

● **Customer:**

PN: JP. 530W1A

For: IF= 120mA

Contents

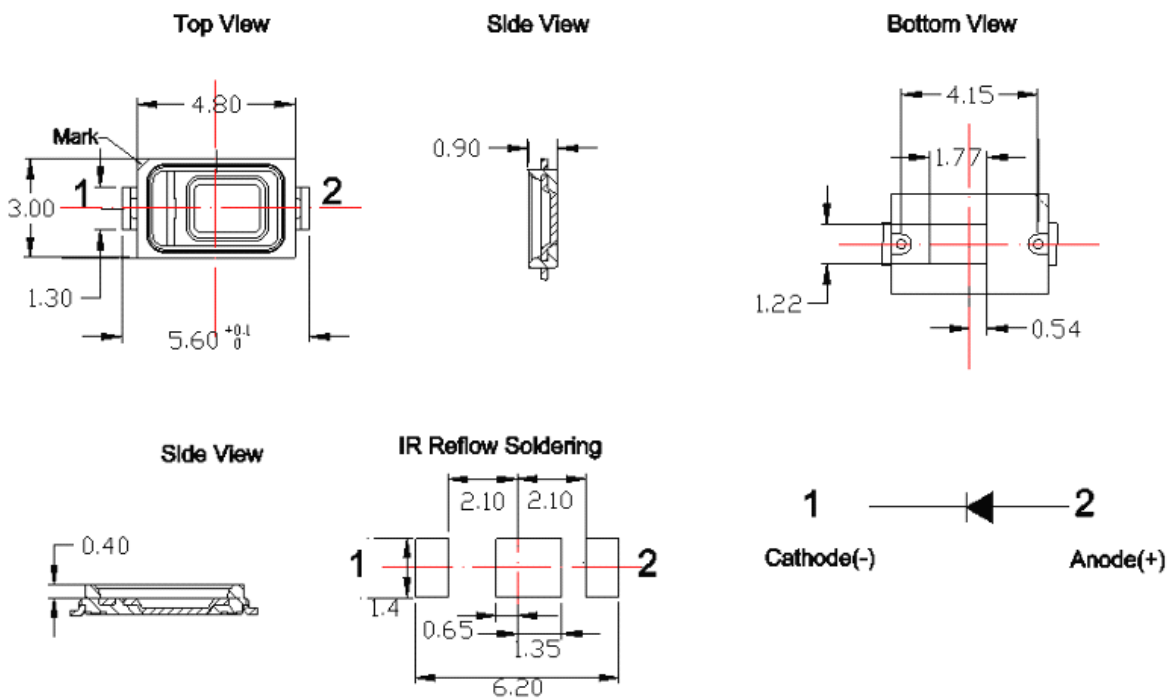
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1、 Features:

- 1.1 Package: 5.6*3.0*0.9mm
- 1.2 Emitted Color: White
- 1.3 Soldering methods: All SMT assembly methods
- 1.4 Comply RoHS standard

**2、 Applications:**

- 2.1 Back light for NB, Monitor, LED LCD TV.
- 2.2 Indoor and outdoor Lighting.

3、 Package Outline Dimension:**NOTES:**

1. All dimensions are in millimeters.
2. Tolerance is $\pm 0.10\text{mm}$ unless otherwise specified.

4、 Absolute Maximum Ratings(Ta=25°C)

| Parameter | Symbol | Rating | Unit |
|-------------------------|-----------------|--|------|
| Power Dissipation | Pd | 400 | mW |
| Forward Current | I _F | 120 | mA |
| Peak Forward Current *1 | I _{FP} | 400 | mA |
| Reverse Voltage | V _R | 1.2 | V |
| Soldering Temperature | Tsol | Reflow soldering: 260°C for 10sec. Hand soldering: 300°C for 3 sec. | |
| Operating Temperature | Topr | -30°C~85°C | |
| Storage Temperature | Tstg | -40°C~85°C | |

* I_{FP} condition: pulse width ≤0.1msec, duty cycle ≤1/10.

