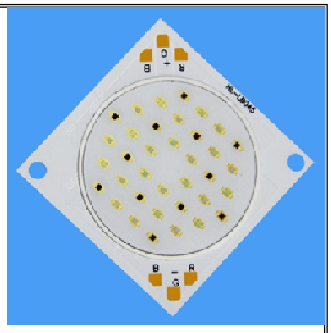
HONGLITRONIC
鸿利光电

High Power COB LED
P/ N: HL-LB045RGBF23-70B3C12

Under Development	
Mass production	●

ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES



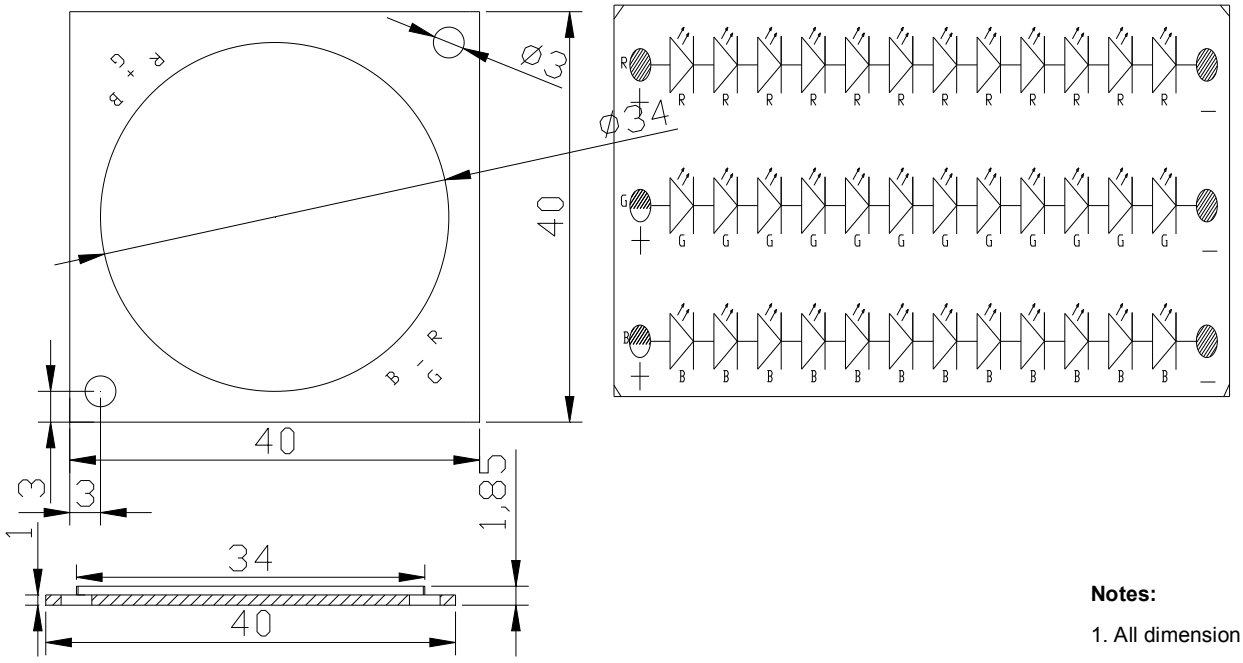
Features

- 70W class high-power RGB LED
- Individually addressable Red,Green,Blue die
- Available in full color
- Fully dimmable
- RGB mixed light uniform
- Execllent thermal management
- Long operating life
- RoHS compliant

Applications

- Stage and Studio lighting
- Architectural lighting
- Indoor illumination
- Museum lighting
- Hotel lighting

Package Dimensions



Notes:
1. All dimension units are millimeters.

Specifications

(1) Typical Optical / Electrical Characteristics at Ta=25°C

Parameter	Symbol	Min.	Typ.	Max.	Units	Test Conditions
Forward Voltage	V_F(R)	27	28.5	30	V	IF=700mA
	V_F(G)	37	38.5	40		
	V_F(B)	37	38.5	40		
Luminous Flux	Φ_V(R)	600	700	—	lm	IF=700mA
	Φ_V(G)	1200	1400	—		
	Φ_V(B)	320	380	—		
Dominant Wavelength	λ_d(R)	620	—	630	nm	IF=700mA
	λ_d(G)	520	—	530		
	λ_d(B)	450	—	460		
Forward Current	I_F	—	700	—	mA	—
50% Power Angle	$2\theta_{1/2}$	—	120	—	deg	IF=700mA

Notes:

1.Tolerance of measurement of forward voltage: $\pm 0.1V$.

2.Tolerance of measurement of forward dominant wavelength: $\pm 2.0nm$.

