




PRODUCT SPECIFICATION

Model No: CSPR-N329SB4-C0R

| Descriptions: | |
|------------------|--------------------|
| ■ Product Type | : Superbright Lamp |
| ■ LED Package | : Piranha LED Lamp |
| ■ Emitting Color | : Blue |
| ■ Viewing Angle | : 50° |
| ■ Stopper | |



| CUSTOMER APPROVED SIGNATURES | APPROVED BY | CHECKED BY | PREPARED BY |
|------------------------------|---|--|---|
| |  |  |  |

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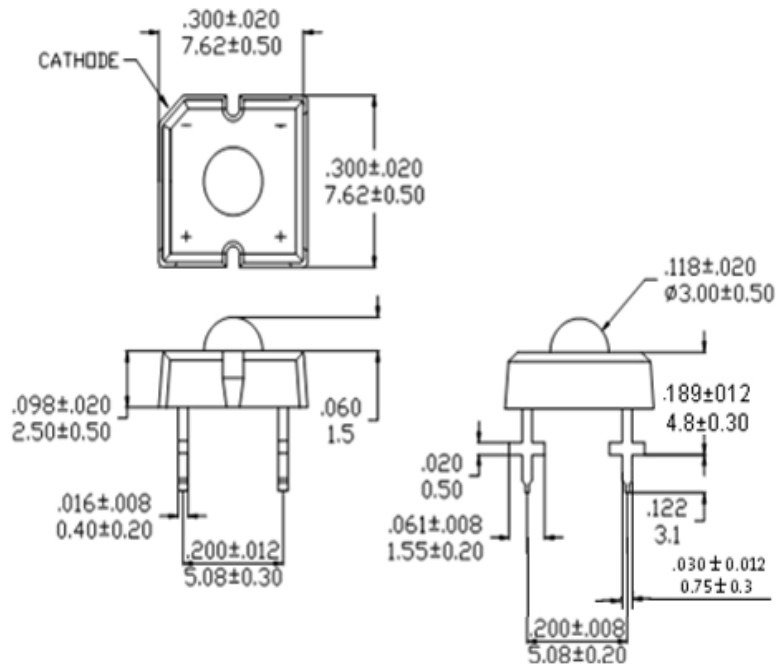
■ **Feature**

1. High Current Operation
2. High Luminous Output.
3. High Reliability and Solid.
4. Optimal Optical/Mechanical Design.
5. Packaged in Tubes for Use with Automatic
6. RoHS compliant.

■ **Device Selection Guide**

| Part No. | Chip Material | Color | |
|------------------|------------------|---------|-------------------|
| | | Emitted | Lens Resin |
| CSPR-N329SB4-C0R | InGaN | Blue | Water Transparent |

■ **Package Outline Dimensions -**



*Tolerance: $\pm \frac{0.01}{0.25}$ Unit: $\pm \frac{\text{inch}}{\text{mm}}$

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■ Absolute Maximum Ratings

| Parameter | Symbol | Rating | Unit |
|--|-----------------|--|------|
| Power Dissipation | Pd | 160 | mW |
| Continuous Forward Current | I _f | 40 | mA |
| Peak Forward Current (Duty Cycle 1/10, 1KHz) ^{*1} | I _{fP} | 100 | mA |
| Reverse Voltage ^{*2} | V _r | 5 | V |
| ESD Sensitivity | ESD | 1000 | V |
| LED Junction Temperature ^{*3} | T _j | 110 | °C |
| Operating Temperature | Topr | -40~ +85°C | |
| Storage Temperature | Tstg | -40 ~ +100°C | |
| Lead Soldering Temperature | Tsol | Max. 260 for 5 sec Max. (1.6mm from the epoxy body) | |

Note:

1. Pulse width \leq 0.1 msec, duty \leq 1/10.
2. The device can not operated under continuous reverse voltage
3. Proper current rating must be observed to maintain junction temperature below the maximum at all the time.

■ Electrical / Optical Characteristic

| Parameter | Symbol | Min | Typ | Max | Unit | Condition |
|---------------------|----------------|-------|-------|-------|---------|-----------------------|
| Luminous Intensity* | I _v | 1250 | 2080 | ----- | mcd | I _f = 30mA |
| Forward Voltage | V _f | ----- | 3.5 | 4.0 | V | |
| Dominant Wavelength | λ_d | ----- | 470 | ----- | nm | |
| Viewing Angle | 2 θ 1/2 | ----- | 50 | ----- | Deg | |
| Reverse Current | I _r | ----- | ----- | 50 | μ A | V _r = 5V |
| ESD Sensitivity | HBM | ----- | ----- | 1000 | V | MIL-STD-833G |

* Luminous intensity value is traceable to CIE127-2007 standards

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■ **Luminous Intensity Rank Limits (If = 30mA)**

| Luminous Intensity | | | |
|--------------------|------|------|------|
| Bin Code | Min | Max | Unit |
| 29 | 1250 | 1800 | mcd |
| 30 | 1800 | 2300 | |
| 31 | 2300 | 3000 | |
| 32 | 3000 | 3550 | |

