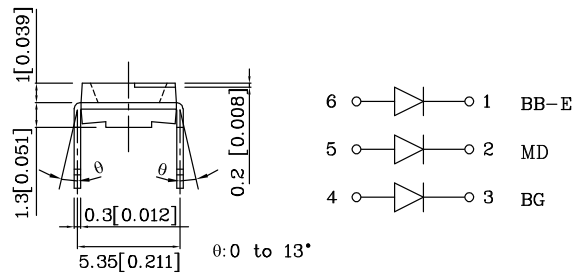
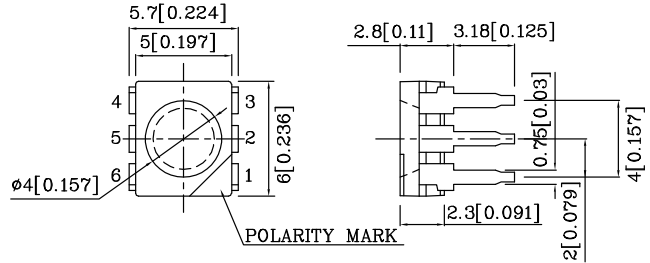


### Features

- OUTSTANDING MATERIAL EFFICIENCY.
- RELIABLE AND RUGGED.
- WATER CLEAR LENS.
- LOW POWER CONSUMPTION.
- ONE BLUE, ONE ORANGE AND ONE GREEN CHIPS IN ONE PACKAGE.
- CAN PRODUCE ANY COLOR IN VISIBLE SPECTRUM, INCLUDING WHITE LIGHT.
- MOISTURE SENSITIVITY LEVEL : LEVEL 4.
- RoHS COMPLIANT.



**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES



### Notes:

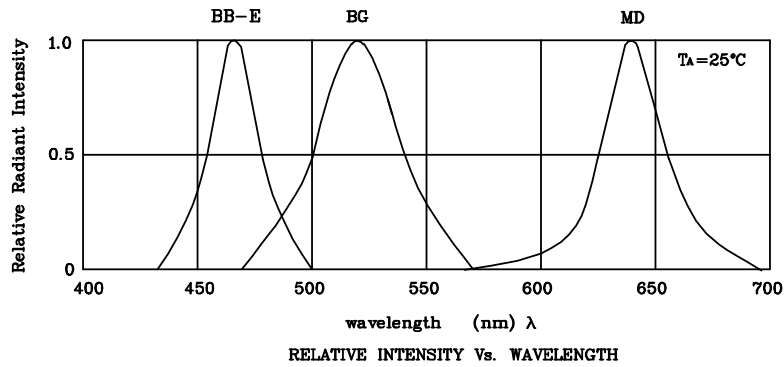
1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25(0.01)$ " unless otherwise noted.

Absolute Maximum Ratings (TA=25°C)		BB-E (InGaN)	MD (InGaA IP)	BG (InGaN)	Unit
Reverse Voltage	VR	5	5	5	V
Forward Current	IF	30	50	30	mA
Forward Current (Peak) 1/10 Duty Cycle 0.1ms Pulse Width	iFS	160	185	150	mA
Power Dissipation	PT	350			mW
Operating Temperature	TA	-40 ~ +85			°C
Storage Temperature	Tstg	-40 ~ +85			
Electrostatic Discharge Threshold (HBM)		1000	—	1000	V
Lead Solder Temperature [2mm Below Package Base]		260°C For 3 Seconds			
Lead Solder Temperature [5mm Below Package Base]		260°C For 5 Seconds			