3.Tolerance of measurement of luminous flux: $\pm 10\%$.

4.The value only for reference.

(2) Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rating	Units
Power Dissipation	P_D	70	W
Forward Current	I_F	700	mA
Peak Forward Current*	I_{FP}	1000	mA
Electrostatic Discharge	E_{SD}	-2000~+2000	V
Operating Temperature	T_{OPR}	-40~+80	℃
Storage Temperature	T_{STG}	-40~+100	℃
Lead Soldering Temperature*	T_{SOL}	Max.260℃ for 3 sec Max	

*I_{FP} Conditions: Pulse Width≤10msec and duty≤1/10

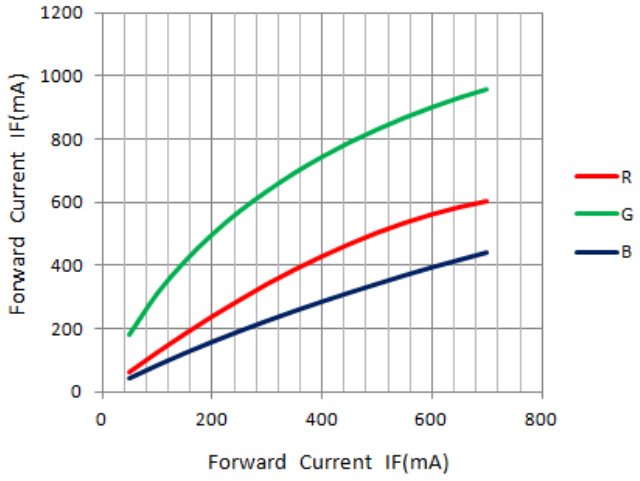
*All high power emitter LED products mounted on aluminum metal-core printed circuit board, can be lighted directly, but we do not recommend lighting the high power products for more than 5 seconds without a appropriate heat dissipation equipment.

*Please do not add or change wires while LEDS is running.

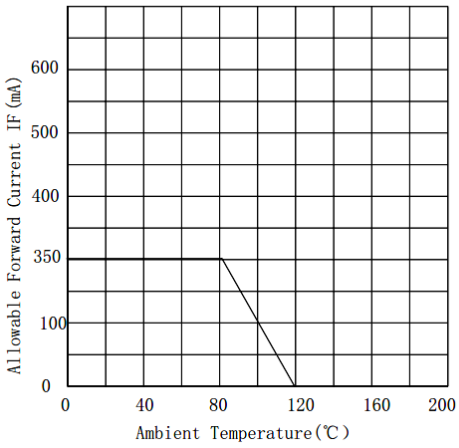
*Suggest to solder it by professional high power LED soldering LED machine.

