



Part No.: SPC-NWW25-700C4

Supplier name:

Ningbo Sunpu Opto Semiconductor Co.,Ltd

Acknowledgment number:

Product Acknowledgment

Customer Name:

Customer Model:

Customer Part Number:

Supply-side model:

Acknowledgment Effective Date:

| Manufacturers | | Client Confirm (Quality) | | Client Confirm (R & D) | |
|---------------|--|--------------------------------------|--|--------------------------------------|--|
| Prepared | | Qualified <input type="checkbox"/> | | Qualified <input type="checkbox"/> | |
| | | Unqualified <input type="checkbox"/> | | Unqualified <input type="checkbox"/> | |
| Audit | | Audit | | Audit | |
| Approve | | Approve | | Approve | |

(After both sides confirmed the Acknowledgment qualified,must be signed and sealed)

Supply-side Address: No 150.XinHui Road, Hi-Tech Park,Ningbo,china

Tel: 0574-87740939



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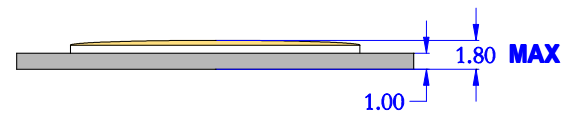
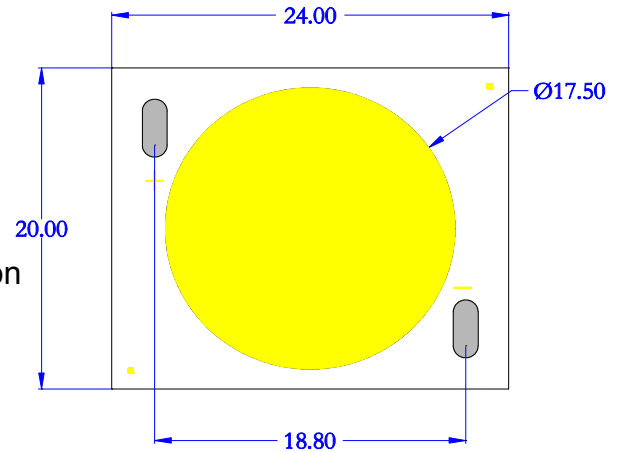
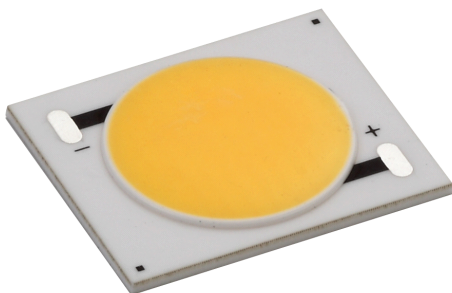
Features:

- ✧ Higher luminous efficiency and thermal dissipation
- ✧ Higher flexibility
- ✧ Higher reflectivity
- ✧ More reliable and longer life
- ✧ Lower coefficient of thermal expansion and contraction
- ✧ More flat under high temperatures
- ✧ High voltage resistant

Typical Applications:

- ✧ Spot light
- ✧ Bulb
- ✧ Down Light
- ✧ cornering lamp
- ✧ Panel Light
- ✧ Street Light

Product Picture:

