

SL-T1516RGBA-L150-N

DATA SHEET

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Approved By:

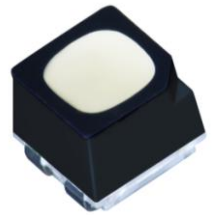
Checked By:

Prepared By:

SL-T1516RGBA-L150-N

TOP Full-color LED

Technical Data Sheet



These products are full-color SMD components with black frame and white refractor, high contrast, matt packaging and non-mirror reflection, which are featured by multiple waterproof performance, good reliability, long lifespan and wide viewing angle. They are designed for outdoor display and decoration applications.

Features:

| | | | |
|-----------|---------|-------|-------|
| | Red | Green | Blue |
| Material: | AlGaInP | InGaN | InGaN |

Encapsulation: Epoxy Resin

Soldering methods: Pb-Free reflow soldering

High Luminous Intensity ,Low Power Dissipation, good Reliability and Long Life

ROHS
Complied With ROHS Directive

Catalogue

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* The specifications of the product may be modified for improvement without notice.

Electro-Optical Characteristics

✧ Absolute Maximum Ratings (Temperature=25 °C)

| Parameter | Symbol | Rating | Unit |
|------------------------|-----------|------------|------|
| Forward Current | I_F | 25 | mA |
| Pulse Forward Current* | I_{FP} | 50 | mA |
| Reverse Voltage | V_R | 5 | V |
| Operating Temperature | T_{amd} | -30 ~ +85 | |
| Storage Temperature | T_{stg} | -40 ~ +100 | |
| Power Dissipation | Red | 62.5 | mW |
| | Green | 85 | |
| | Blue | 85 | |

* 0.1ms 1/10 * Note: Pulse Width 0.1ms, Duty 1/10

✧ Electro-Optical Characteristics (Temperature=25 °C)

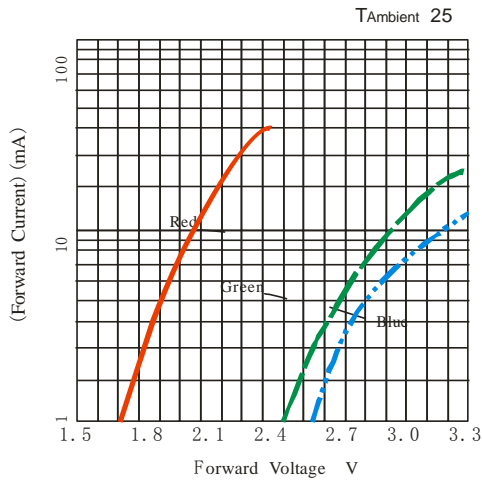
| Parameter | Symbol | Condition | Color | Min. | Typ. | Max. | Unit |
|------------------------------|-------------|------------|-------|------|------|------|------|
| Reverse Current | I_R | $V_R=5V$ | Red | | | 10 | |
| | | | Green | | | 10 | |
| | | | Blue | | | 10 | |
| Forward Voltage | V_F | $I_F=15mA$ | Red | 1.8 | 2.1 | 2.5 | V |
| | | $I_F=8mA$ | Green | 2.4 | 2.9 | 3.4 | |
| | | $I_F=5mA$ | Blue | 2.4 | 2.9 | 3.4 | |
| Dominant Wavelength | λ_D | $I_F=15mA$ | Red | 615 | 622 | 630 | nm |
| | | $I_F=8mA$ | Green | 515 | 528 | 540 | |
| | | $I_F=5mA$ | Blue | 460 | 469 | 480 | |
| Spectrum Radiation Bandwidth | | $I_F=15mA$ | Red | | | 24 | nm |
| | | $I_F=8mA$ | Green | | | 38 | |
| | | $I_F=5mA$ | Blue | | | 28 | |
| Luminous Intensity | I_V | $I_F=15mA$ | Red | 200 | 370 | 560 | mcd |
| | | $I_F=8mA$ | Green | 320 | 560 | 850 | |
| | | $I_F=5mA$ | Blue | 40 | 80 | 130 | |
| View Angle | 2 1/2 | | | | 110 | | deg. |

