



TAIWAN TONGJIA OPTOELECTRONICS TECHNOLOGY CO., LTD

GUANGDONG TONGJIA OPTOELECTRONICS TECHNOLOGY CO., LTD

承認書

Specification For Approval

Customer: (客戶)

Description: (產品描述)

5MM圓頭霧狀共陰RGB

Part number: (產品型號)

TJ-L5FYTXHMCSLCRGB-A5

Date: (日期)

Approved By: (客戶承認)

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| |
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Prepared By: (我司承認)

| Approval | Check | Design | Sales |
|----------|-------|--------|-------|
| | | | |

核准

審核

製作

業務

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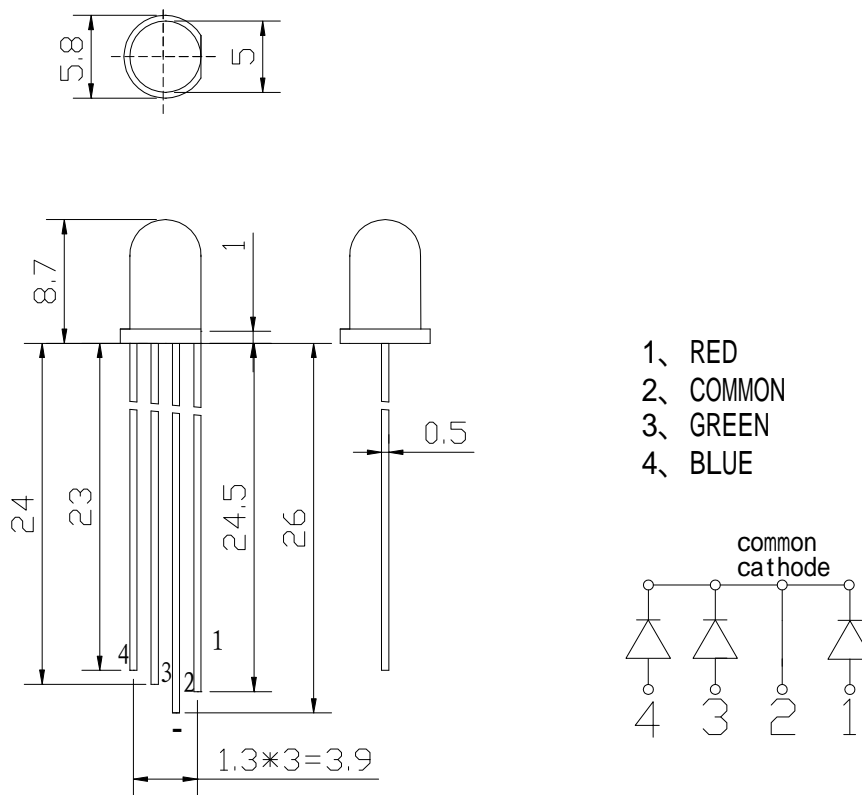
WEB: www.togialed.com

1. overview

- * Low power consumption
- * Low power
- * General equipment on the PCB board or panel
- * with IC Supporting the use/Low current requirement

2. Product appearance size figure

(unit : mm)



0.5 pin*4

Note :

- 1 : All dimensions are in millimeters (inches).
- 2 : Tolerance is $\pm 0.25\text{mm}$ (.010") unless otherwise noted.
- 3 : Specifications are subject to change without notices.
- 4 : This specification is for reference only for one year

4. parameter

4.1 The limit parameter (room temperature 25°C)

| parameter | The numerical | Unit |
|---|---------------------|------|
| Dissipation power | 320 | mW |
| Pulse current (1/10 work loops 0.1 millisecond pulse width) | 100 | mA |
| Working current (IF) | 30 | mA |
| Reverse voltage (VR) | 5 | V |
| Working temperature range | -20°C ~ +80°C | |
| Storage temperature range | -30°C ~ +100°C | |
| Soldering temperature from the roots (4.0 mm) | 260°C for 5 Seconds | |