■ **Dominant Wavelength Rank Limits(If = 30mA)**

| Bin Code | Min | Max | Unit |
|----------|-----|-----|------|
| B5 | 460 | 465 | nm |
| B6 | 465 | 470 | |
| B7 | 470 | 475 | |

■ **Forward Voltage Rank Limits(If = 30mA)**

| Bin Code | Min | Max | Unit |
|----------|-----|-----|------|
| H | 2.8 | 3.0 | V |
| J | 3.0 | 3.2 | |
| K | 3.2 | 3.4 | |
| L | 3.4 | 3.6 | |
| M | 3.6 | 3.8 | |
| N | 3.8 | 4.0 | |

Notes:

1. Tolerance of measurement of luminous intensity :±15%;
2. Tolerance of measurement of dominant wavelength:±2nm;
3. Tolerance of measurement of forward voltage:±0.1v;
4. All data are measured by OPT's test equipment.
5. One delivery will include several color rank, VF rank and Iv ranks of the products.
6. The quantity-ratio of the ranks is decided by OPT.

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■ **Electrical / Optical Characteristics Curves (Ta = 25°C Unless Otherwise Noted)**

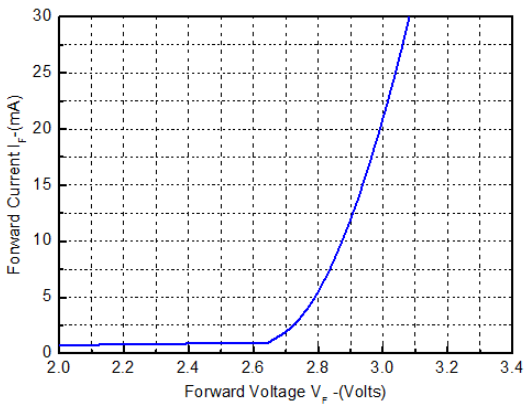


Figure1. Forward Current VS. Forward Voltage

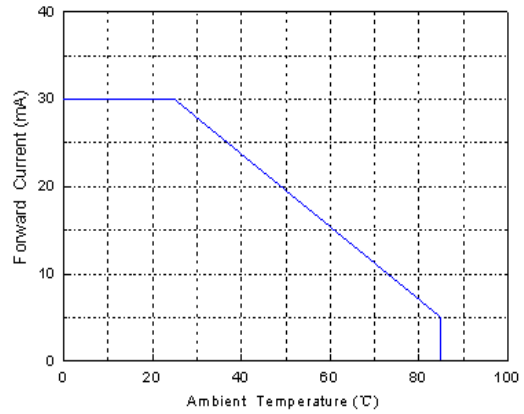


Figure2. Forward Current VS. Ambient Temperature;