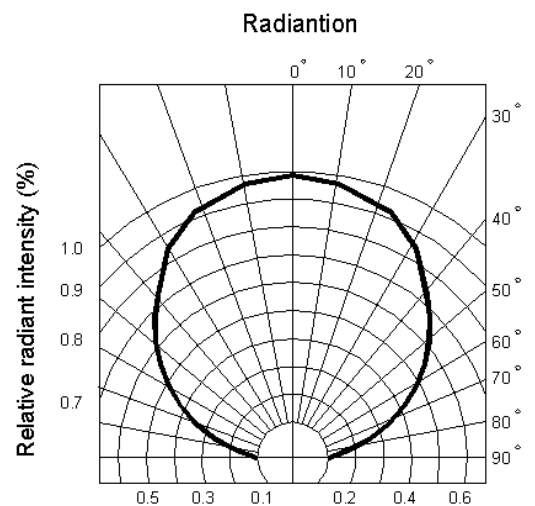
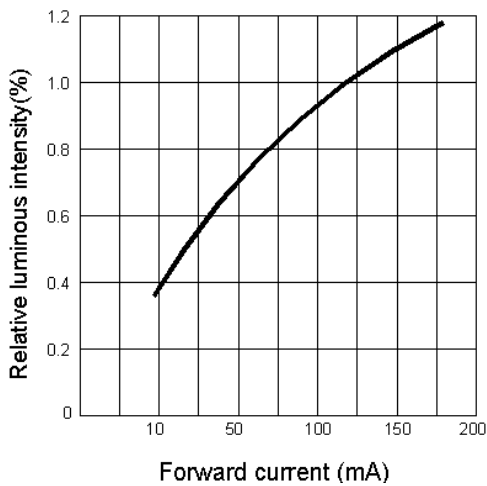
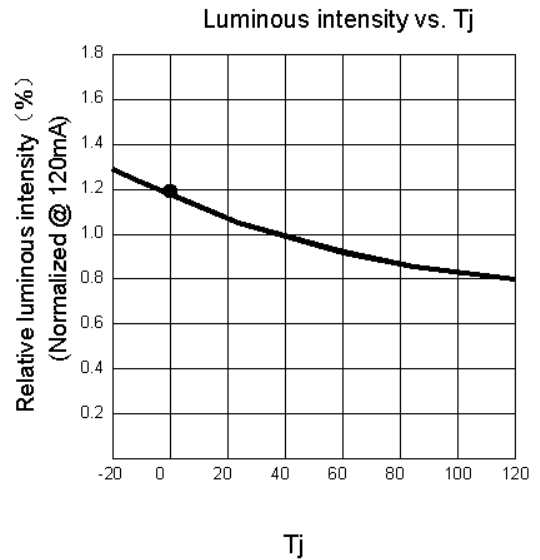
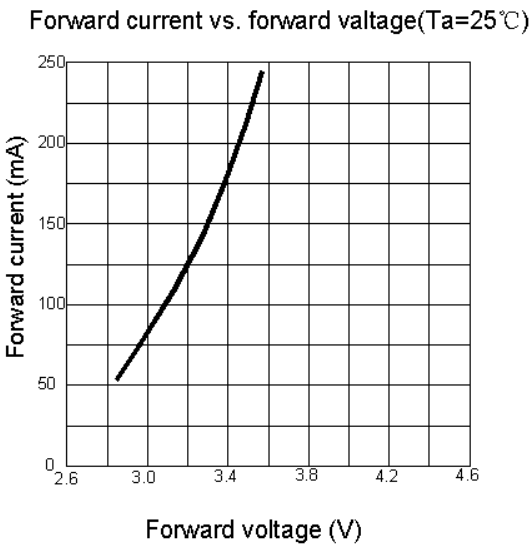
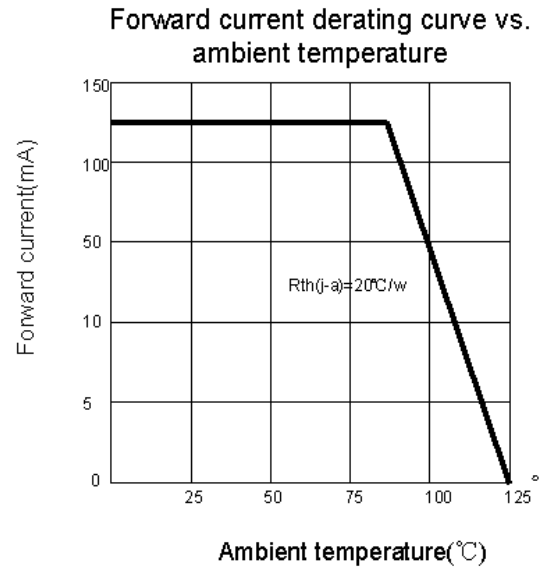
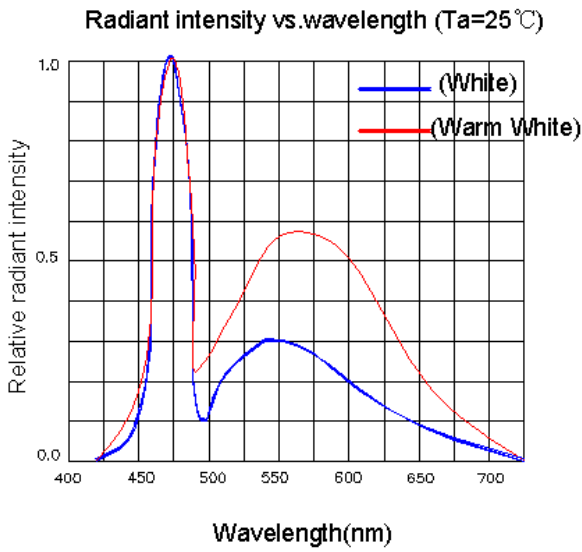
5、 Electrical-optical characteristics(Ta=25°C)