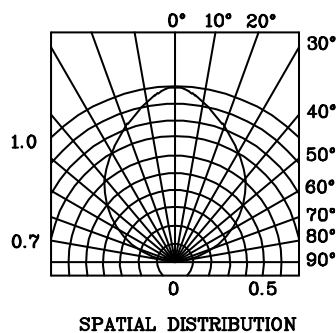
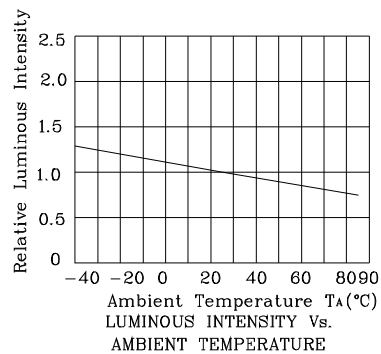
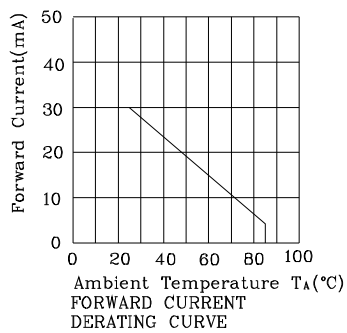
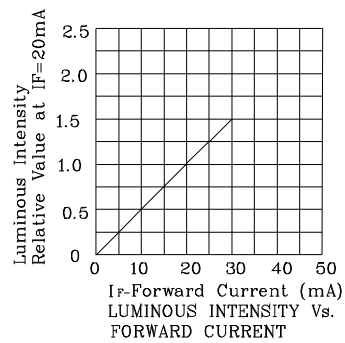
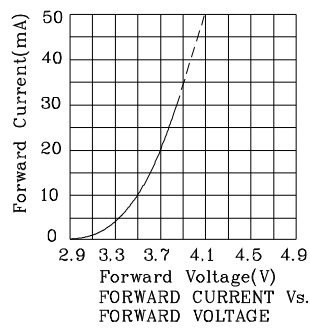
Operating Characteristics (TA=25°C)		BB-E (InGaN)	MD (InGaA IP)	BG (InGaN)	Unit
Forward Voltage (Typ.) (IF=20mA)	VF	3.7	1.9	3.5	V
Forward Voltage (Max.) (IF=20mA)	VF	4.3	2.5	4.5	V
Reverse Current (Max.) (VR=5V)	IR	10	10	10	uA
Wavelength of Peak Emission (Typ.) (IF=20mA)	$\lambda P$	465	640	520	nm
Wavelength of Dominant Emission (Typ.) (IF=20mA)	$\lambda D$	470	628	525	nm
Spectral Line Full Width At Half-Maximum (Typ.) (IF=20mA)	$\Delta\lambda$	25	27	38	nm
Capacitance (Typ.) (VF=0V, f=1MHz)	C	110	45	45	pF

Part Number	Emitting Color	Emitting Material	Lens-color	Luminous Intensity (IF=30mA *50mA) mcd		Wavelength nm $\lambda P$	Viewing Angle 2 $\theta$ 1/2
				min.	typ.		
SBBEMDBG99W	Blue	InGaN	Water Clear	110	248	465	100°
	Red	InGaAIP		*380	*497	640	
	Green	InGaN		180	347	520	

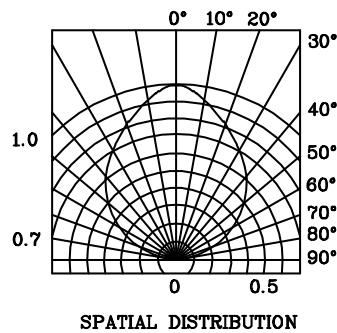
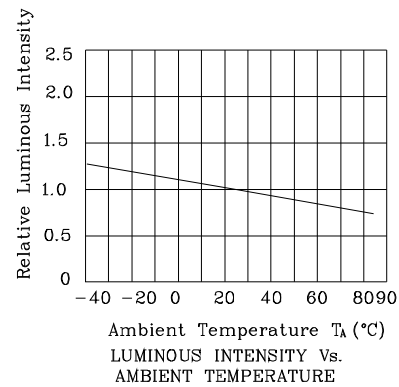
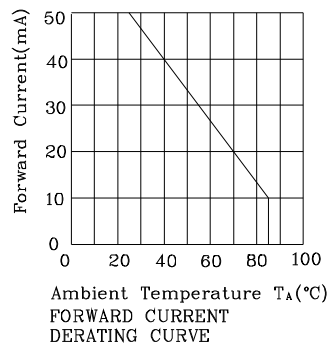
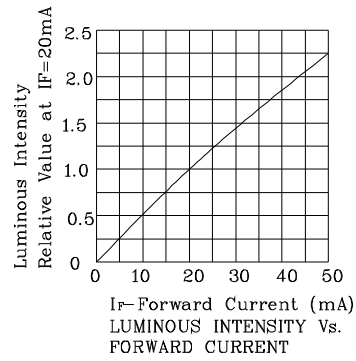
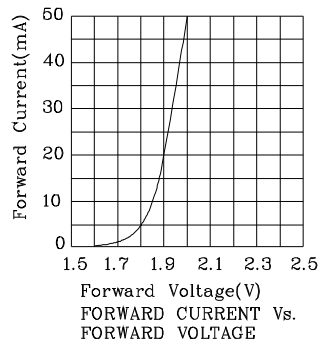
Note: \* Luminous intensity with asterisk is measured at 50mA.



