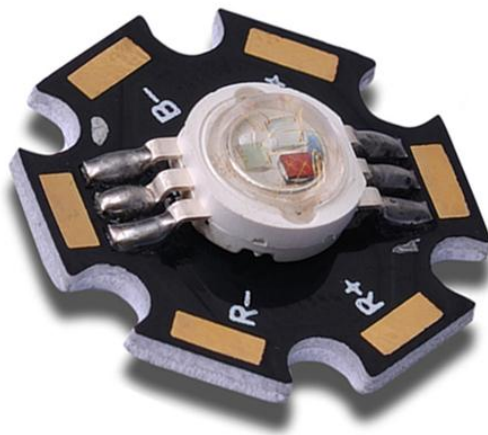




Data Specs

9W RGB Full Color LED Module

9W High Power RGB Full Color LED. Suitable for Stage lamp, background/decorative lighting. Mounted on aluminum star heat-sink for heat dissipation. Separate drive pin for Red, Green and Blue LED. Full color mixing can be achieved by applying PWM control signal to these RGB pins. This module can easily control using Arduino for color lighting effect.



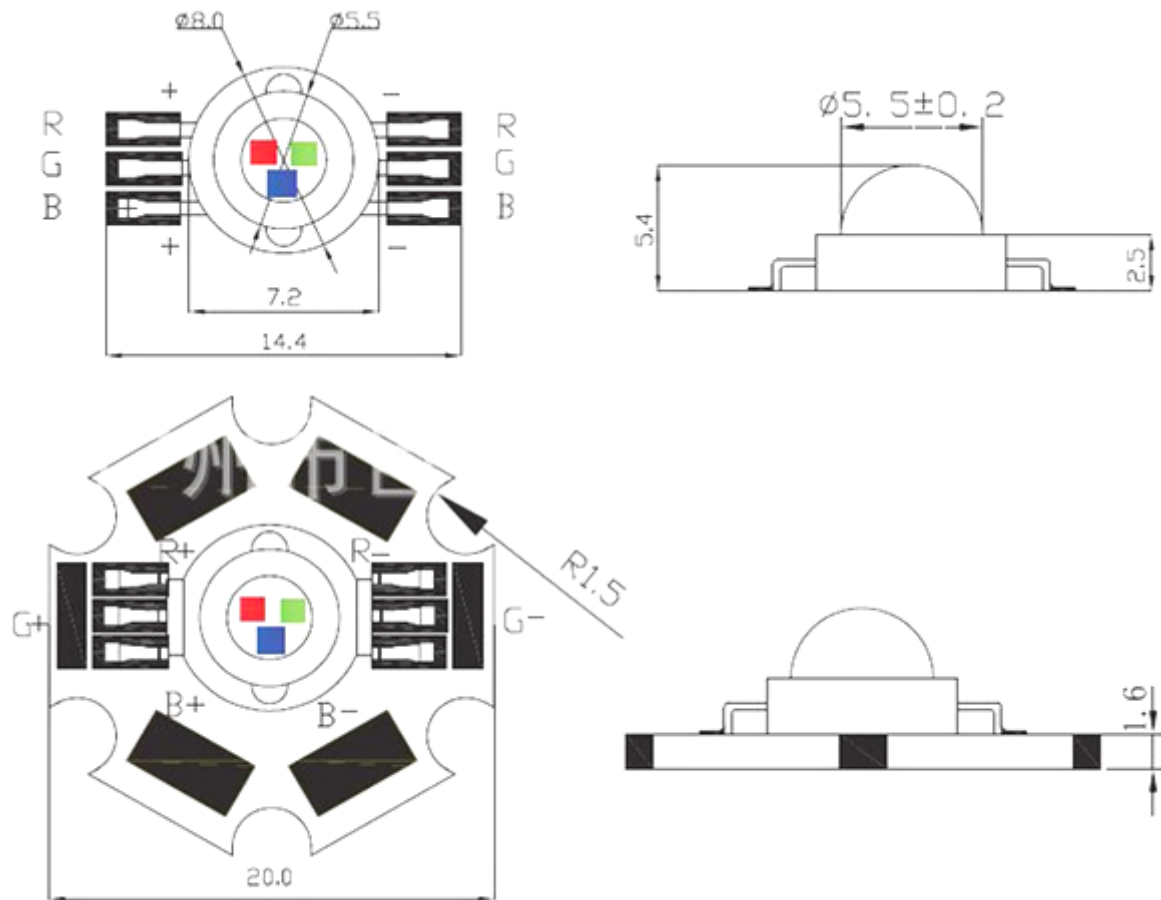
SKU: [DSP-1178](#)