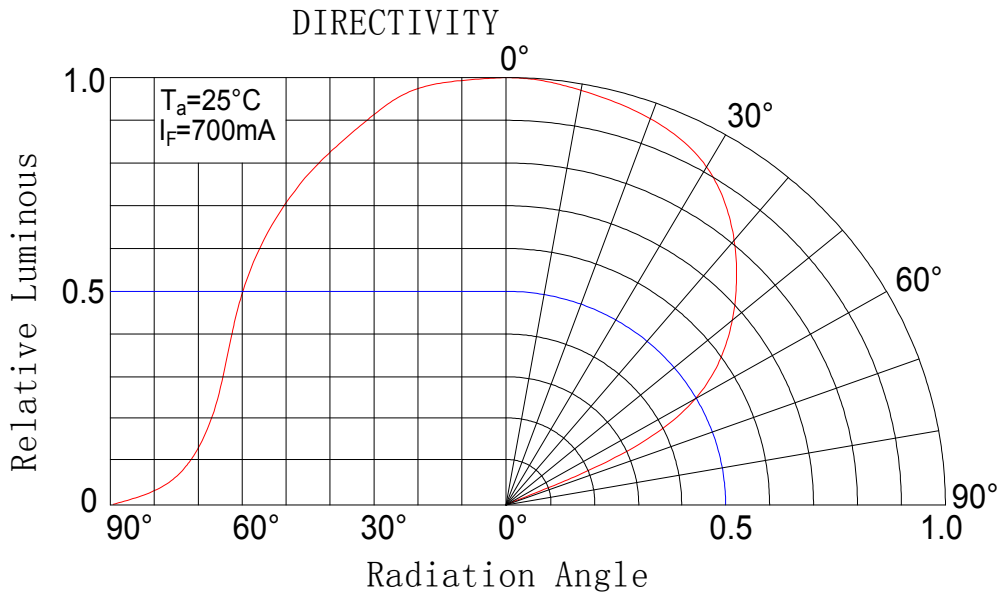


NOTES:

- ✧ All dimensions are millimeter.
- ✧ Tolerance is ± 0.1 mm unless otherwise noted.
- ✧ It is strongly recommended that the temperature of lead be not higher than 100°C.



Typical Radiation Pattern



Absolute maximum ratings ($T_a = 25^\circ\text{C}$)

| Parameter | Symbol | Test Condition | Value | | Unit |
|--------------------------|------------|----------------|--|------|------------------|
| | | | Min. | Max. | |
| DC Forward Current | I_F | ---- | ---- | 1050 | mA |
| Peak Pulse Current | I_{peak} | Duty=1/10 1kHz | ---- | 1200 | mA |
| Power Dissipation | P_d | ---- | ---- | 41.5 | W |
| LED Junction Temperature | T_J | ---- | ---- | 125 | $^\circ\text{C}$ |
| Operating Temperature | T_{opr} | ---- | -25 | +85 | $^\circ\text{C}$ |
| Storage Temperature | T_{str} | ---- | -40 | +100 | $^\circ\text{C}$ |
| ESD Sensitivity | ---- | HBM | 8000 | ---- | V |
| Soldering Temperature | ---- | ---- | 300 $^\circ\text{C}$ for 5 Seconds max | | |



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Electrical and optical characteristics (T_a = 25°C)

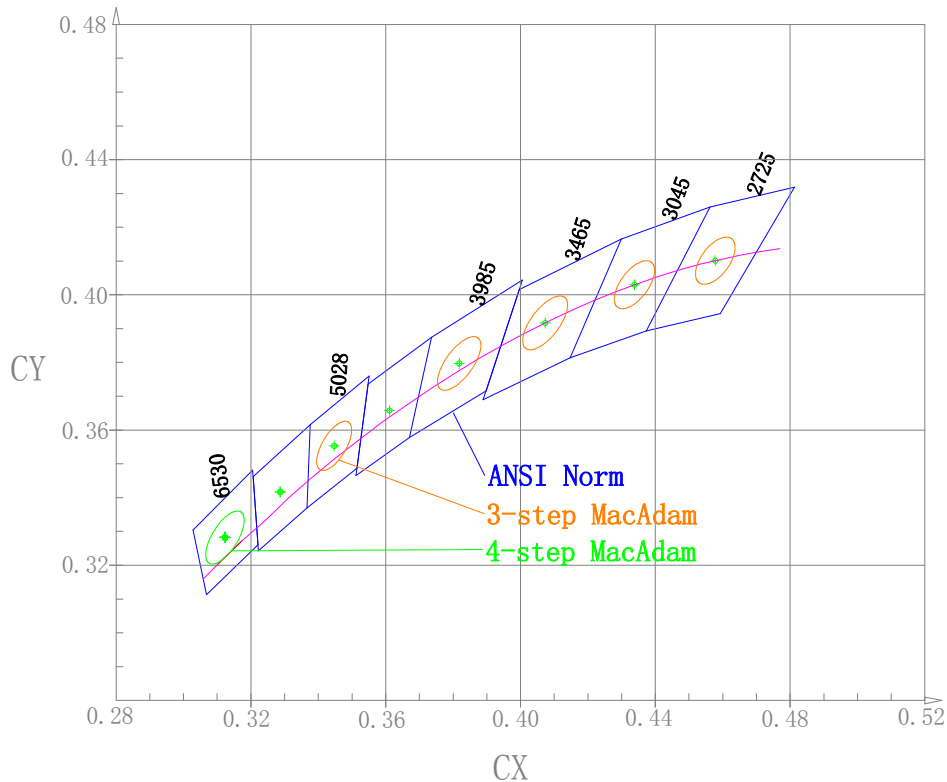
| Parameter | Symbol | Test Condition | Value | | | Unit | |
|--------------------|----------------|------------------------|-------|------|------|------|------|
| | | | Min. | Typ. | Max. | | |
| Forward Voltage | V _F | I _F = 700mA | | 37 | | V | |
| Luminous Flux | Φ _v | | | 2800 | ---- | lm | |
| Viewing Angle | 2θ 1/2 | | | ---- | 120 | ---- | Deg. |
| Color Temperature | CCT | | 2970 | 3045 | 3120 | K | |
| Color Rendering | R _a | | 80 | | | -- | |
| | R _g | | 5 | | | | |
| Thermal Resistance | R _J | ---- | | 1 | | °C/W | |

