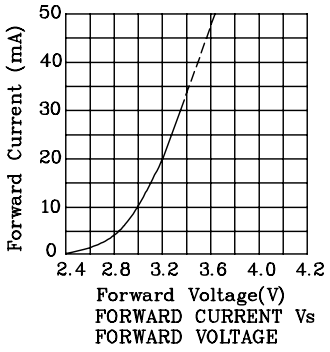


LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

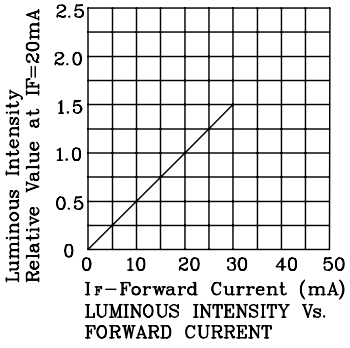


SPATIAL DISTRIBUTION

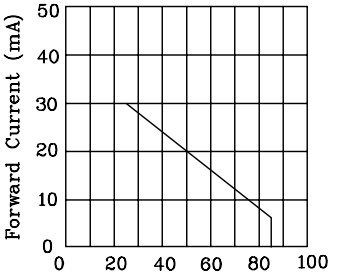
❖ **BG-A**



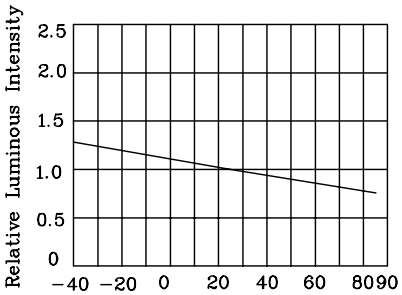
FORWARD CURRENT Vs
FORWARD VOLTAGE



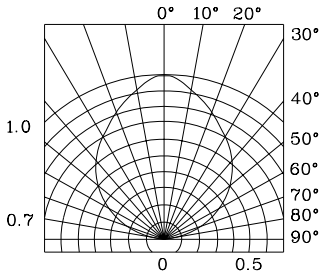
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE

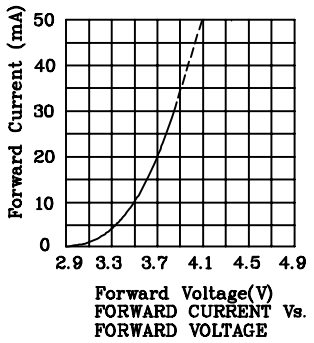


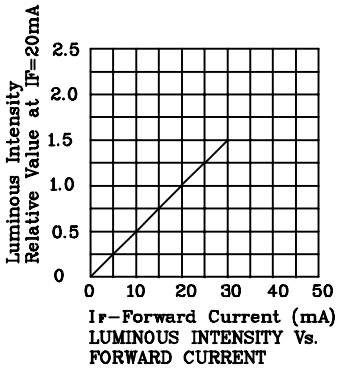
LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

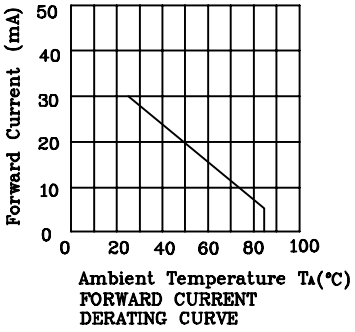


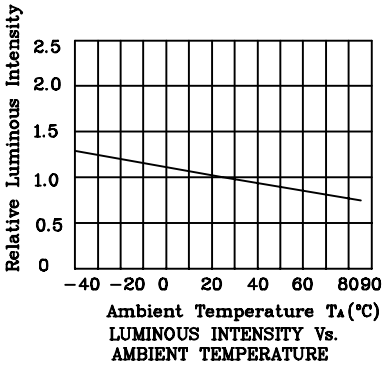
SPATIAL DISTRIBUTION

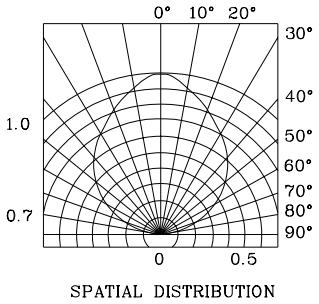
❖ **BB-E**





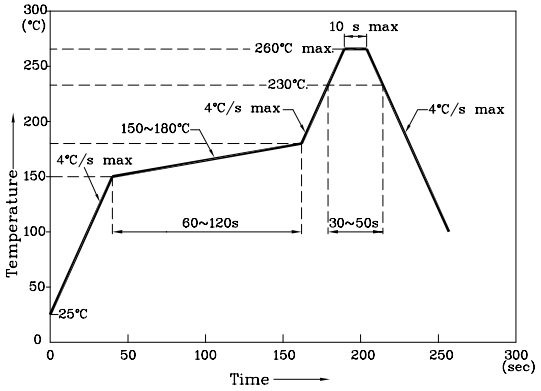






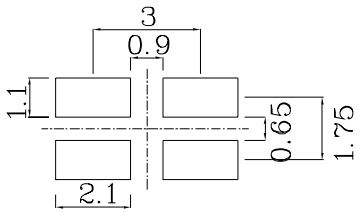
SPATIAL DISTRIBUTION

Reflow Soldering Profile For Lead-free SMT Process.

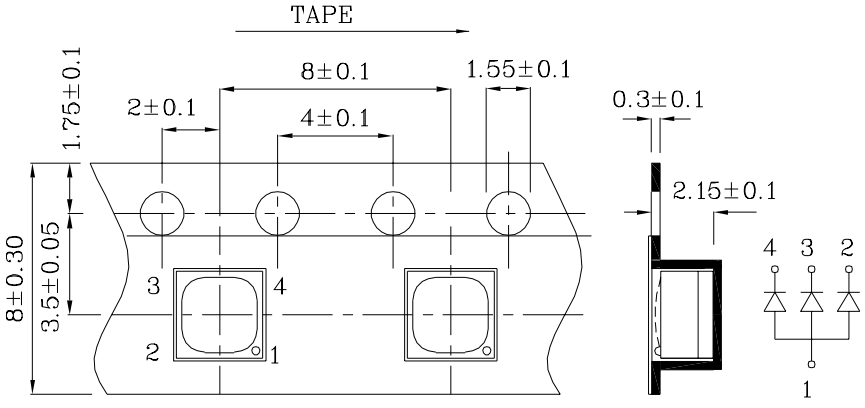


NOTES:
1. Maximum soldering temperature should not exceed 260°c.
2. Recommended reflow temperature: 145°c-260°c.
3. Do not put stress to the epoxy resin during high temperatures conditions.

❖ 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 / 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.