

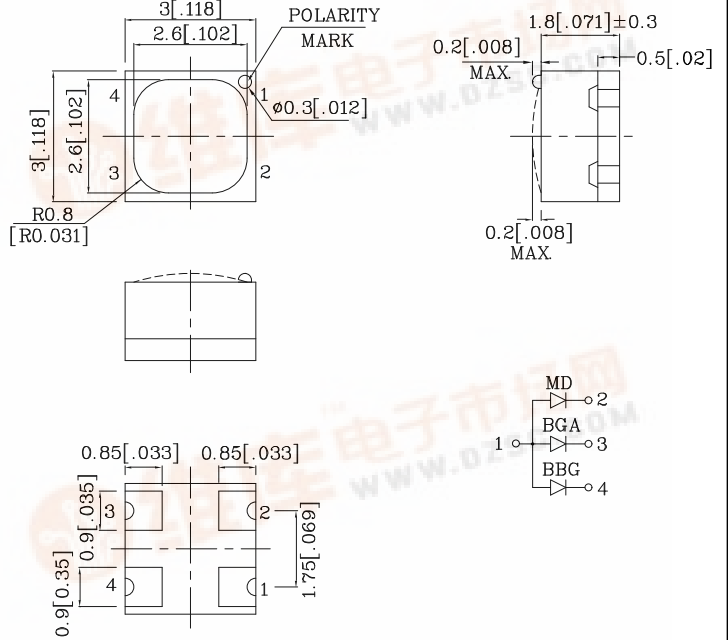
PRELIMINARY SPEC

Features

- LOW POWER CONSUMPTION.
- 3.0mmx3.0mm SMT LED, 1.8mm THICKNESS.
- ONE RED, ONE GREEN AND ONE BLUE CHIPS IN ONE PACKAGE.
- CAN PRODUCE ANY COLOR IN VISIBLE SPECTRUM, INCLUDING WHITE LIGHT.
- PACKAGE : 1000PCS / REEL.
- MOISTURE SENSITIVITY LEVEL : LEVEL 4.
- RoHS COMPLIANT.



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES



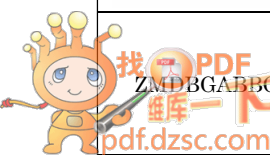
Notes:

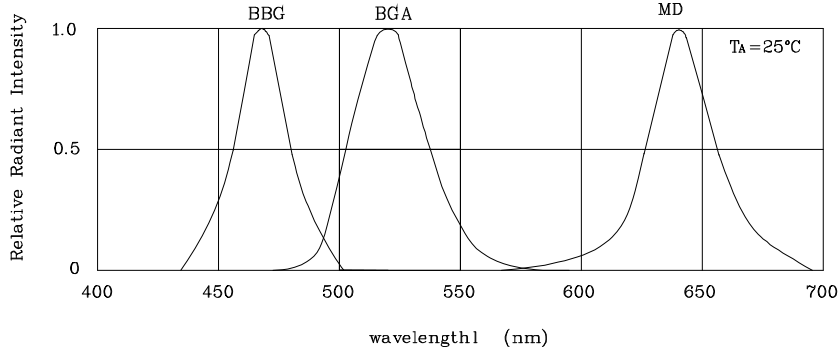
1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.2(0.008)$ unless otherwise noted.
3. Specifications are subject to change without notice.

Absolute Maximum Ratings (TA=25°C)		MD (InGa AlP)	BGA (InGa N)	BBG (InG aN)	Unit
Reverse Voltage	V _R	5	5	5	V
Forward Current	I _F	30	30	30	mA
Forward Current (Peak) 1/10 Duty Cycle 0.1ms Pulse Width	i _{FS}	185	100	100	mA
Power Dissipation	P _T	75	120	120	mW
Operating Temperature	T _A	-40 ~ +85			°C
Storage Temperature	T _{stg}	-40 ~ +85			
Electrostatic Discharge Threshold (HBM)	-	1000	1000	-	V