Luminous Flux Bins (T_a = 25°C)

Unit: lm

| Bin | P2 | Q2 | R2 |
|-----|------|------|------|
| Min | 2600 | 2800 | 3000 |
| Max | 2800 | 3000 | 3500 |

Chromaticity Coordinates Ranks(I_F=700mA T_a=25°C)





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| Colour temperature | Center of Coordinates | Long axis | Minor axis | Gradient | Explain |
|--------------------|-----------------------|-----------|------------|----------|----------------|
| 6500K | 0.3123 | 0.3282 | 0.00892 | 0.0038 | 4-step MacAdam |
| 5000K | 0.3447 | 0.3553 | 0.00822 | 0.00354 | 3-step MacAdam |
| 4000K | 0.3818 | 0.3797 | 0.00939 | 0.00402 | |
| 3500K | 0.4073 | 0.3917 | 0.00951 | 0.00417 | |
| 3000K | 0.4338 | 0.403 | 0.00714 | 0.00408 | |
| 2700K | 0.4578 | 0.4101 | 0.00774 | 0.00411 | |

| Code | Colour temperature |
|------|--------------------|
| W27 | 2700K |
| W30 | 3000K |
| W35 | 3500K |
| W40 | 4000K |
| W50 | 5000K |
| W65 | 6500K |

Notes:

- * Ranking at $T_C=25^\circ\text{C}$
- * It is strongly recommended that the temperature of lead be not higher than 100°C
- * Tolerance of measurements of the Forward Voltage is $\pm 2\%V$
- * Tolerance of measurements of the Luminous Flux is $\pm 10\%$
- * Tolerance of measurements of the Color Rendering R_a is ± 3
- * Tolerance of measurements of the Color Rendering R_9 is ± 5
- * The R_9 value for the above rank shall be greater than 0
- * Chromaticity Coordinates (x,y) is measured with an accuracy of ± 0.01
- * The center of Coordinates (x,y) is based on C78.377:2008 ANSI reference
- * Ellipse refer to IEC 60081:1997

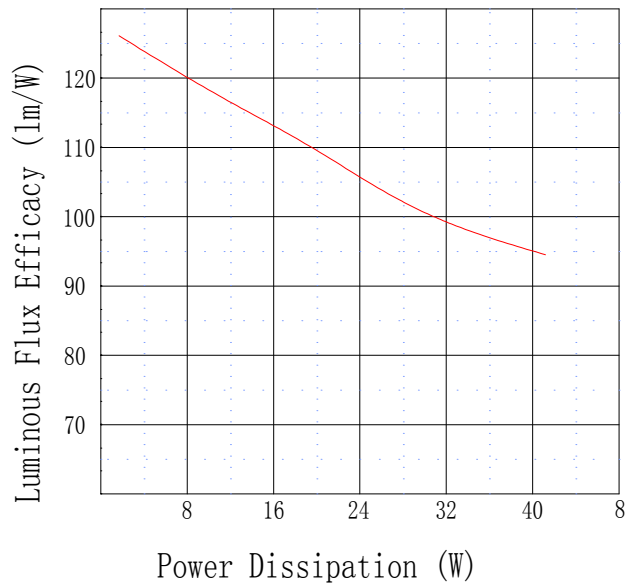
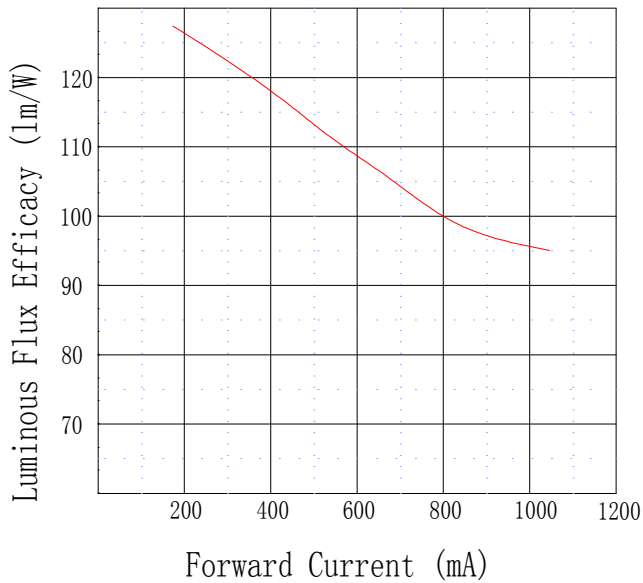