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

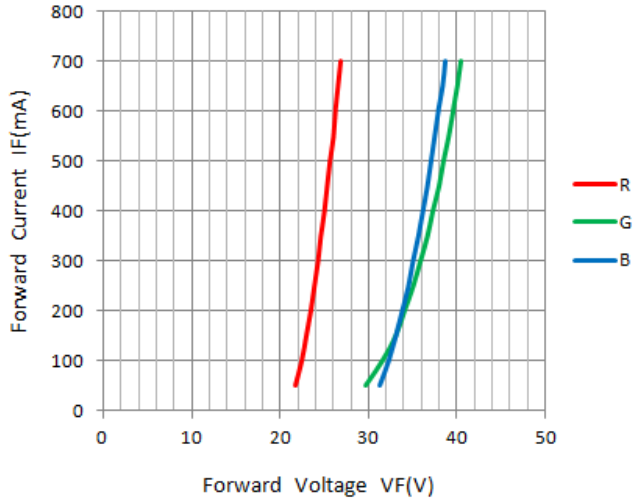
Relative Luminous Flux - IF



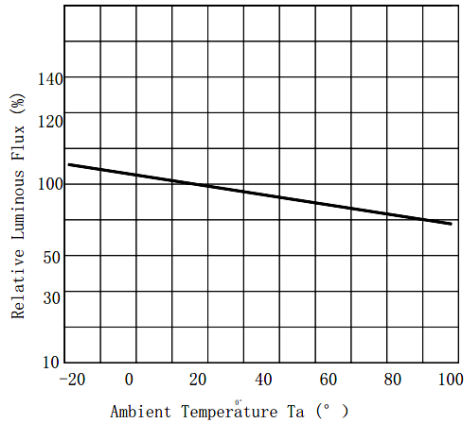
Allowable Forward Current - Ta



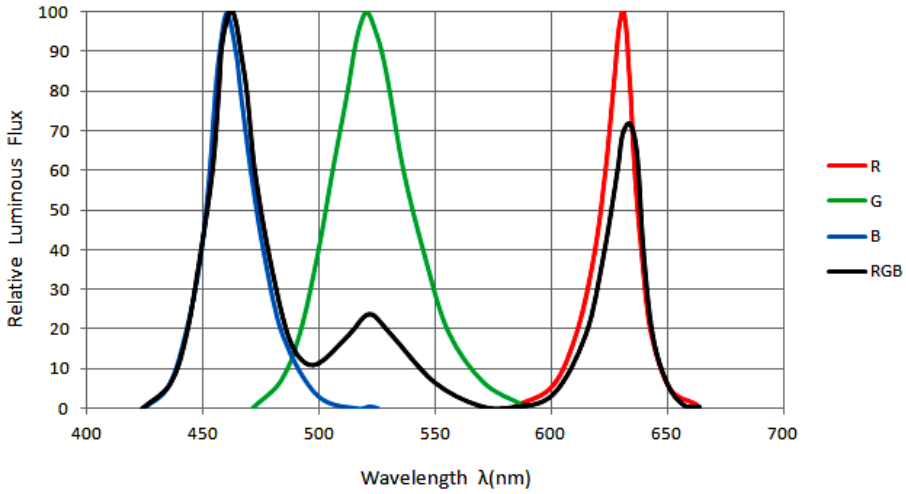
IF-VF



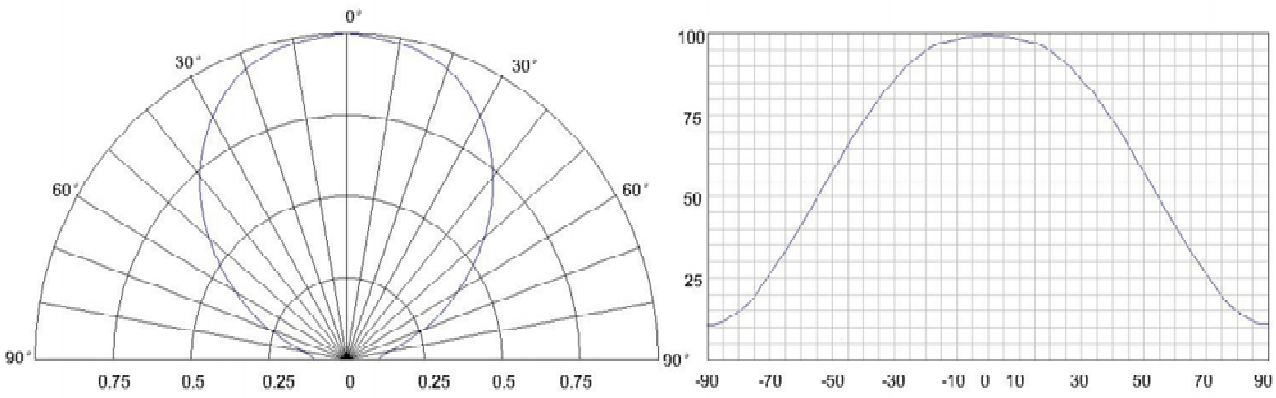
Relative Luminous Flux - Ta



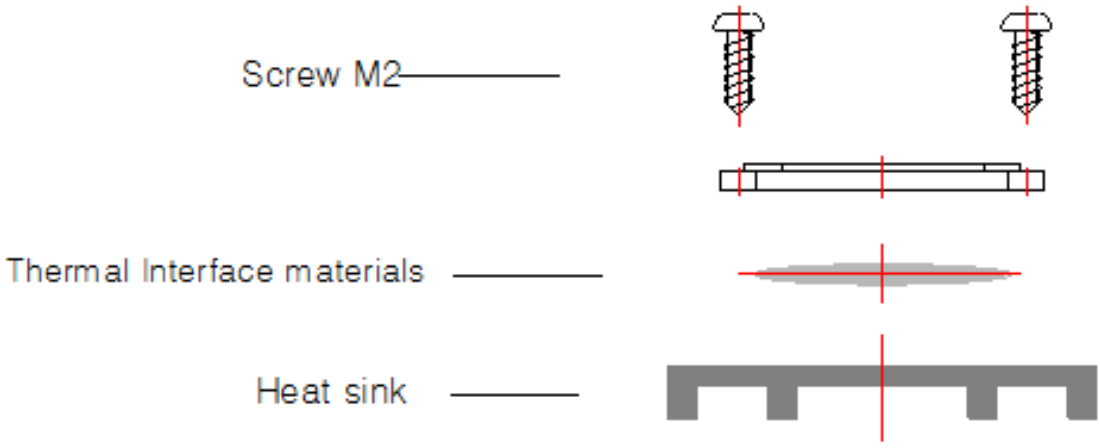
Wavelength Characteristics at IF=350mA



Radiation Pattern



Product Thermal Application Information



Precaution for use 1

1、Hand Soldering

Be careful because the damage of the product is often started at the time of the hand soldering.