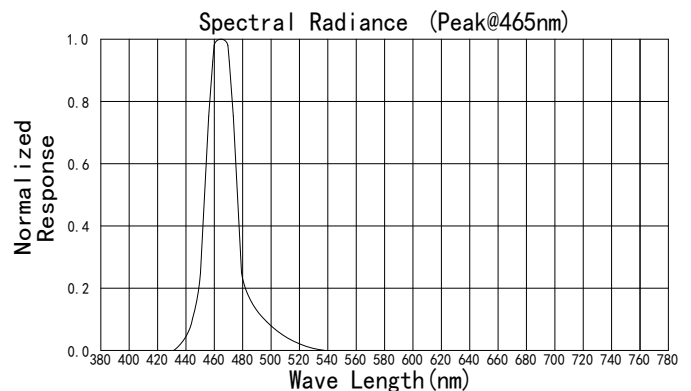
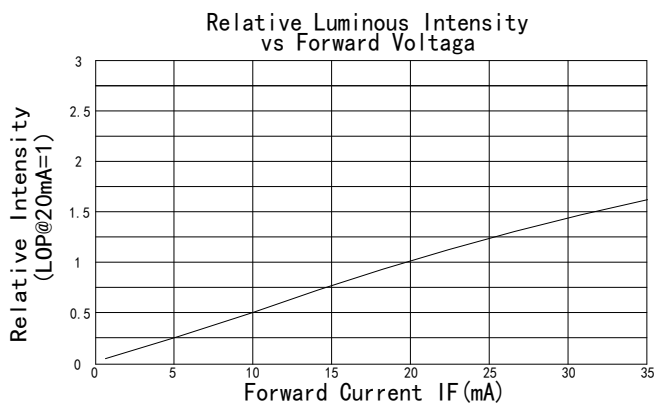
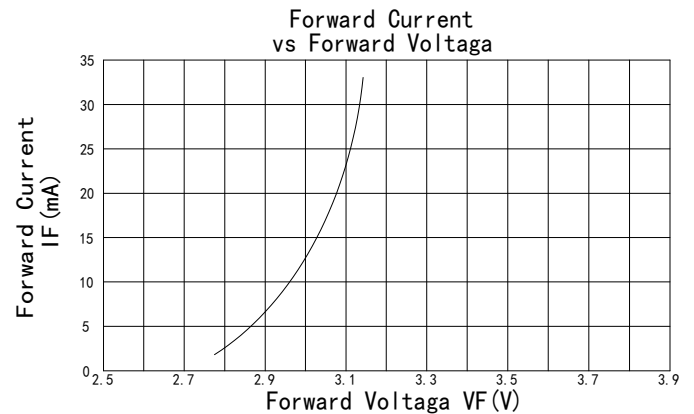
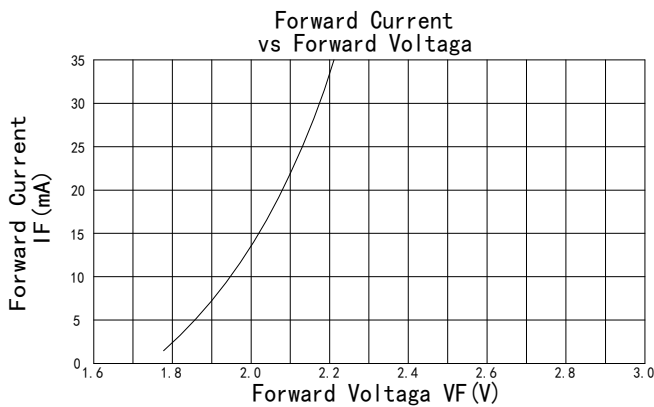
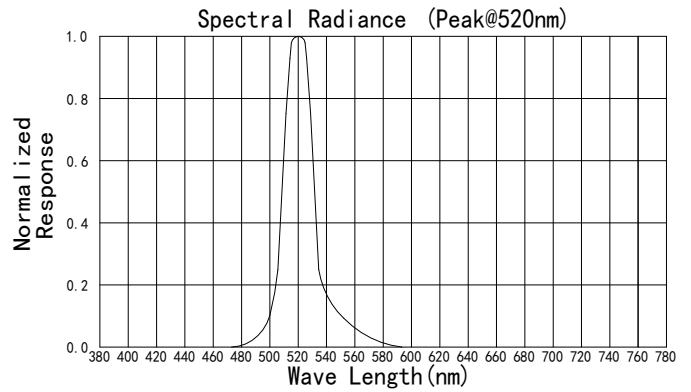
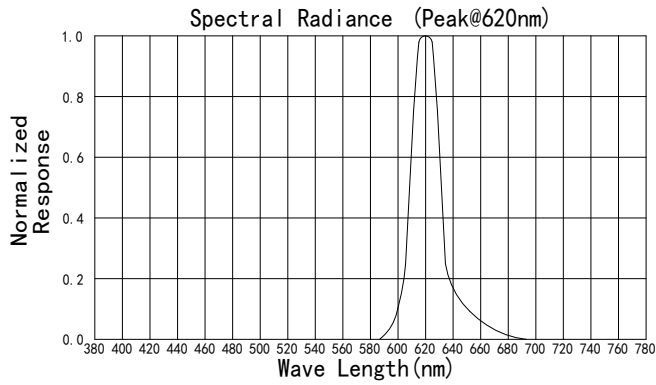
Photoelectric parameters At room temperature 25°C