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Luminous Flux Efficacy characteristics

Current vs Luminous Flux efficacy (lm/W) $T_a=25^\circ\text{C}$

| Current (mA) | Forward Voltage (V) | Power Dissipation (W) | Luminous Flux Efficacy (lm/W) |
|--------------|---------------------|-----------------------|-------------------------------|
| 350 | 34.8 | 12.2 | 120 |
| 500 | 36 | 18 | 115 |
| 700 | 37 | 26 | 108 |
| 800 | 38 | 30.4 | 100 |
| 1050 | 39.5 | 41.5 | 95 |

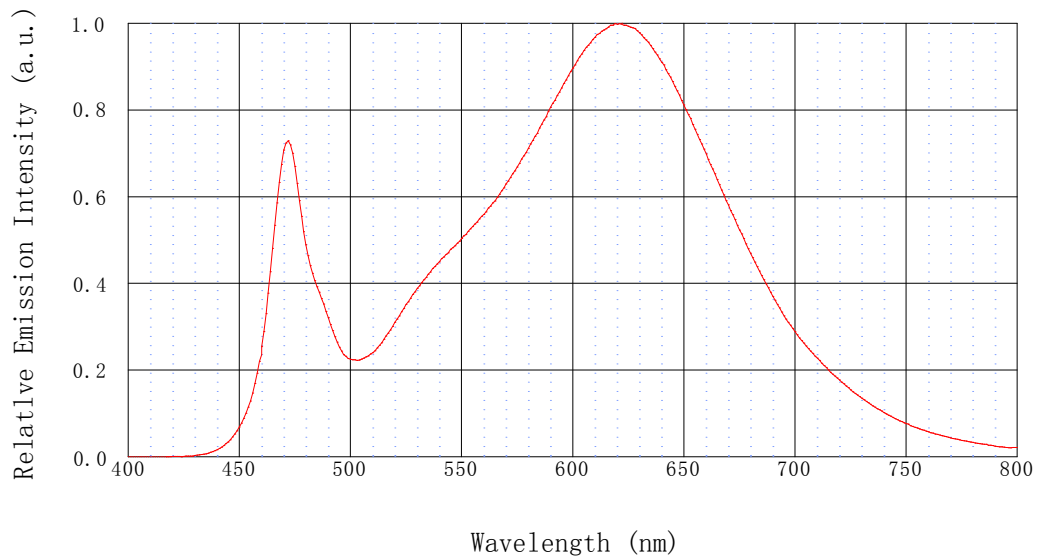




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Characteristic spectrum : $T_j=25^{\circ}\text{C}$