Stress on the LEDs should be avoided during heating in soldering process.

After soldering, do not deal with the product before its temperature drop down to room temperature.

2、Cleaning

It is recommended that alcohol be used as a solvent for cleaning after soldering. Cleaning is to go under 30℃ for 3 minutes or 50℃ for 30 seconds. When using other solvents, it should be confirmed beforehand whether the solvents will dissolve the package and the silicone or not.

Ultrasonic cleaning is also an effective way for cleaning. But the influence of Ultrasonic cleaning on LED depends on factors such as ultrasonic power. Generally, the ultrasonic power should not be higher than 300W. Before cleaning, a pre-test should be done to confirm whether any damage to LEDs will occur.

3、Static Electricity

Static electricity or surge voltage damages the LEDs. Damaged LEDs will show some unusual characteristics such as the forward voltage becomes lower, or the LEDs do not light at the low current, even not light.

All devices, equipment and machinery must be properly grounded. At the same time, it is recommended that wrist bands or anti-electrostatic gloves, anti-electrostatic containers be used when dealing with the LEDs.

4、Design Consideration

In designing a circuit, the current through each LED must not exceed the absolute maximum rating specified for each LED. In the meanwhile, resistors for protection should be applied, otherwise slight voltage shift will cause big current change, burn out may happen.

Thermal Design is paramount importance because heat generation may result in the Characteristics decline, such as brightness decreased, Color changed and so on. Please consider the heat generation of the LEDs when making the system design.

In the use of screws, you need to pay attention to LED damage, need to be careful;installation, you can use clip-type to install, to avoid damage.

Precaution for use 2

1.Storage

To avoid the moisture penetration ,we recommend storing LEDs in a dry box (or a desiccator) with a desiccant. The recommended conditions are temperature 5 to 30 degrees Centigrade. Humidity 60% maximum.

2.Precaution after opening packing

2.1.Soldering should be done right after opening the package (within 24Hrs).

2.2.Keeping of a fraction.

-Sealing

-Temperature: 5~30℃ Humidity: less than 30%

2.3.If the package has been opened than 1 week or the color of desiccant changed, components should be dried for 10-12 Hrs at 60±5℃.

3.Any mechanical force or any excess vibration shall not be accepted to apply during cooling process to normal temperature after soldering.

4.Please avoid rapid cooling after soldering.

5.Components should not be mounted on warped direction of PCB.

6.This device should not be used in any fluid such as water, oil ,organic solvent etc. When washing is required, Isopropyl Alcohol should be used.

7.When the LEDs are illuminating, operating current should be decided after considering the package maximum temperature.

8.Avoid touching Lens parts especially by sharp tools such as pincette.

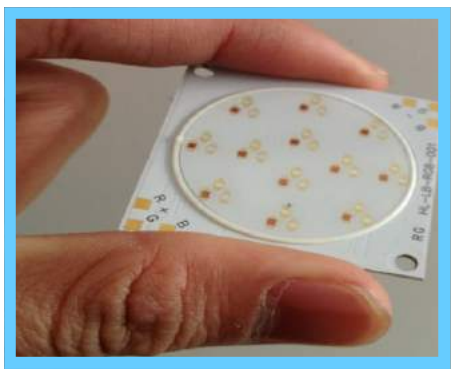
9.Please do not force over 1000g impact or pressure diagonally on the silicone lens. It will cause fatal damage on this product.

10.Please do not cover the silicone resin of the LEDs with other resin.

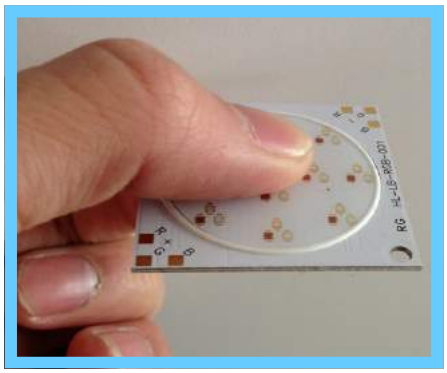
11.Do not use metal suction nozzle, rubber or silica gel suction nozzle is recommended.

12.Recommend that the area of the heat sink is larger than 50cm²/W (with thickness about 2 mm).

13.Viewing direct to the light emitting center of the LEDs, especially those of great Luminous Intensity, will cause great hazard to human eyes. Please be careful.



OK



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