| Parameter | | min | Avg | max | Unit | Test Condition |
|---------------------|-------|-----|-------|-------|------|----------------|
| Luminous intensity | Red | 100 | 200 | ----- | mcd | If=20mA |
| | Green | 800 | 1200 | ----- | mcd | If=20mA |
| | Blue | 100 | 200 | ----- | mcd | If=20mA |
| The wavelength(λ) | Red | 620 | ----- | 630 | Nm | If=20mA |
| | Green | 515 | 525 | 530 | Nm | If=20mA |
| | Blue | 460 | ----- | 470 | Nm | If=20mA |
| electric voltage | Red | 1.8 | ----- | 2.4 | V | If=20mA |
| | Green | 2.8 | ----- | 3.4 | V | If=20mA |
| | Blue | 2.8 | ----- | 3.4 | V | If=20mA |
| Reverse current | | | ----- | 5 | μA | Vr=5V |

Selection Guide:

| Colloid color | Chip | | |
|-----------------|-----------|-----------------------|---------|
| | Material | Emitting light colors | λp (nm) |
| White diffusion | GaASP/Gap | Red | 620 |
| | InGaN/GaN | Blue | 465 |
| | InGaN/GaN | Green | 520 |

5、 Under the condition of 25 °C electrical diagram:



6. Not dry glue label

P/N: Product number

VF: Forward voltage

BIN: points light

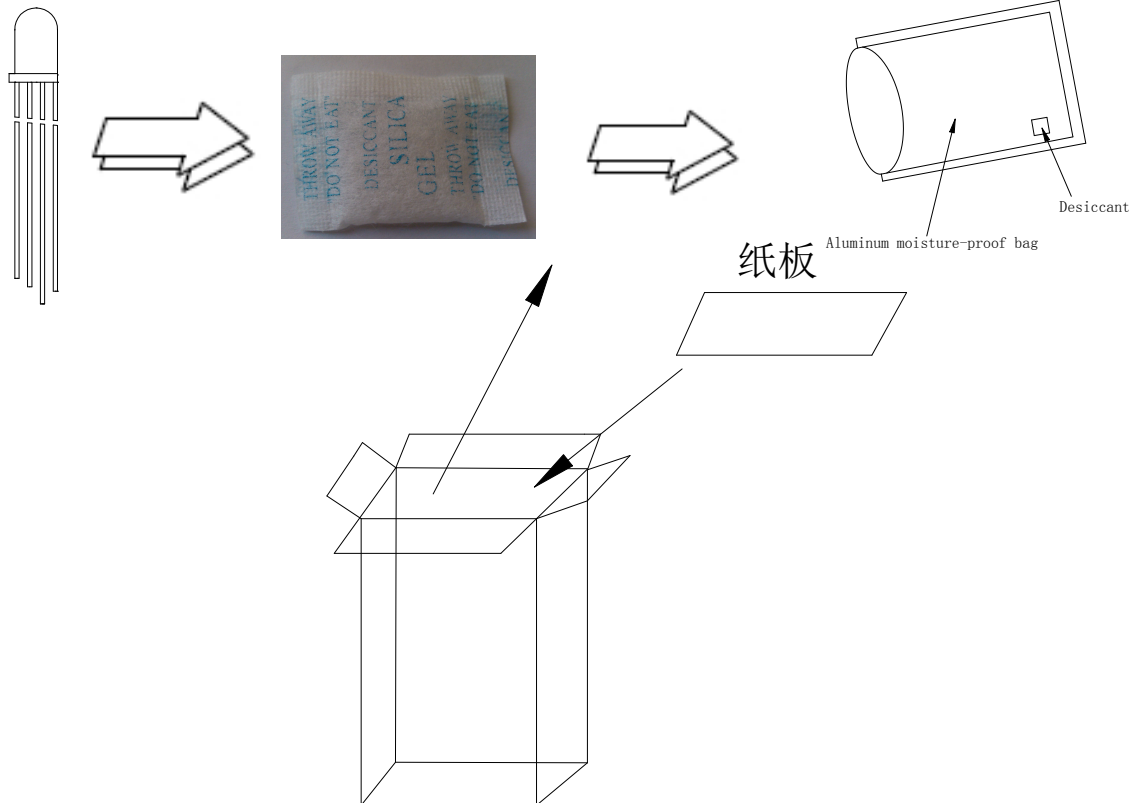
IV: Luminous intensity

WL: Color/wavelength

QTY: number

QC: Production order

7. packaging



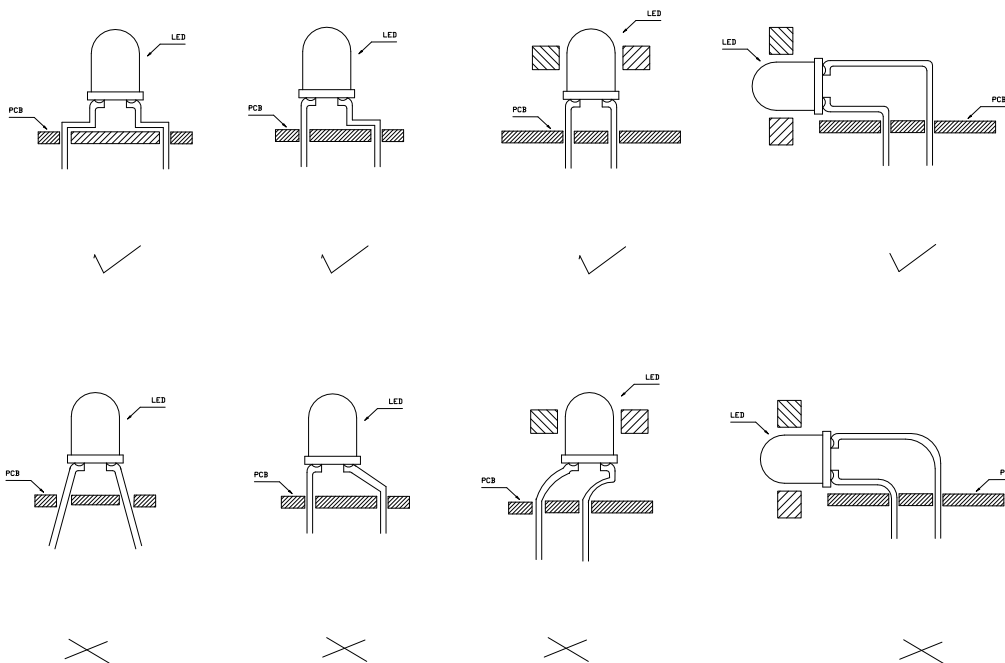
The packing way : Electrostatic bag packing

