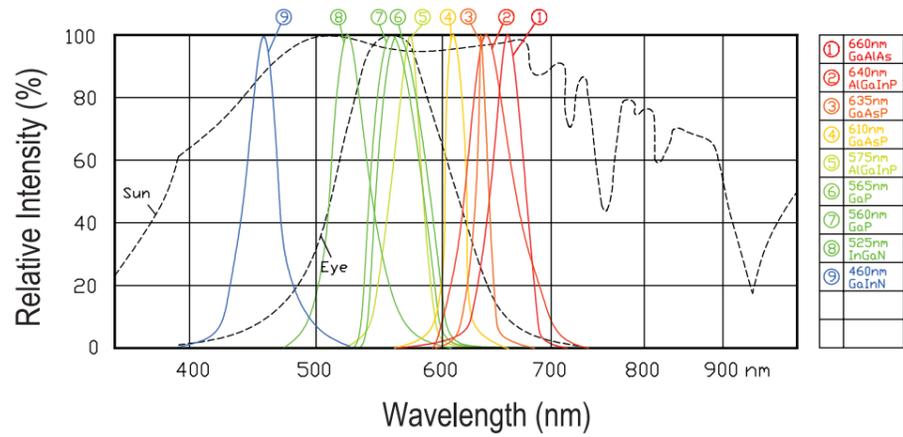
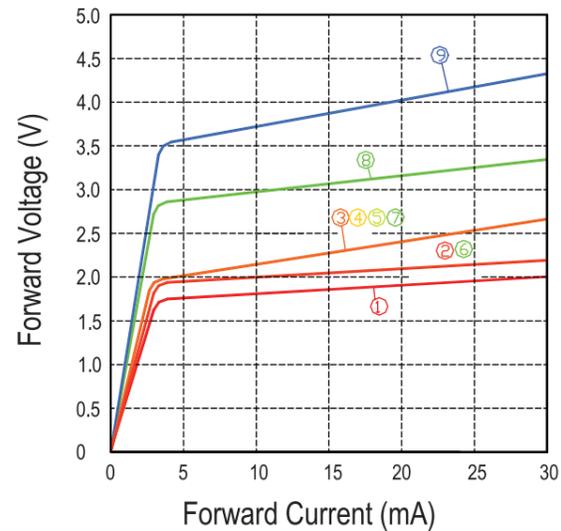


Optical Characteristic Curves of BW Series

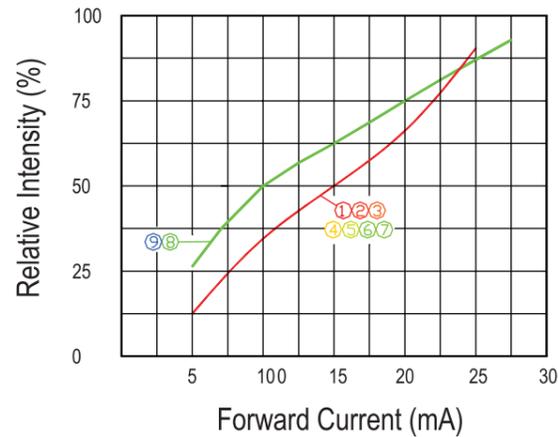
Relative Intensity vs. Wavelength



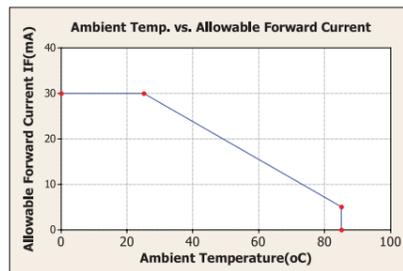
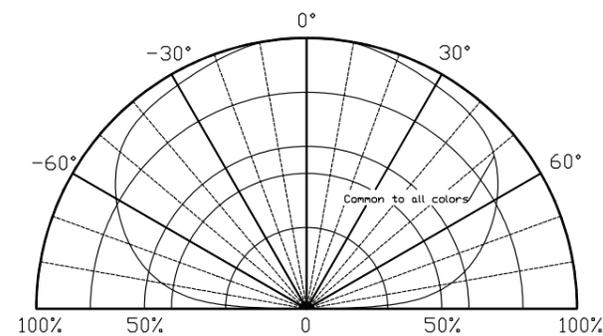
Forward Voltage vs. Forward Current