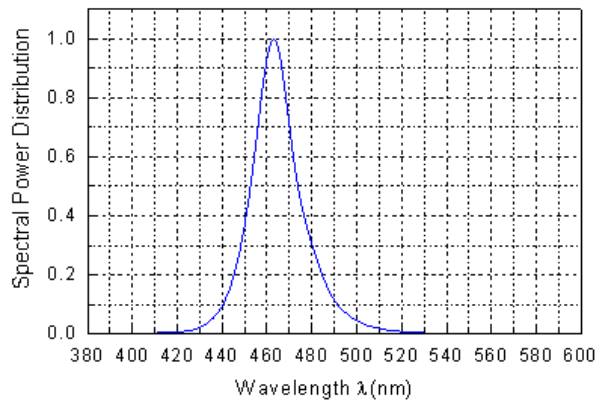


Figure3. Spectral Power Distribution VS. Wavelength

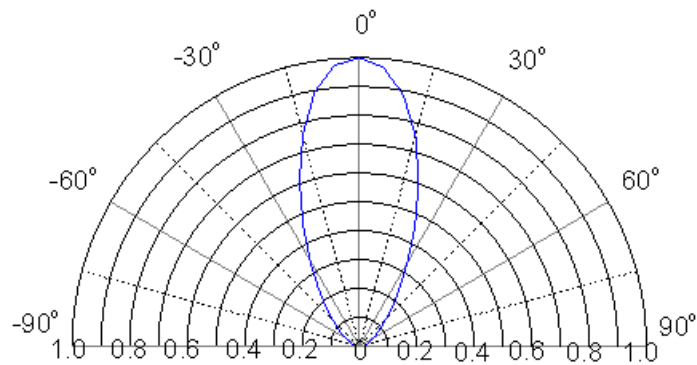


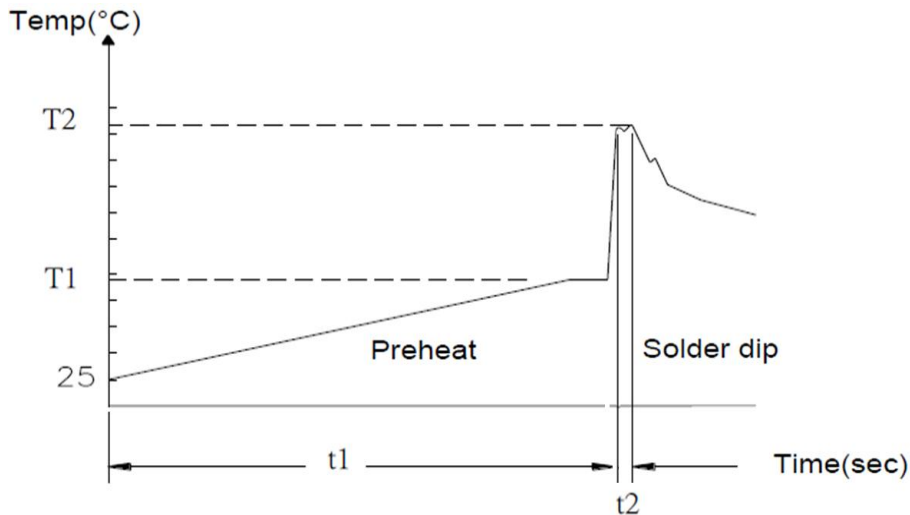
Figure4. Relative Luminosity VS. Radiation Angle

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■ Precautions For Use

1. Wave Soldering Profile

.Distance : 1.6 mm min (From seating plane)



| Item | Condition | | Notes |
|------------|-----------|------------|--------------------------|
| Preheat | Temp. T1 | 120-180 °C | PWB temperature |
| | time t1 | 60-180 sec | (soldering side surface) |
| Solder Dip | Temp. T2 | 230-260 °C | Bath temperature |
| | time t2 | 2-4 sec | Solder tank passage time |

2. Hand Soldering (Iron Condition)

- 2.1 Soldering Iron: 30W Max
- 2.2 Temperature 350°C Max (iron tip 260°C Max)
- 2.3 Soldering Time: 3 Seconds Max (Once)
- 2.4 Distance: 1.6mm min (From seating plane)

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3. Static Electricity

3.1 Static electricity or surge voltage damages LEDs.

It is recommended that a wrist band or an anti-electrostatic glove should be used when handling the LEDs.

3.2 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 LEDs.

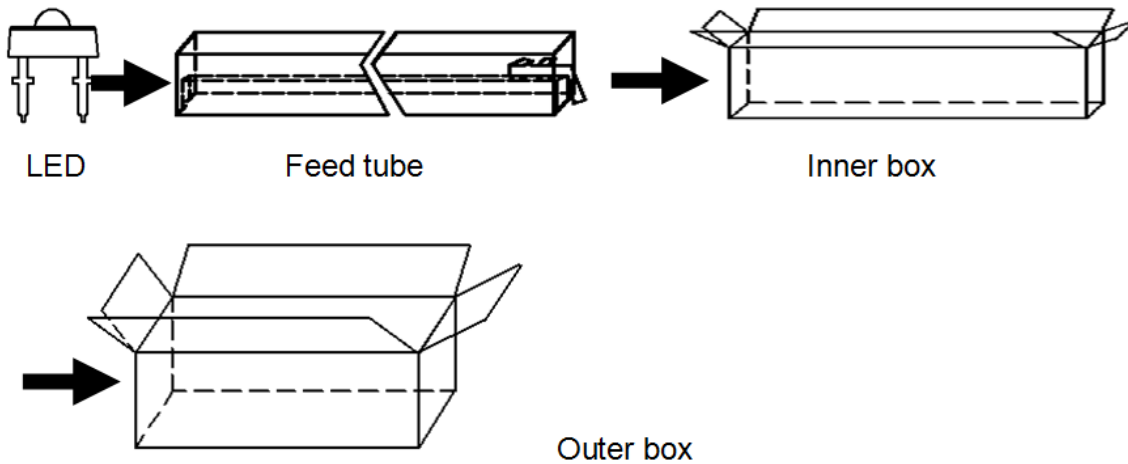
4. Storage

4.1 Shelf life: Within 18 months under following conditions.

Un-opened, at normal temperature / Normal relative humidity (+5~+30°C / 70%Rh.max.).

■ Package

| Package Name | Package Dimension | | Distribution of the layer or box | | Total Mount | |
|--------------|-------------------|------|----------------------------------|------|-------------|------|
| | Size | Unit | Amount | Unit | Amount | Unit |
| Feed tube | 485*8.5*13 | mm | 1 | STR | 60 | PCS |
| Inner Box | 495*100*50 | mm | 1 | Box | 1440 | PCS |
| Outer Box | 530*265*115 | mm | 1 | Box | 7200 | PCS |



| | |
|-----------|-------------------|
| Spec. No. | PS-PR-N329SB4-C0R |
| Rev. | D |

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■ **Change story-**

| Rev. | Date | Change Description |
|------|------------|--|
| A | 2012/9/12 | Original Version |
| B | 2018/1/16 | Format to update, Add different test standard Rank Limits |
| C | 2019/12/10 | 1:Add remarks on rated specifications 2>Delete IV2 |
| D | 2023/03/15 | Delete CS bright corporation's address; |

Please confirm with OPT salesman, if your request different form standard specification.