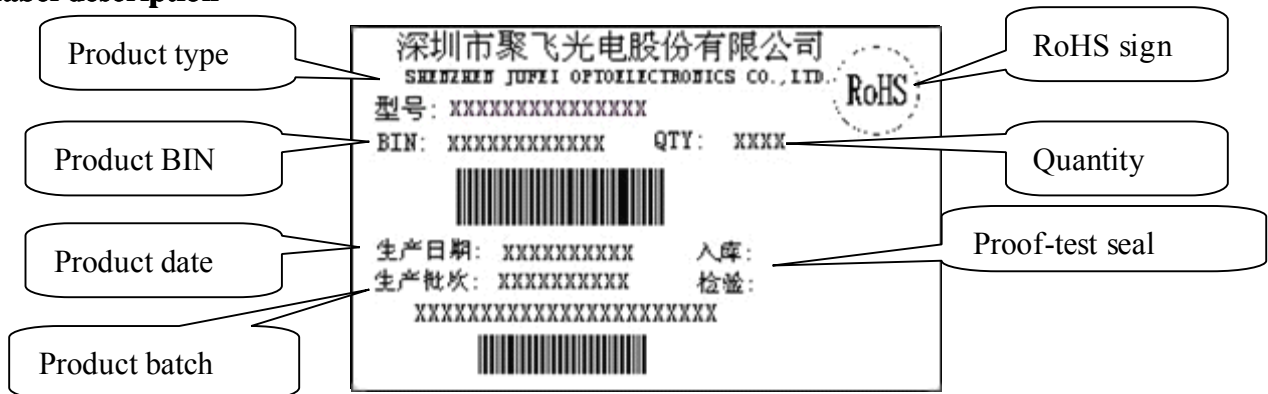
| Parameter | Symbol | Min. | Typ. | Max. | Unit | Condition |
|--------------------------|-------------------|------|------|------|------|-----------------------|
| Forward Voltage | V _f | - | 3.2 | 3.5 | V | I _F =120mA |
| Luminous Intensity | φ _v | | 55 | - | lm | |
| Viewing Angle | 2θ _{1/2} | - | 120 | - | deg | |
| Chromaticity Coordinates | X | - | 0.32 | - | --- | |
| | Y | - | 0.33 | - | --- | |
| Color rendering index | R _a | | 70 | | --- | |
| Reverse Current | I _R | - | - | 0.5 | μA | V _R =5V |