Operating Characteristics (TA=25°C)		MD (InGa AlP)	BGA (InG aN)	BBG (InG aN)	Unit
Forward Voltage (Typ.) (I _F =20mA)	V _F	1.9	3.2	3.2	V
Forward Voltage (Max.) (I _F =20mA)	V _F	2.5	4.0	4.0	V
Reverse Current (Max.) (V _R =5V)	I _R	10	10	10	uA
Wavelength of Peak Emission (Typ.) (I _F =20mA)	λ P	640	520	468	nm
Wavelength of Dominant Emission (Typ.) (I _F =20mA)	λ D	628	525	470	nm
Spectral Line Full Width At Half-Maximum (Typ.) (I _F =20mA)	Δλ	27	35	21	nm
Capacitance (Typ.) (V _F =0V, f=1MHz)	C	45	100	100	pF

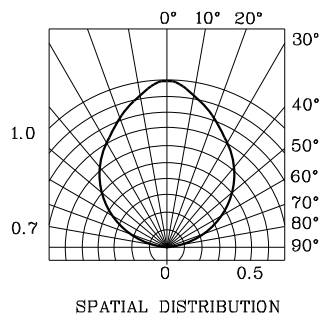
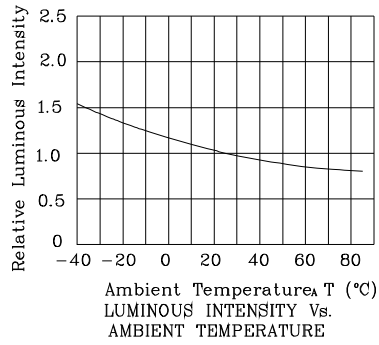
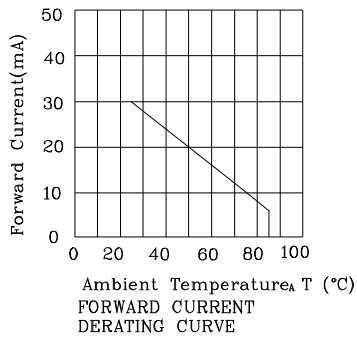
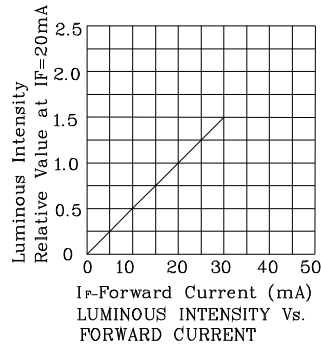
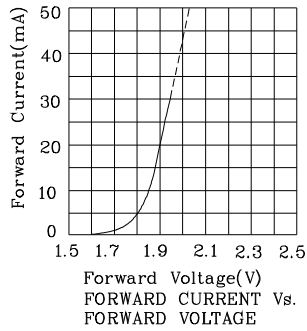
Part Number	Emitting Color	Emitting Material	Lens-color	Luminous Intensity (I _F =20mA) mcd		Wavelength nm λ P	Viewing Angle 2θ 1/2
				min.	typ.		
ZMDBGABBG86W	Red	InGaAlP	Water Clear	110	218	640	100°
	Green	InGaN		110	248	520	
	Blue	InGaN		70	158	468	





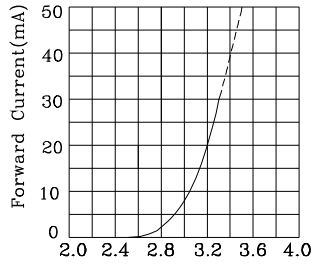
RELATIVE INTENSITY Vs. WAVELENGTH

❖ MD

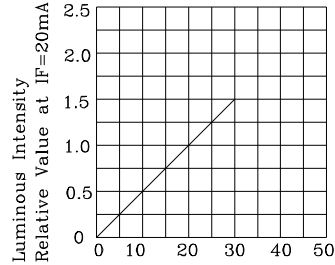




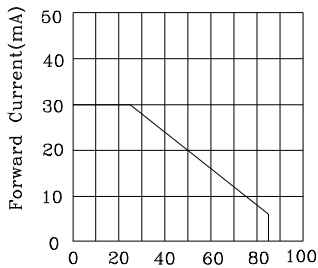
❖ BGA



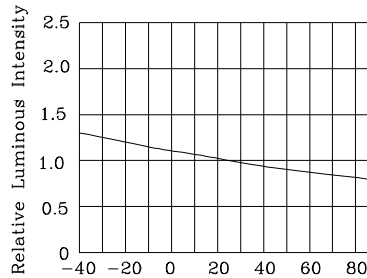
Forward Voltage(V)
 FORWARD CURRENT Vs.
 FORWARD VOLTAGE