Brief Data:

- LED Type: RGB Full Color.
- Continuous Forward Current I_F : 700mA
- Forward Voltage:
 - R: 2.4V @ $I_F=700\text{mA}$
 - G: 3.4V @ $I_F=700\text{mA}$
 - B: 3.4V @ $I_F=700\text{mA}$
- Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width) I_{Fp} : 1000mA
- Reverse Voltage V_R : 5V
- Power Dissipation P_D : 9W.

Mechanical Dimension:

Unit: mm



RoHS

广州市巨宏光电有限公司

Guangzhou Juhong Optoelectronics Co.,Ltd

SPECIFICATION FOR APPROVAL

承认书

CUSTOMER'S CODE

客户代码

DESCRIPTION

品名

大功率发光管-High power led

SPECIFICATION

规格

9W 红绿蓝-9W RGB(45mil)

DATE

送样日期

PART NO.

本厂型号

JH-9RGB14G45-S2A

REFERENCE NO.

档案号

NUMBER OF SAMPLE

送样数量

COPY OF ACKNOWLEDGEMENT

承认书份数

| Approved By Customer 客户承认 | Qualified By 核准 | Form Designer 制作 |
|------------------------------|--------------------|---------------------|
| | | |

JH-9RGB14G45-S2A

High Power LED



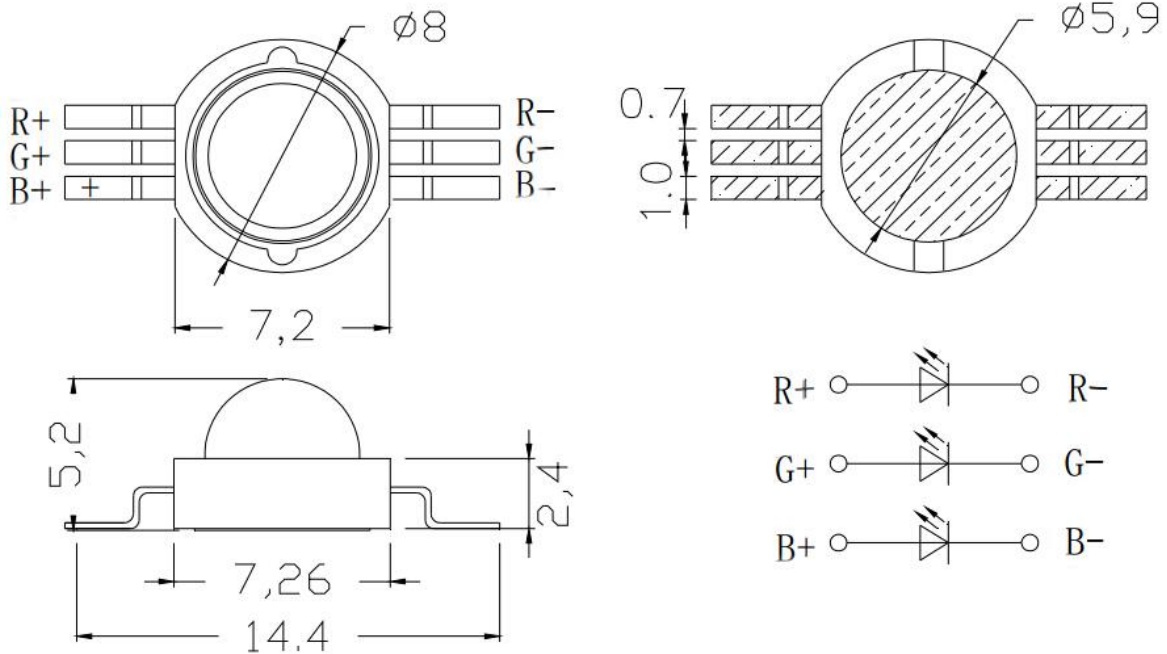
| Part Number | Chip | | Lens Color |
|------------------|------------------|--------------|-------------|
| | Material | Source Color | |
| JH-9RGB14G45-S2A | InGaN AlGaInP | Full-color | Water Clear |