以上 厂商

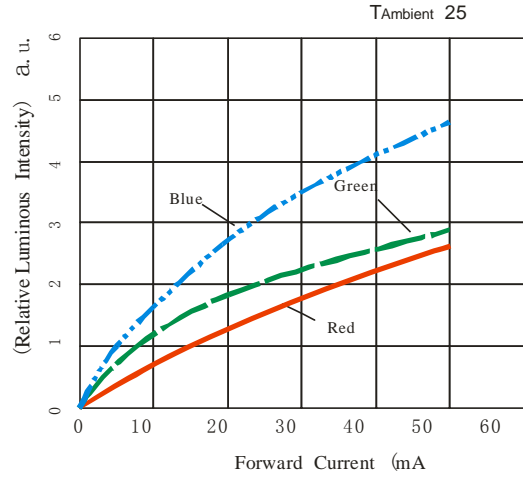
manufacturer

Typical Characteristics Curves

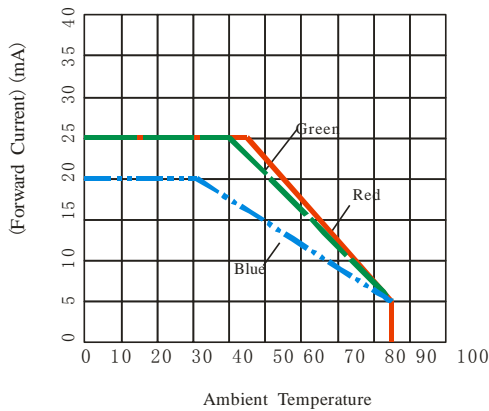
Volt-Ampere Characteristics



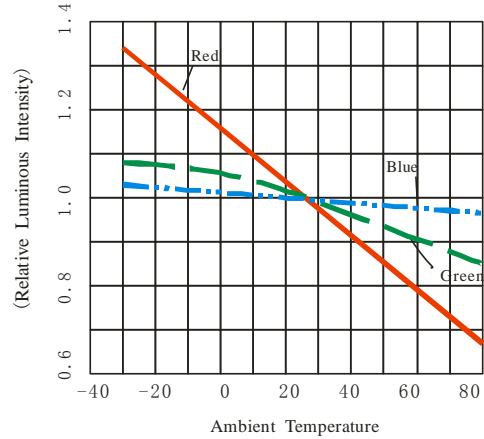
Relative Luminous Intensity VS Forward Current



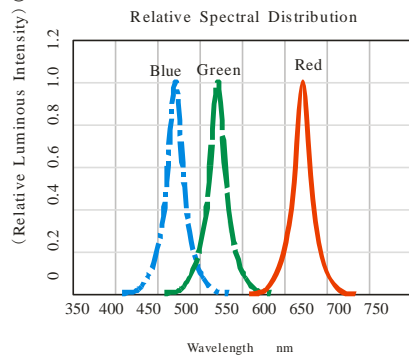
Forward Current Derating Curve



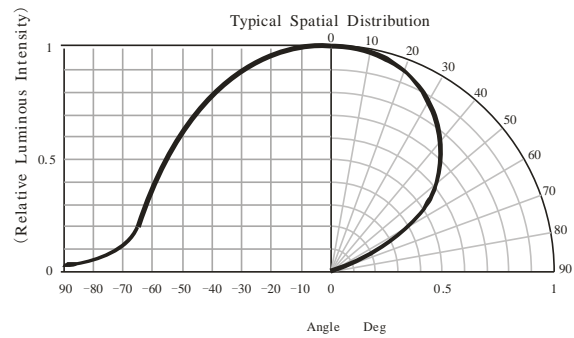
Luminous Intensity VS Ambient Temperature



Relative Spectral Distribution



Typical Spatial Distribution



LIG

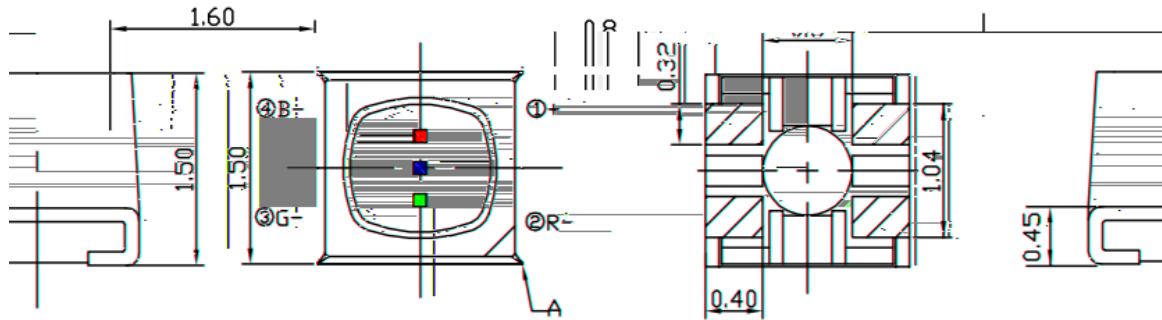
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位

