



PRODUCT SPECIFICATION

(G-POWER LED)

Part No: SBM-01 □ UCA0-000

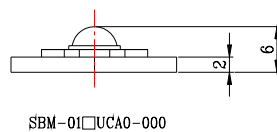
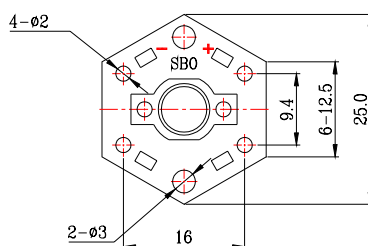


Very high flux output
 Very long operating life
 Low voltage DC operated
 Available in Red, Yellow,
 Green, Cyan, Blue and 5500k/3300k white

CUSTOMER APPROVED SIGNATURES	APPROVED BY	CHECKED BY	PREPARED BY
	Jay Lee	Jack Chen	Zhou Liang

Spec No.	
Rev.	G (2004.07.28)

■ Mechanical Dimensions:



Note:

1. Scale:1:1
2. All dimensions are in millimeters.
3. All dimensions without tolerances are for reference only
4. The based PCB is made from Al-Board.
5. The anode side of the device is denoted by a "+" and another side is denoted by a "-" on the PC

■ Absolute Maximum Ratings (Ta = 25°C) :

Items	Symbol	Absolute maximum Rating		Unit
		Red/Yellow	White/Green/Blue	
DC Forward Current	I _F	400	400	mA
Peak Pulse Forward Current *	I _{FP}	500	500	mA
Average Forward Current	I _{avg}	350	350	mA
Reverse Voltage	V _R	5	5	V
LED Junction Temperature	T _j	135	135	°C
Storage Temperature	T _{stg}	-30 ~ +100	-30 ~ +100	°C
Soldering Temperature	T _{sol}	Max.260°C for 5 sec Max (2mm from the base of the lens)		

* Pulse width: ≤0.1msec; Duty: ≤1/10.

■ Typical Electrical & Optical Characteristics (Ta = 25°C) :

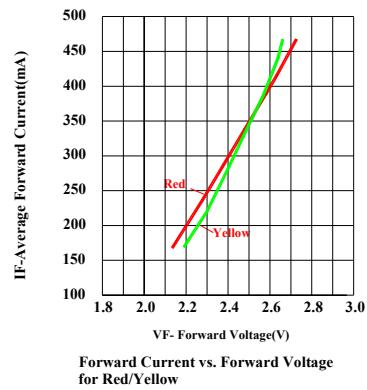
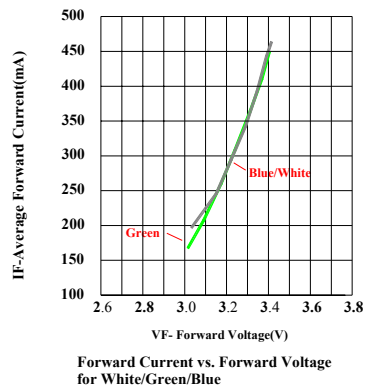
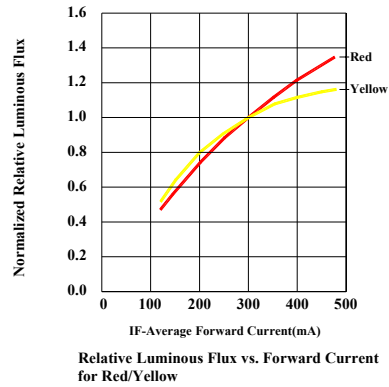
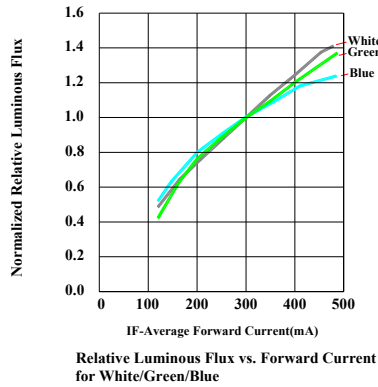
Part No	λ _D (nm)	Forward Voltage(V)			Test Condition	Viewing Angle (Typ.)	Luminous Flux(lm) (Typ.)
		Min.	Typ.	Max.			
SBM-01RUCA0-000	623	2.0	2.5	3.0	I _F = 350mA	120	20.0
SBM-01YUCA0-000	590	2.0	2.5	3.0	I _F = 350mA	120	25.0
SBM-01BUCA0-000	470	2.8	3.3	3.8	I _F = 350mA	120	8.0
SBM-01HUCA0-000	505	2.8	3.3	3.8	I _F = 350mA	120	25.0
SBM-01FUCA0-000	525	2.8	3.3	3.8	I _F = 350mA	120	30.0
SBM-01WUCA0-000	5500K	2.8	3.3	3.8	I _F = 350mA	120	30.0
SBM-01LUCA0-000	3300K	2.8	3.3	3.8	I _F = 350mA	120	25.0