Warm White

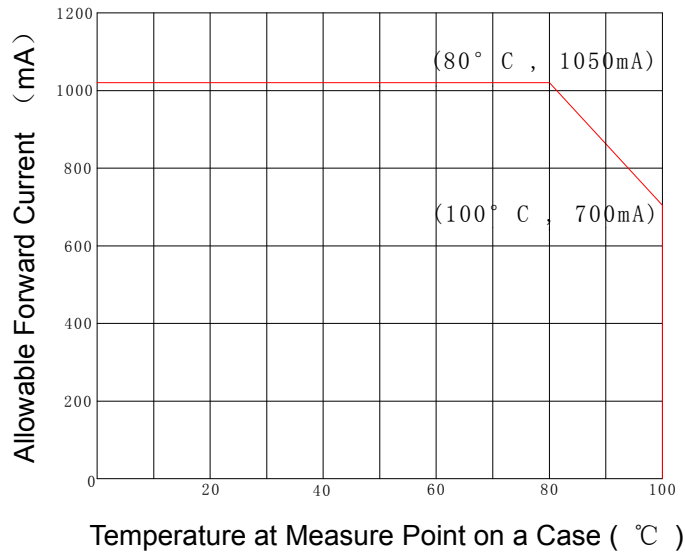




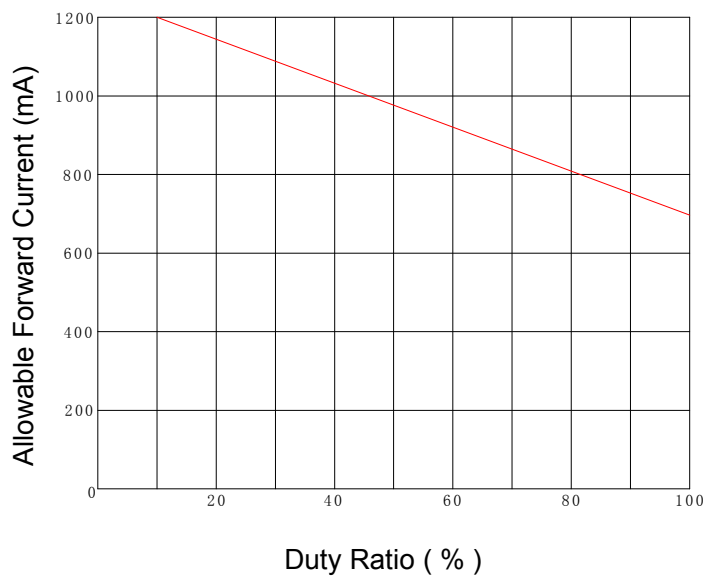
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Derating characteristics :

Temperature at Measure Point on a Case Vs Allowable Forward Current



Duty Ratio Vs Allowable Forward Current





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Typical electrical/optical characteristic curves:

Fig.1 Forward Current (mA) Vs Forward voltage (V)

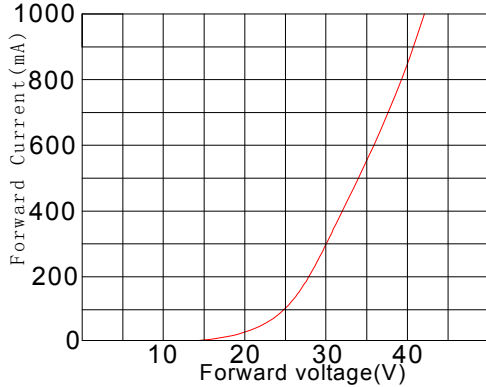


Fig.2 Relative intensity Vs Forward Current (mA)

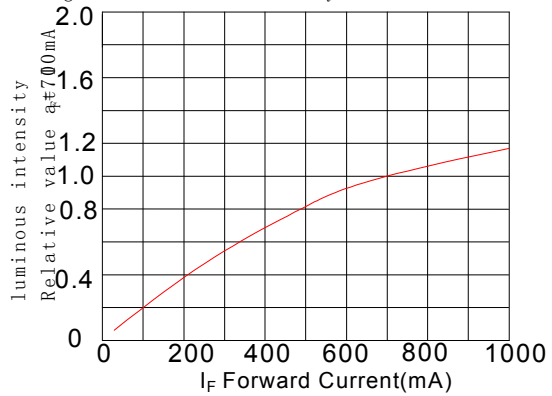


Fig.3 Forward Voltage Vs Ambient Temperature

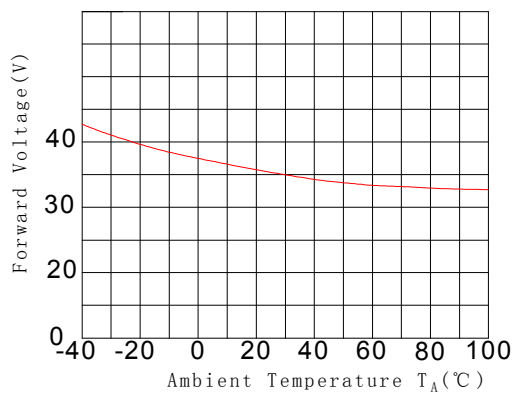
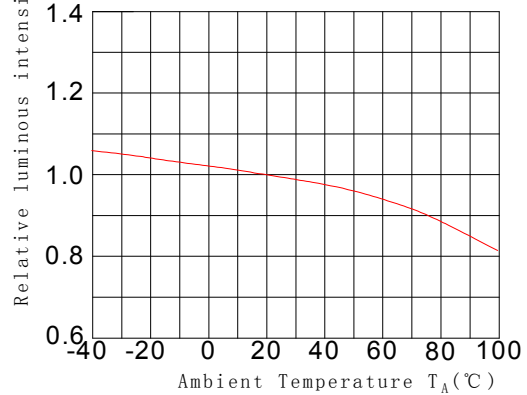