Product Design and Operating Recommendation

1 mm

Product design Unit: mm



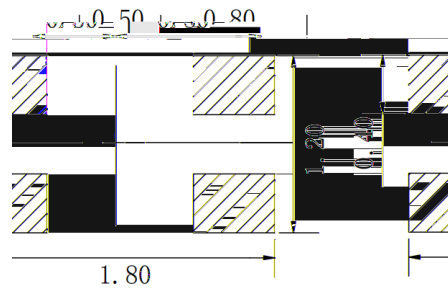
Polarity

Note

A Nick Mark
 X.X 0.1 mm X.XX 0.05mm
 Tolerances X.X 0.1 mm X.XX 0.05mm

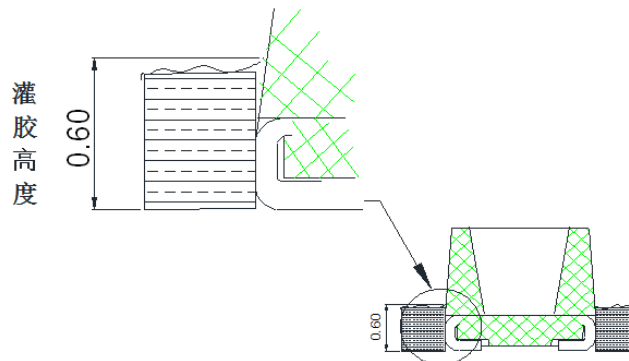
2 mm

Reference soldering pad (Unit: mm)



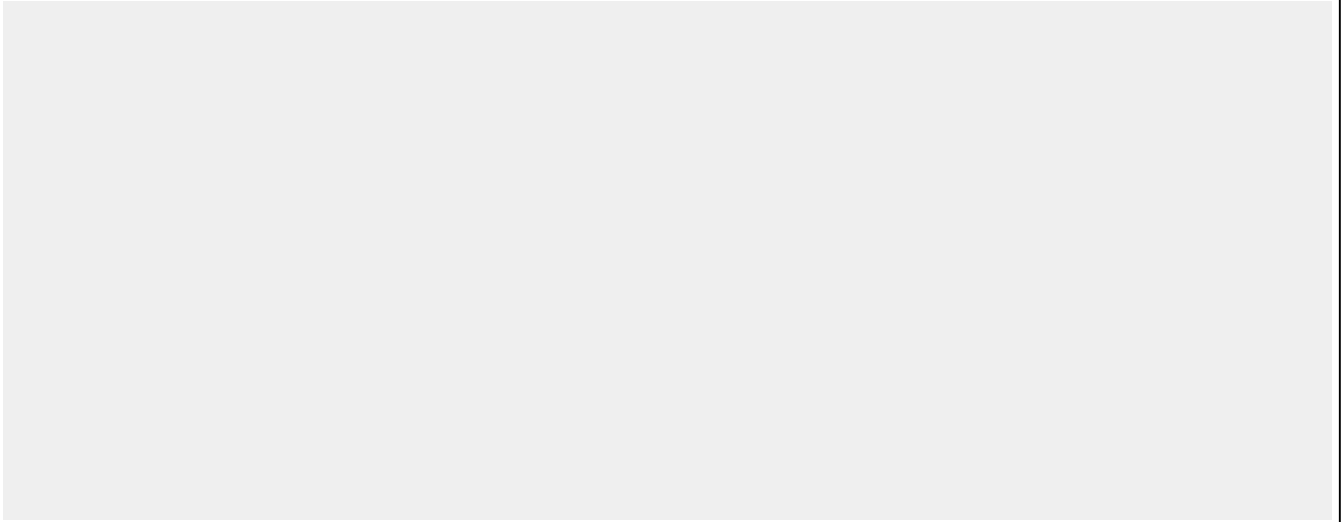
3 0.60mm

Recommendation for glue filling: filling height must be higher than or equal to 0.60mm