Features

- High brightness RGB LED round package
- Light output intensity grade Viewing angle 140 degree
- Light color: RGB
- RoHS compliant

Dimensions



Notes:

1. All dimensions are in millimeters.
2. Tolerance is ± 0.1 mm unless otherwise noted.

Absolute Maximum Rating @ Ta=25°C

| Parameter | Symbol | Maximum Rating | Unit |
|---|--------|-----------------|------|
| Continuous Forward Current | IF | 700 | mA |
| Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width) | IFp | 1000 | mA |
| Reverse Voltage | VR | 5 | V |
| Power Dissipation | PD | 9000 | mW |
| Electrostatic discharge | ESD | 1000 | V |
| Operating Temperature Range | TOPR | -25°C to +85°C | |
| Storage Temperature Range | TSTG | -35°C to +105°C | |
| Lead Soldering Temperature (3mm from the base of the epoxy bulb) | TSOL | 360°C | |

Electrical / Optical Characteristic @ Ta=25°C

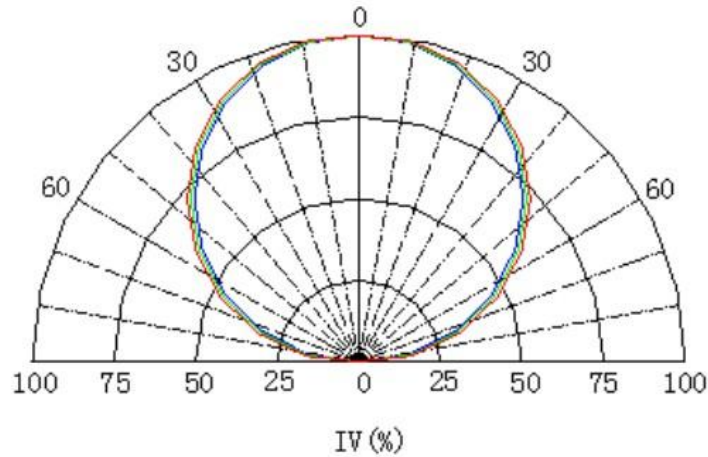
| Parameter | Symbol | Color | Min. | Typ. | Max. | Unit | Test Condition |
|---------------------------|---------|-------|------|-------|------|----------|----------------|
| Forward Voltage | VF | R | 2.2 | 2.4 | 2.6 | V | IF=700mA |
| | | G | 3.2 | 3.4 | 3.6 | V | IF=700mA |
| | | B | 3.2 | 3.4 | 3.6 | V | IF=700mA |
| Luminous Flux | Φ | R | 70 | 80 | 90 | Lm | IF=700mA |
| | | G | 110 | 120 | 140 | Lm | IF=700mA |
| | | B | 30 | 40 | 50 | Lm | IF=700mA |
| Dominant Wavelength | Wld | R | 620 | 622.5 | 625 | nm | IF=700mA |
| | | G | 520 | 522.5 | 525 | nm | IF=700mA |
| | | B | 460 | 462.5 | 465 | nm | IF=700mA |
| Reverse Current | IR | | | 10 | μA | VR=5V | |
| Viewing Angle | 2θ1/2 | | 120 | 140 | deg | IF=700mA | |
| Recommend Forward Current | IF(rec) | RGB | | | 700 | mA | |

tolerance of measurement of forward voltage ±0.1V

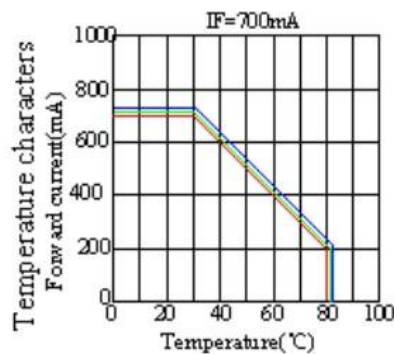
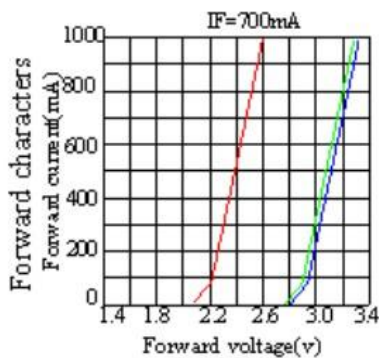
Typical Electrical / Optical Character Curves