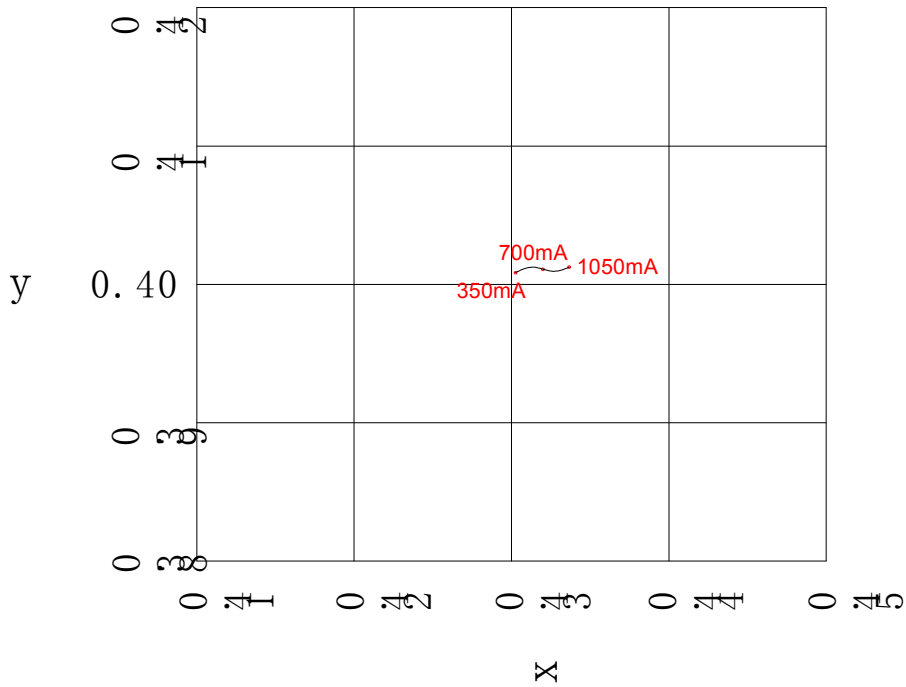
Fig.4 Relative intensity Vs Ambient Temperature



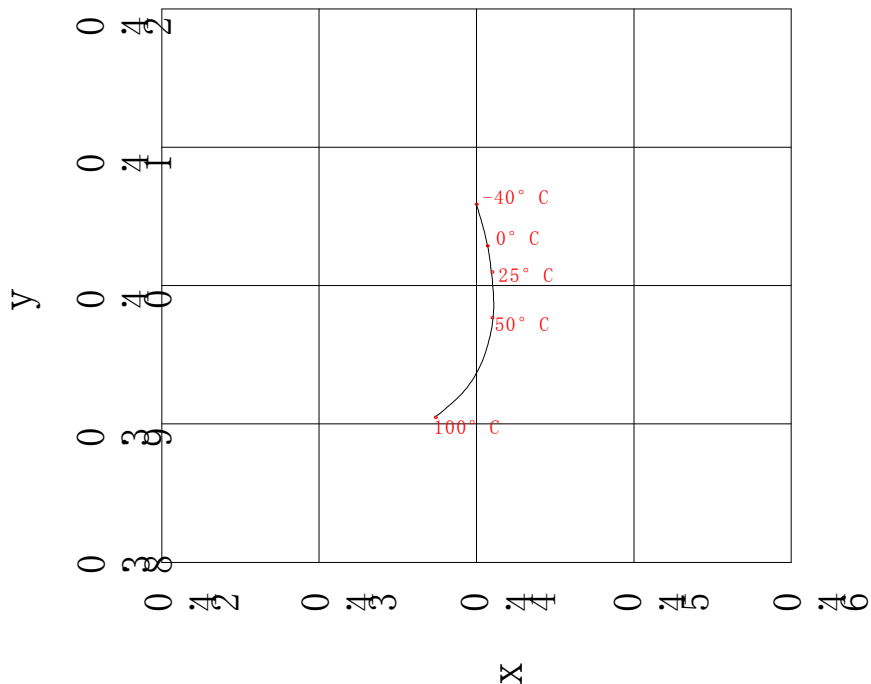


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Forward Current Vs Chromaticity Coordinate