Note: 1. Tolerance of luminous intensity is ±5%

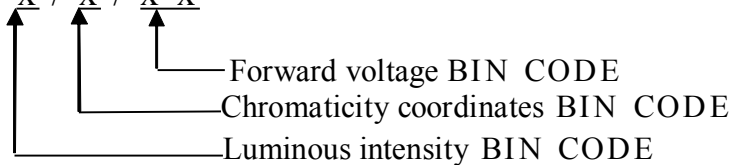
2. Tolerance of forward voltage is ±0.03V

6、 Typical Electro-Optical Characteristics Curves



7、 Label description :

BIN description: X / X / X-X



Such as:

BIN: 6/R3/7 -1

6 show luminous intensity BIN CODE

R3 show chromaticity coordinates BIN CODE

7-1 show forward voltage BIN CODE

8、 BIN range

Luminous intensity (tolerance is $\pm 5\%$ @ $I_f=120\text{mA}$)

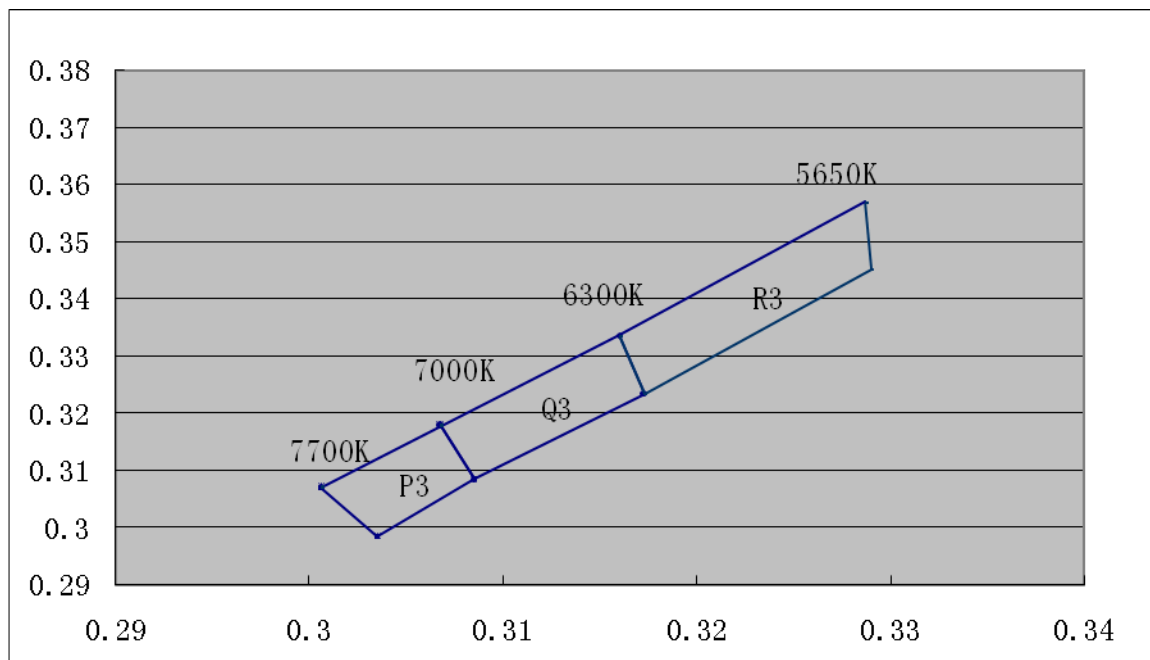
| BIN CODE | Min. (lm) | Max. (lm) |
|----------|-----------|-----------|
| 4 | 35 | 40 |
| 5 | 40 | 45 |
| 6 | 50 | 55 |