■ Notes:

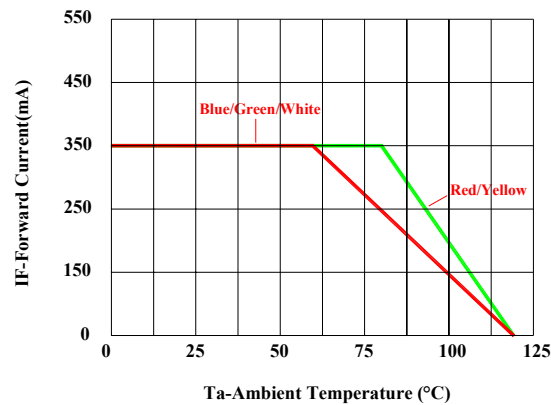
1. The measured value is by Everfine test system.
2. Rank ratings will determined by SBO .
3. Tolerance of measurement of luminous intensity : ±10%
4. Tolerance of measurement of wavelength or chromatic coordinates : ±1nm (±0.02)
5. Tolerance of measurement of forward voltage : ±0.05V

■ Typical Electrical/ Optical Characteristics Curves (Ta=25°C Unless Otherwise Noted) :

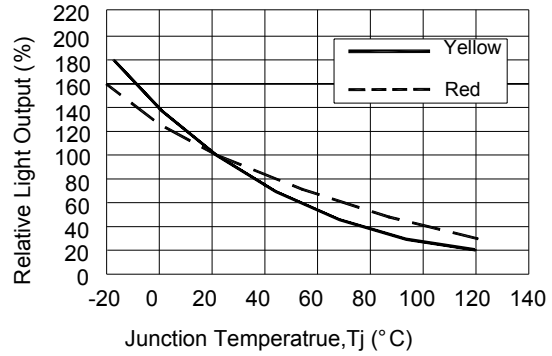
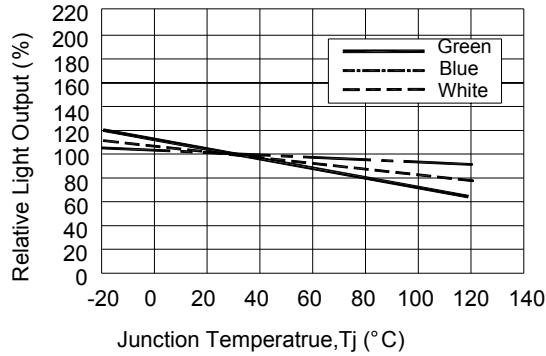
Forward Current Characteristics