Ambient Temperature Vs Chromaticity Coordinate





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Reliability

Tests and Results

| Test | Reference Standard | Test Conditions | Test Duration | Units Failed/ Tested |
|---------------------------------|--------------------------|---|---------------|----------------------|
| Temperature Cycle | JEITA ED-4701 100 105 | -40°C (30min) ∼ 25°C (5min) ∼ 100°C (30min) ∼ 25°C (5min) | 100cycles | 0/10 |
| High Temperature Storage | JEITA ED-4701 200 201 | T _A =100°C | 1000hours | 0/10 |
| Temperature Humidity Storage | JEITA ED-4701 100 103 | T _A =60°C RH=90% | 1000hours | 0/10 |
| Low Temperature Storage | JEITA ED-4701 200 202 | T _A =-40°C | 1000hours | 0/10 |
| High Temperature Operating Life | | T _C =85°C T _F =1050mA | 1000hours | 0/10 |
| Electrostatic Discharges | JEITA ED-4701 300 304 | HBM 8KV 3K Ω 100Pf 3pulses negative | | 0/10 |
| Temperature Cycle *1 | Sunpu-opto | -40°C (30min) ∼ (90s) ∼ 110°C (30min) ∼ (90s) -40°C | 300cycles | 0/10 |
| Temperature Humidity Storage*2 | Sunpu-opto | T _A =85°C RH=85% T _F =700mA | 1000hours | 0/10 |

NOTES:

* Measurements are performed after allowing the LEDs to return to room temperature

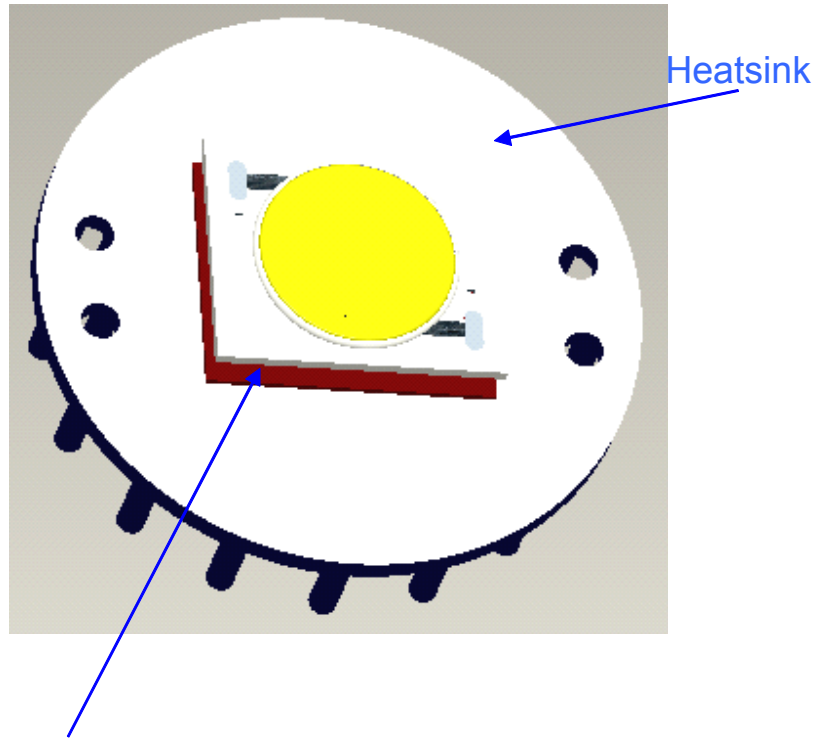
Failure Criteria

| Items | Conditions | Failure Criteria |
|-----------------------------------|-----------------------|----------------------|
| Forward Voltage (V _F) | I _F =700mA | >Initial value x 1.1 |
| Luminous Flux (Φ _v) | I _F =700mA | <Initial value x 0.7 |



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Recommended installation screw pitch



Thermal conduction materials

If you can not solve the heat problem, the product will destroy easily. Suggest that the surface of the heat sink is $35\text{cm}^2/\text{W}$