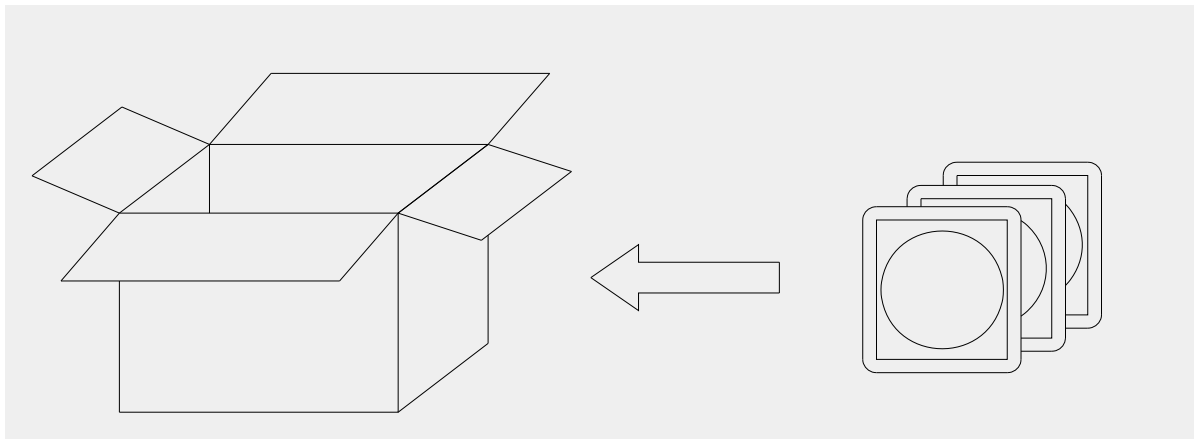


LIGHT

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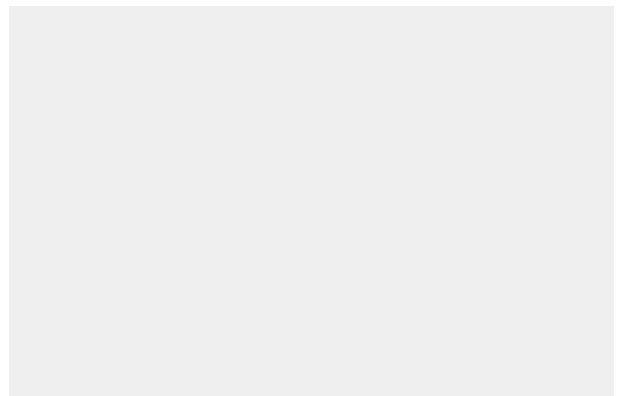


✧ **Cardboard Box**



✧ **Label Explanation**

LIGHT





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(1)

Precautions (1)

1.

Storage

•

Moisture proof, anti-electrostatic package and moisture absorbent material are used, to keep moisture to a minimum. Humidity indicator card inside to test if the products are moisted.

•

<30 <60 RH

Storage environment: All the products should be stored in the environment of temperature<30 and humidity<60 RH before foiled bags open and need to be baked before SMT.

•

Before using, please check whether there is any air leakage or not, If the bag has leaked air, Please bake the product with below condition.

•

<30 <60 RH 8h

Before soldering ,the product must be stored under the condition of <30 and <60 RH. Under these conditions the SMD LEDs must be used (subject to reflow oven) within 8 hours.

•

70±5 12h

70±5 24h

6 70±5 48h

Baking condition

storage undamped : 70±5 ×12h

e (undamped): 70±5 ×24h

Damped/Foiled bag leakage/ beyond 6 months storage at customers side: 70±5 ×48h

2.

Static Electricity

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TD(5)45(t)3(or)3(a)5(c)-169(pa55ec)TJ1or(c Ele)3ndi

LIGHT

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(3)

Precautions (3)

Such as the reverse current increase rapidly. And it will cause the string light when the screen is black. So please pay attention to controlling the reverse voltage which less than 5V is recommended.

5.

The safe temperature for LEDs working

- LED

55

75

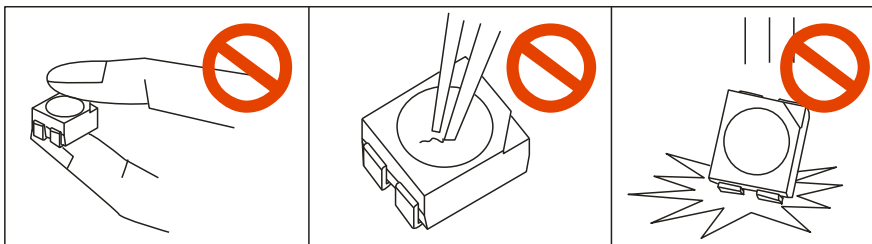
The high temperature will make are used in hot environment for a long time, they will be disabled easily. When LEDs are used in a high density array, we suggest that the LEDs and the lower than 75 .

6.

Others

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When handling the product, touching the encapsulation with bare hands will not only contaminate its surface, but also have an effect on its optical characteristics. Excessive force to the encapsulation might result in catastrophic failure of the LEDs due to die breakage or wire deformation. For this reason, please do not put excessive stress on LEDs, especially when the LEDs are heated such as during Reflow Soldering.



- LED

The epoxy resin of encapsulation is fragile, so please avoid scratch or friction over the epoxy resin surface.

While handling the product with tweezers, do not hold by the epoxy resin, be careful.