(25 ° Ambient Temperature Unless Otherwise Noted)

Spatial Distribution

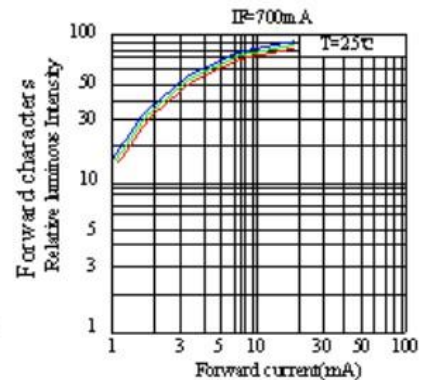
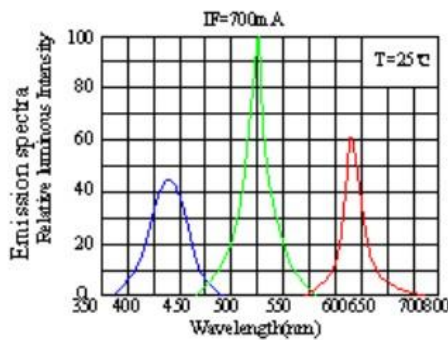
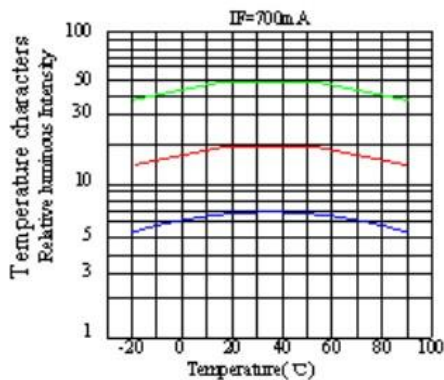


Typical electrical-optical Characteristics curves



Notes:

The data are an typical presentation of the product, Contact customer service for details of technical information and warranty.
 The product is sensitive to static antistatic operation environment is recommended
 Products are shipped in either bulk bag package or taping.



Reliability Tests

| Type | Test Item | REF Standard | Test Condition | Note | Number of Damaged |
|------------------------|------------------------------|-----------------------|---|----------------------|-------------------|
| Environmental Sequence | Temperature Cycle | JIS C 7021 (1997)A-4 | -20°C*30mins~25°C *5mins~80°C * 30mins | 100 cycles | 0/100 |
| | High Humidity Heat Cycle | JIS C 7021 (1997)A-5 | 30°C→65°C, RH= 90% 24hrs/1cycle | 10 cycles | 0/100 |
| | High Temperature Storage | JIS C 7021 (1997)B-10 | Ta= 80°C | 1000h | 0/100 |
| | Humidity Heat Storage | JIS C 7021 (1997)B-11 | Ta=60°C RH=90% | 1000h | 0/100 |
| | Low Temperature Storage | JIS C 7021 (1997)B-12 | Ta= -30°C | 1000h | 0/100 |
| Operation Sequence | DC Operating Life | JIS C 7035 (1985) | Ta= 25°C, IF=700mA | 1000h | 0/100 |
| | High Humidity Heat Life Test | * | Ta=60°C RH=90% IF=700mA | 500h | 0/100 |
| | Low Temperature Life Test | * | Ta= -20°C, IF=700mA | 1000h | 0/100 |
| Destructive Sequence | Resistance to Soldering Heat | JIS C 7021 (1997)A-11 | Tsol=260±5°C, 10sec (3mm from the base of the epoxy bulb) | 1 time | 0/20 |
| | Solderability | JIS C 7021 (1997)A-2 | Tsol=235 ±5°C, 5sec (Using flux) | 1 time (over 95%) | 0/20 |
| | Lead Pull/Bend Test | JIS C 7021 (1997)A-11 | Load 2.5N (0.25kgf) 0° → 90° →0° Bending 3 times | No noticeable damage | 0/20 |

*Refer to reliability test standard specification for in this line.