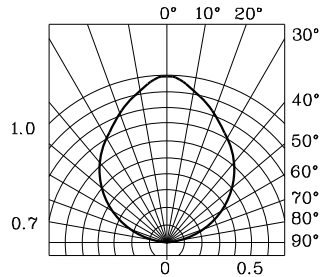
IF-Forward Current (mA)
 LUMINOUS INTENSITY Vs.
 FORWARD CURRENT



Ambient Temperature $T_a(^{\circ}C)$
 FORWARD CURRENT
 DERATING CURVE

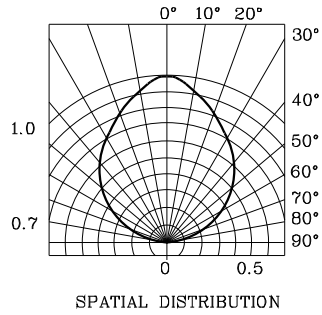
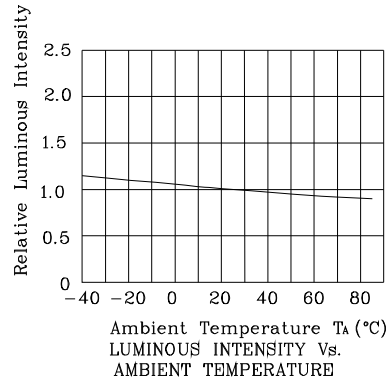
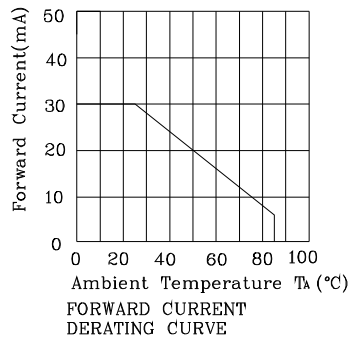
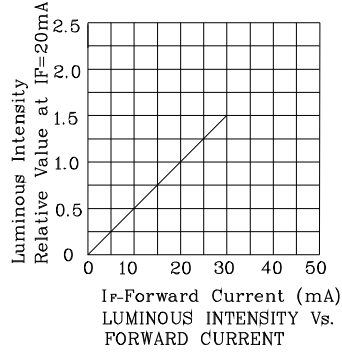
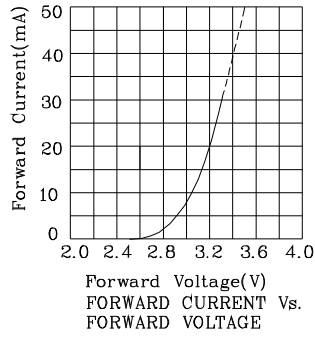


Ambient Temperature $T_a(^{\circ}C)$
 LUMINOUS INTENSITY Vs.
 AMBIENT TEMPERATURE

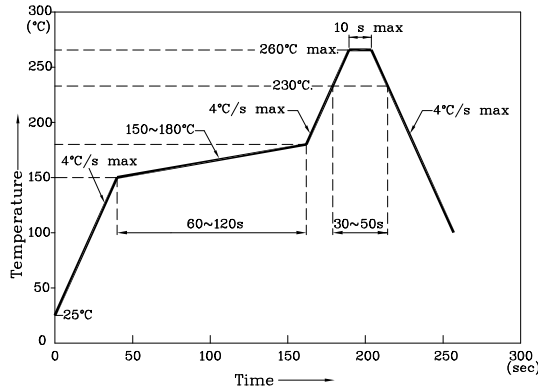


SPATIAL DISTRIBUTION

❖ **BBG**



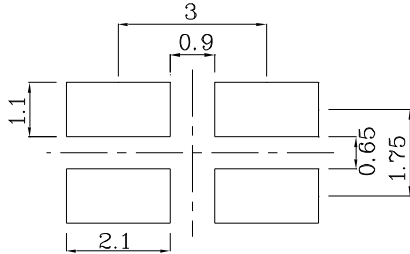
Reflow Soldering Profile For Lead-free SMT Process.



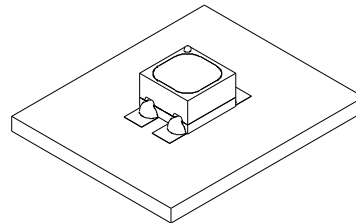
NOTES:

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.