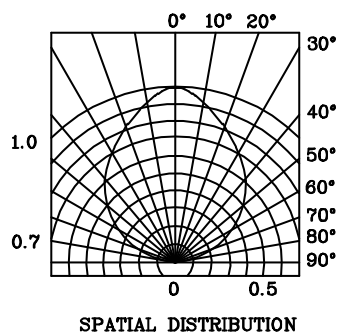
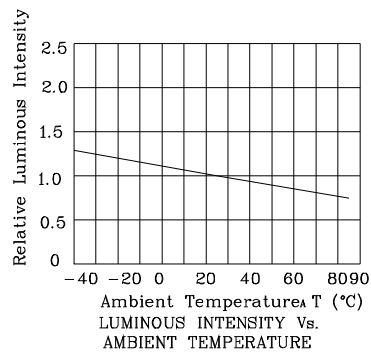
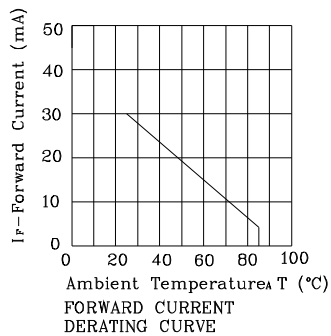
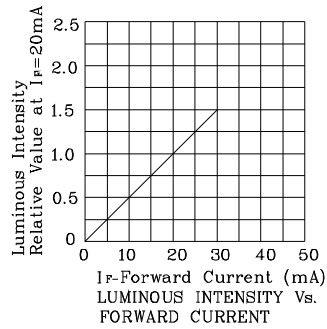
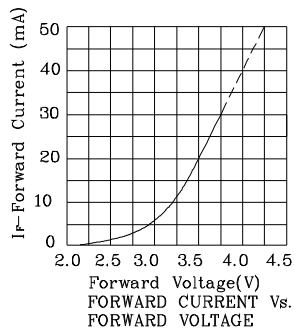
❖ **BB-E**

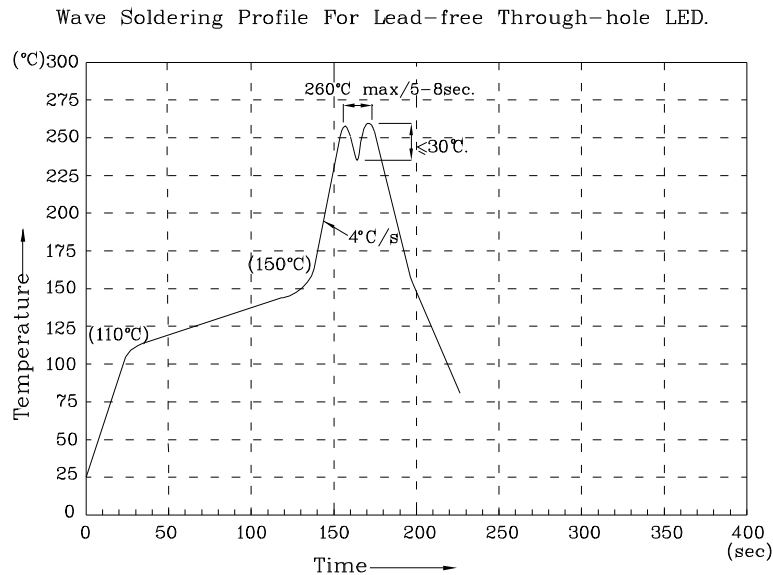


❖ MD



❖ BG





NOTE:

- 1.Recommend the wave temperature 245°C~260°C.The maximum soldering temperature should be less than 260°C.
- 2.Do not apply stress on epoxy resins when temperature is over 85 degree°C.
- 3.The soldering profile apply to the lead free soldering (Sn/Cu/Ag alloy).
- 4.No more than once.

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.