Forward voltage (tolerance is $\pm 0.03\text{V}$ @ $I_f=120\text{mA}$)

| BIN CODE | Min. (v) | Max. (v) |
|----------|----------|----------|
| 6-1 | 2.90 | 3.00 |
| 6-2 | 3.00 | 3.10 |
| 7-1 | 3.10 | 3.20 |
| 7-2 | 3.20 | 3.30 |
| 8-1 | 3.30 | 3.40 |
| 8-2 | 3.40 | 3.50 |

Chromaticity coordinates specifications (tolerance is ± 0.005 @ $I_f=120\text{mA}$)

| Bin code | CIE X | CIE Y |
|-----------|--------|---------|
| P3 | 0.3006 | 0.307 |
| | 0.3035 | 0.2985 |
| | 0.3085 | 0.3085 |
| | 0.3068 | 0.3178 |
| Q3 | 0.3068 | 0.3178 |
| | 0.3085 | 0.3085 |
| | 0.3173 | 0.3235 |
| | 0.316 | 0.3337 |
| R3 | 0.316 | 0.3337 |
| | 0.3173 | 0.3235 |
| | 0.329 | 0.34525 |
| | 0.3287 | 0.357 |

CIE**9、Reliability test items and conditions:**

| No. | Test Item | Test Conditions | Sample size | Ac/Re |
|-----|-----------------------------------|--|-------------|-------|
| 1 | Operation Life | Test If=DC120mA Temp: Room temperature Test time=1000hrs | 22 | 0/1 |
| 2 | High Temperature High Humidity | Temp. +65°C RH:90%HR Test time:1000hrs | 22 | 0/1 |

| | | | | |
|---|--------------------------|--|----|-----|
| 3 | Thermal Shock | -40°C ~ +100°C 20min 10s 20min Test Time:100cycles | 22 | 0/1 |
| 4 | High Temperature Storage | High Temp. +100°C Test time:1000hrs | 22 | 0/1 |
| 5 | Low Temperature Storage | Low Ta:-40°C Test time:1000hrs | 22 | 0/1 |
| 6 | Temperature Cycle | -40°C ~ +100°C 60min 20min 60min Test Time:20cycle | 22 | 0/1 |
| 7 | Reflow Soldering | Operation heating: Twice, 260°C(Max.), within 10seconds. (Max.), | 22 | 0/1 |

※Judgment criteria of failure for the reliability

- Iv: Below 80% of initial values
- Vf: Over 10% of upper limit value

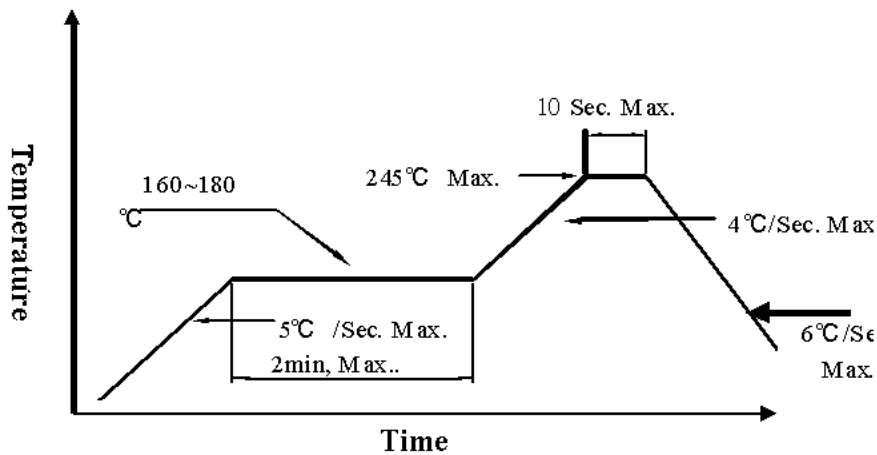
Note: Measurement shall be taken between 2 hours and after the test LED have been returned to normal ambient conditions after completion of each test.