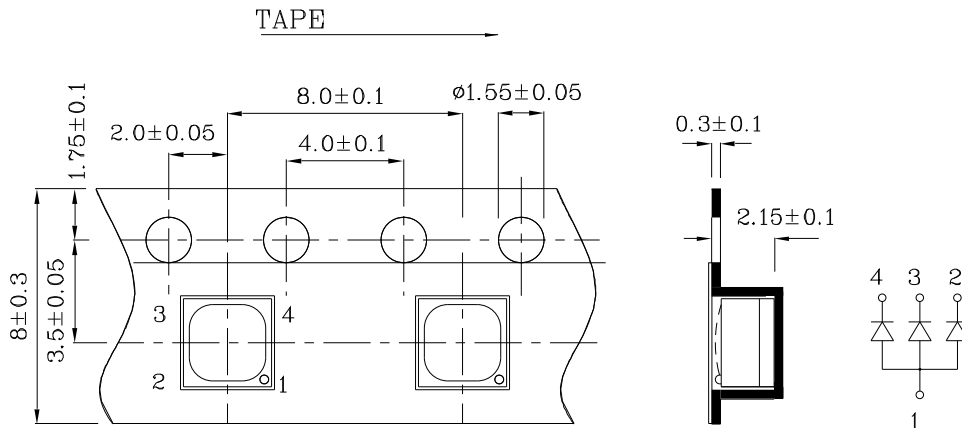
❖ Recommended Soldering Pattern
(Units : mm; Tolerance: ±0.1)



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



❖ Tape Specification (Units : mm)



Remarks:

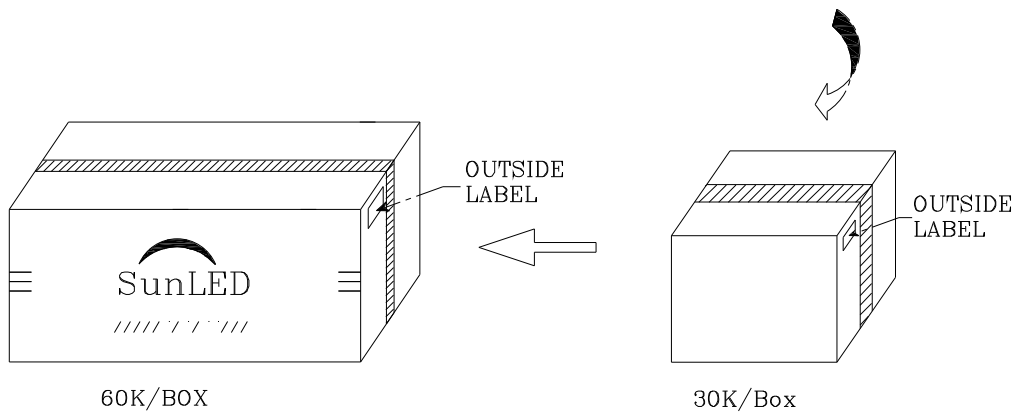
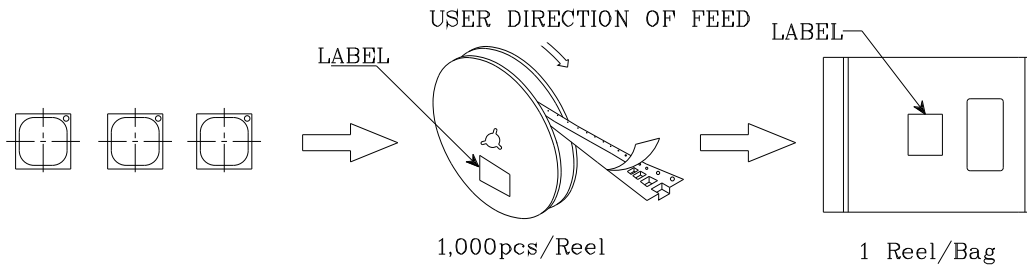
If special sorting is required (e.g. binning based on forward voltage, Luminous intensity / luminous flux, or wavelength), the typical accuracy of the sorting process is as follows:


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

Note: Accuracy may depend on the sorting parameters.

PACKING & LABEL SPECIFICATIONS

ZMDBGABBG86W



P/NO : Zxxx86x	
QTY : 1,000 pcs	CODE: XXX
S/N : XX	
LOT NO :	
 XXXXXXXXXXXXXXXXXXXXXXXXXXXX	
RoHS Compliant	