Relative Intensity vs. Forward Current



Directive Characteristics



Reliability Test Items

No	Series	Condition	Time / Cycle	Number of Damaged
1	Soldering Heat Test	260°C ± 5°C	10 sec.	0/60
2	Thermal Shock	0°C (15 sec)~100°C (15 sec)	20 cycle	0/60
3	High Temp. Storage	100°C	1000 Hrs.	0/60
4	Low Temp. Storage	-40°C	1000 Hrs.	0/60
5	Temperature Cycle Test	-40°C~80°C	100 Cycles, 200 Hrs.	0/60
6	High Temp. and Humidity Test	60°C, 90 % RH	1000 Hrs.	0/60
7	Operation Life Test 1	Room Temp., 20mA	1000 Hrs.	0/60
8	Operation Life Test 2	Room Temp., 30mA	500 Hrs.	0/60
9	High Temp. Operation Life Test	85°C, 5mA	1000 Hrs.	0/60
10	Low Temp. Operation Life Test	-30°C, 20mA	1000 Hrs.	0/60

Judgment Criteria

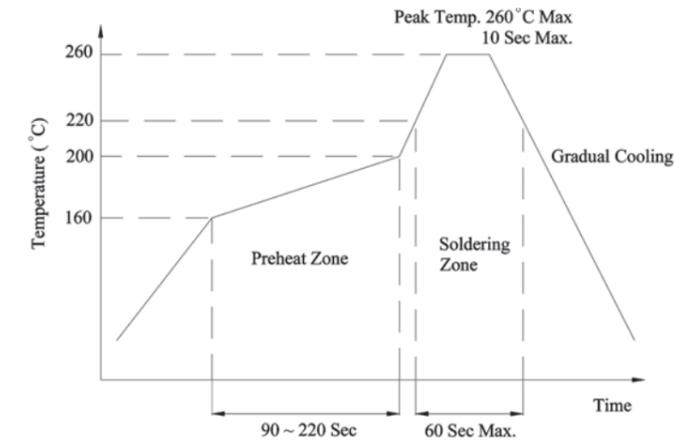
Item	Symbol	Test Conditions	Judgment Criteria
Forward Voltage	V _f	I _F = 20 mA	Δ% < 10 %
Luminous Intensity	I _v	I _F = 20 mA	Δ% < 30 %
Leakage Current	I _r	V _r = 5 V	< 10 μA

Surface Mounting Condition

In the automatic mounting of the SMD LED to the PCB, any bending, expanding, and pulling forces against the SMD LED should be minimized to prevent the electrical failures or mechanical damaged.

Reflow Soldering and Temperature Profile

The SMD LED is designed for the reflow soldering process. Too high temperature or too large temperature gradient may cause the electrical and optical failures.



Precautions For Use

Storage time

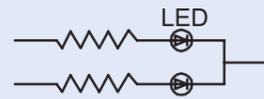
1. The operation of Temperatures and RH are : 5°C~35°C, RH60%.
2. Once the package is opened, the products should be used within a week. Otherwise, they should be kept in a damp proof box with desiccating agent. Considering the tape life, we suggest our customers to use our products within a year (from production date).
3. If opened more than one week in an atmosphere 5°C~35°C, RH60%, they should be treated at 60°C±5°C for 15hrs.

Drive Method

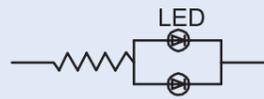
LED is a current operated device, and therefore, requires some kind of current limiting incorporated into the driver circuit. This current limiting typically takes the form of a current limiting resistor placed in series with the LED.

Consider worst case voltage variations that could occur across the current limiting resistor. The forward current should not be allowed to change by more than 40% of its desired value.

Circuit model A



Circuit model B



(A) Recommended circuit.

(B) The difference of brightness between LED could be found due to the VF-IF characteristics of LED.

Cleaning

Use alcohol-based cleaning solvents such as isopropyl alcohol to clean the LED.

ESD (Electrostatic Discharge)

Static Electricity or power surge will damage the LED. Use of a conductive wrist band or anti-electrostatic glove is recommended when handling these LED. All devices, equipment and machinery must be properly grounded.

Chromaticity Diagram