10.Precautions for use :

10.1 Soldering

SMD LED encapsulation is very flexible, outside force easily demolish radiant surface and plastic, As soldering , Please handle with care!

- a** With No-clean Flux, according to reflow soldering cure condition when soldering, Reflow soldering should not be done more than two times, simultaneity you must insure clean on the radiant surface. Otherwise, foreign objects can affect radiant color.
- b** Don't process manual soldering except repair. Recommended to be soldered with 25W Anti-static iron, The temp. of the iron should be lower than 300°C and soldering time should not be done more than three seconds, at the same time iron can't touch radiant surface and plastic.
- c** Don't twist LED in course of manual soldering and experiment, Otherwise, the lights will not work possibly.
- d** Please use the same Bin grade in one panel, and don't mix the difference Bin grade in one panel when soldering ;otherwise, it will cause a serious uneven color problem.
- e** Pb-free solder temp-time profile as below.



10.2 Cleaning

- a** Don't be cleaned with ultrasonic. Recommended to be wiped with isopropyl alcohol or pure alcohol, wiping time should not be more than one minute. LED must be placed at room temperature for fifteen minutes before using. after cleaning, you must insure clean on the radiant surface. Otherwise, foreign objects can affect radiant color.
- b** LED can not be in contact with isoamyl acetate、trichloroethylene、acetone、sulfid、nitride、acid、alkali、salt. These matter can destroy LED.

10.3 Sealing

- a** Sealing glue can not contain sodium ion、sulfid, because these matter can affect fluorescence powder poisoning.
- b** When using normal sealing glue, Recommended to be operated life for 168hrs under normal temperature.

10.4 Storage

- a** Don't open the moisture proof bag before ready to use the LEDs.
- b** The LEDs should be kept at 30°C or less and 60%RH or less before opening the package. Themax. storage period before opening the package is 1 year.
- c** After opening the package, the LEDs should be kept at 30-35%RH or less, and it should be used within 3 days. If the LEDs should be kept at 30-35%RH or more, and it should be used within 1 days.
- d** If the LEDs be kept over the conditions of 20%, baking is required before mounting. Bakingcondition as below: 70±5°C for 12 hrs for bulk goods, 105±5°C for 1 hrs for roll goods.
- e** The environment have no acid、alkali、corrosive gas、intensively shake and high magnetic field.

10.5 Static

1. Static and Peak surge voltage can destroy LED, Avoiding Instantaneous voltage when turn on or turn off the lights.
2. Please wear Anti-static wrist band、Anti-static glove、Anti-static shoes in the course of operation,

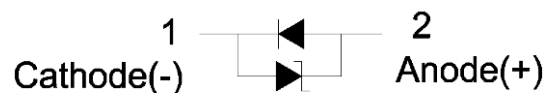
and the equipment must be grounded.

3. After LED is destroyed, leakage current increase obviously, and it will be forward voltage falling or failure lamp in the case of low current.

10.6 Test

- a Customer must apply the current limiting resistor in the circuit so as to drive the LEDs within the rated current. Otherwise slight voltage shift maybe will cause big current change and burn out will happen.
- b Also, caution should be taken not to overload the LEDs with instantaneous high voltage at the turning ON and OFF of the circuit. Otherwise LED will be destroyed, testing methods as follows:
- c The reverse voltage mustn't exceed 1.2v when testing , otherwise, The led will be damaged.

For test LED



10.7 Else

Radiant color of LEDs have a little change with the current, recommended that LED is be used in series and resistance, when lighting, please don't see directly radiant surface of LED, otherwise LED will burn eyes.