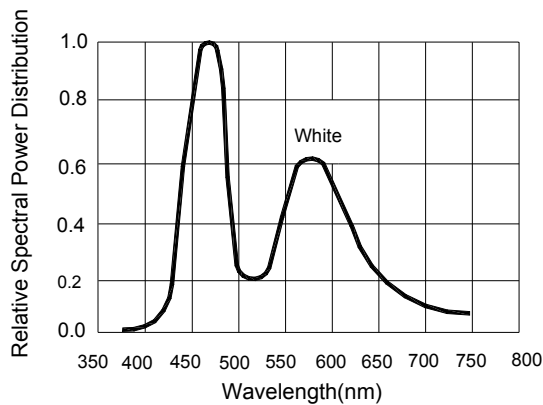
Current Derating Curves



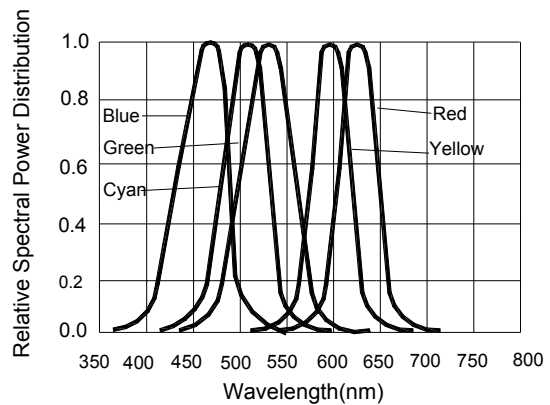
Light Output Characteristics



Wavelength Characteristics

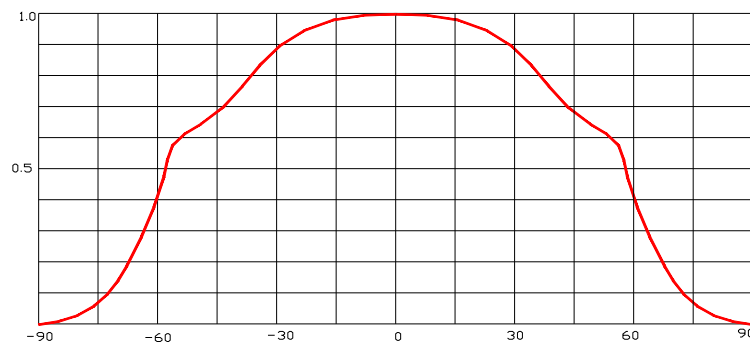


Relative Intensity vs. Wavelength(nm)



Relative Intensity vs. Wavelength(nm)

Typical Representative Spatial Radiation Pattern



■ Reliability

1. Test Items And Results

Classification	Test Item	Reference Standard	Test Conditions	Duration	Units Tested	Number of Damaged
Operation Test	Operating Life Test		$T_A=25^{\circ}\text{C}\pm 5^{\circ}\text{C}$, IF=350mA	1000 Hrs	22	0/22
	High Temperature Life Test		$T_A=85^{\circ}\text{C}\pm 5^{\circ}\text{C}$, IF=350mA	500 Hrs	22	0/22
Environment Test	High Temperature Storage	JEITA ED-4701 200 201	$T_A=100^{\circ}\text{C}\pm 5^{\circ}\text{C}$	1000 Hrs	22	0/22
	Low Temperature Storage	JEITA ED-4701 200 201	$T_A= - 40^{\circ}\text{C}\pm 5^{\circ}\text{C}$	1000 Hrs	22	0/22
	Temperature. & Humidity Life Test		$T_A=85^{\circ}\text{C}\pm 5^{\circ}\text{C}$, RH=85% $\pm$ 5%RH If=350mA	500 Hrs	22	0/22
	Thermal Shock	JEITA ED-4701 300 307	$-40^{\circ}\pm 5^{\circ}\text{C} \leftrightarrow +85^{\circ}\text{C}\pm 5^{\circ}\text{C}$ 30min dwell / 5 min transfer	100 Cycles	22	0/22
	Red Ink Solvent		$T_A=100^{\circ}\text{C}$; 2 Hrs	No inleakage	22	0/22
Soldering Test	Solderability	JEITA ED-4701 300 303	$260\pm 5^{\circ}\text{C}$, 5 ± 1 sec	3 time Over 95% Hole	22	0/22
	Resistance to Soldering Heat	JEITA ED-4701 300 302	$300\pm 5^{\circ}\text{C}$, 10 ± 1 sec	1 time	22	0/22

2. Failure criteria

- Electrical Failures:
 - V_F shift% >10%
 - $IR(V_R=5V)>100\mu\text{A}$
- Light Output Degradation:
 - Flux Degradation% > 50% max ;> 35% average
- Visual Failures:
 - Broken or damaged package or lead
 - Solder ability < 95% Hold Area
 - Dimension out of tolerance
 - Discolor of lens

SBM-01 □ UCA0-000

Feature:

1. Highest Flux per LED ;
2. Very Long operating life;
3. Available in Cool White, Warm White, Green, Blue, Royal Blue, Cyan, Red, Red-Orange and Amber;
4. More Energy Efficient than Incandescent and most Halogen Lamp;
5. Low Voltage DC Operated;
6. Superior ESD Protection.

Typical Applications:

1. Reading lights (car, bus, aircraft);
2. Mini-accent /Up lighters /Down lighters /Orientation lighting;
3. Portable (flashlight, bicycle);



- 4: Fiber Optic Alternative/Decorative/Entertainment lighting;
- 5: Bollards/Security/Garden lighting;
- 6: Cove /Undershelf /Task lighting;
- 7: Traffic signaling/Beacons/Rail crossing and Wayside lighting;
- 8: Indoor and Outdoor Commercial and Residential Architectural lighting.