Packing specification : White light color packing 1000PCS/bag, puguang 1000PCS/bag ◦

Pay attention to : Above belongs to the normal packing specification, if you have any special requirements according to customer requirements

8. The cautions of stent deformation

Stent deformation must be conducted before welding, plastic, stent bend position must be at least 3 mm at the bottom of the encapsulating resin, at the same time, avoid bent many times on the same position. When the deformation, fixed bracket, please use the right tools to avoid resin pressure. Especially not as a pivot pin connected with the resin part, so the stress within the product on light emitting structure directly into damage, lead to the change of product features and even damaged. For the same reason, in the assembly of products, the distance between welding PCB hole must be in the pin spacing of the products strictly match, as shown in the figure below :



✓ correct mounting methods

✗ Incorrect mounting methods

9. Reliability of the experimental project and conditions

| serial number | Test project | The test conditions | The sample quantity | Acceptance/rejection |
|---------------|--|--|---------------------|----------------------|
| 1 | Life test | Test current : 20MA The temperature : 25°C The test of time : 1000 hours | 20 | 0/1 |
| 2 | High temperature high humidity (static test) | The temperature : =+65°C humidity : 90% RH The test of time : 240 hours | 20 | 0/1 |
| 3 | Cold and hot shock | -40°C ~ +100°C 20min 10s 20min Test time: 100 loops | 20 | 0/1 |
| 4 | High temperature storage | The high temperature : 100°C The test of time : 1000 hours | 20 | 0/1 |
| 5 | Low temperature storage | The low temperature : -40°C The test of time : 1000 hours | 20 | 0/1 |
| 6 | Temperature loop | -40°C ~ +100°C 60min 20s 60min Test time: 20 loops | 20 | 0/1 |
| 7 | Reflow soldering | 260°C (Max), the maximum of no more than 5 seconds | 20 | 0/1 |

Reliability experiment unqualified judgement standard

IV: Attenuation is more than 30%

VF: Change is more than 20%

note : 1) Same project the results of the test must be completed within 2 hours °

2) Testing must be completed in each experiment. Material return to normal conditions °

11. ESD protective

LED is a semiconductor device, the static sensitive, especially for white, green, blue, purple LED to make efforts to prevent electrostatic generation and eliminate static electricity ◦

11.1 The generation of static electricity

a. Friction: in daily life, any two objects of different material contact after the separation, can produce static, and the one of the most common method of generation of static electricity, is the electrification. The insulation material, the better, the easier the electrification. In addition, any two objects of different material contact again after separation, also can produce static electricity ◦

b. Induction: in view of the conductive material, because electrons can flow freely in its surface, such as to be put in the electric field, due to the same, opposites attract, the positive and negative ions will move, can produce electric charge on the surface ◦

c. Conduction: in view of the conductive material, because electrons can flow freely in surface, such as contact with a charged object, the charge transfer will occur ◦

11.2 The dangers of static electricity on the LED :

a. For the moment's electric field or electric current produced by the heat, the LED local injury ◦

b. Because of destruction of the electric field or current LED insulation layer, the device will not work (destroyed) characterized by death lamp ◦

11.3 Electrostatic protection and measures to eliminate

For the entire process (production, testing, packaging, etc.) all employees in direct contact with the LED to measures to prevent and eliminate static electricity, mainly :

a. Laying anti-static workshop floor and well grounded ◦

b. Workbench for esd workstation, production machines grounding is good ◦

c. Operators wear anti-static clothing, anti-static hand ring, gloves or foot ring ◦

d. Application of ion fan, the welding electric grounding measures ◦

e. Packing with antistatic materials ◦