Cautions

The LED's are devices which are materialized by combining blue LED's and special phosphors. Consequently the color of the LED's is changed a little by an operating current. Care should be taken after due consideration when using LED's.

(1) Moisture Proof Package:

When moisture is absorbed into package it may vaporize and expand during soldering. There is a possibility that this can cause exfoliation of the contacts and damage to the optical characteristics of the LED's. For this reason, the moisture proof package is used to keep moisture to a minimum in the package.

(2) Storage Conditions

Before opening the package:

The LED's should be kept at 30°C or less and 60%RH or less. The LED's should be used within a year. When storing the LED's, moisture proof packaging with absorbent material (silica gel) is recommended.

After opening the package:

The LED's should be kept at 30°C or less and 50%RH or less. The LED's should be soldered within 168 hours (7days) after opening the package. If unused LED's remain, they should be stored in moisture proof packages, such as sealed containers with packages of moisture absorbent material (silica gel). It is also recommended to return the LED's to the original moisture proof bag and to reseal the moisture proof bag again. If the moisture absorbent material (silica gel) has faded away or the LED's have exceeded the storage time, baking treatment should be performed using the following conditions. Baking treatment: more than 48 hours at 65±5°C. LEDGUHON LED electrode and lead free are comprised of a silver plated copper alloy. The silver surface may be affected by environments which contain corrosive gases and so on. Please Avoid conditions which may cause the LED to corrode, tarnish or discolor. This corrosion or discoloration might lower solderability or might affect on optical characteristics. Please avoid rapid transitions in ambient temperature, especially in high humidity environments where condensation can occur.

(3) Heat Generation

Thermal design of the end product is of paramount importance. Please consider the heat generation of the LED when making the system design. The coefficient of temperature increase per input electric power is affected by the thermal resistance of the circuit board and density of LED placement on the board, as well as other components. It is necessary to avoid intense heat generation and operate within the maximum ratings given in this specification. The operating current should be decided after considering the ambient maximum temperature of LED's.

(4) Cleaning

It is recommended that isopropyl alcohol be used as a solvent for cleaning the LED's. when using other solvents, it should be confirmed beforehand whether the solvents will dissolve the package and the resin or not. Freon solvents should not be used to clean the LED's because of worldwide regulations. Do not clean the LED's by the ultrasonic. When it is absolutely necessary, the influence of ultrasonic cleaning on the LED's depends on factors such as ultrasonic power and the assembled condition. Before cleaning, a pre-test should be done to confirm whether any damage to the LED's will occur °C

(5) Static Electricity

Static electricity or surge voltage damages the LED's. It is recommended that a wrist band or an anti-electrostatic glove be used when handling the LED's. All devices, equipment and machinery must be properly grounded. It is recommended that measures be taken against surge voltage to the equipment that mounts the LED's. When inspecting the final products in which LED's were assembled, it is recommended to check. Whether the assembled LED's are damaged by static electricity or not, it is easy to find static-damaged LED's by a light -on



Handsontec.com

We have the parts for your ideas

HandsOn Technology provides a multimedia and interactive platform for everyone interested in electronics. From beginner to diehard, from student to lecturer. Information, education, inspiration and entertainment. Analog and digital, practical and theoretical; software and hardware.



open source
hardware

HandsOn Technology support Open Source Hardware (OSHW) Development Platform.

Learn : Design : Share

www.handsontec.com

The Face behind our product quality...

In a world of constant change and continuous technological development, a new or replacement product is never far away – and they all need to be tested and qualified.

Many vendors simply import and sell without checks and this cannot be the ultimate interests of anyone, particularly the customer. Every part sell on Handsotec is fully tested. So when buying from Handsontec products range, you can be confident you're getting outstanding quality and value.

We keep adding the new parts so that you can get rolling on your next project.



www.handsontec.com

[Breakout Boards & Modules](#)



[Connectors](#)



www.handsontec.com

[Electro-Mechanical Parts](#)



www.handsontec.com

[Engineering Material](#)



www.handsontec.com

[Mechanical Hardware](#)



[Electronics Components](#)

P



www.handsontec.com

[Power Supply](#)



[Arduino Board & Shield](#)

[Tools & Accessory](#)



www.handsontec.com

[Tools & Accessory](#)