



# PRODUCT SPECIFICATION

**Model No : CSPR-N30ATG4-A0R**

| Descriptions:    |                    |
|------------------|--------------------|
| ■ LED Type       | : Superbright Lamp |
| ■ LED Package    | : Piranha LED Lamp |
| ■ Emitting Color | : Green            |
| ■ Viewing Angle  | : 60°              |
| ■ Stopper        |                    |



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

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**Model No : CSPR-N30ATG4-A0R**

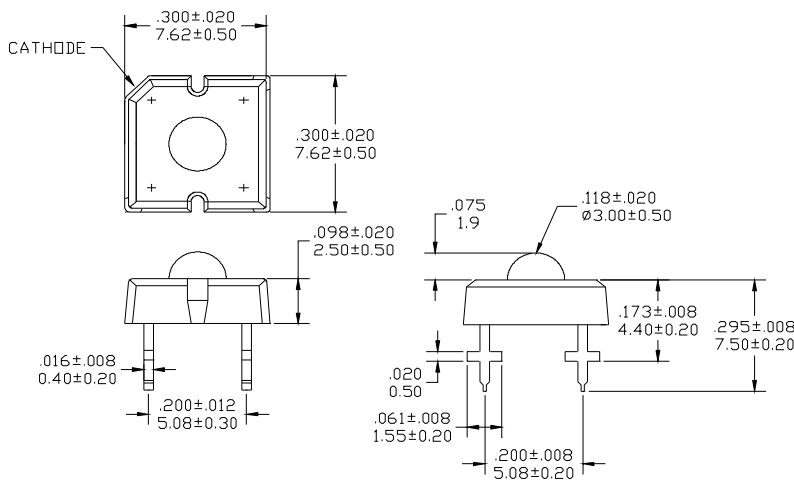
**■ Features -**

1. High Current Operation
2. High Luminous Output
3. High Reliability and Solid Performance
4. Optimal Optical/Mechanical Design
5. Packaged in Tubes for Use with Automatic Pick and Place Equipment
6. Rohs Compliant

**■ Device Selection Guide -**

| Part No.         | Chip     |               | LED Lens          |
|------------------|----------|---------------|-------------------|
|                  | Material | Emitted Color |                   |
| CSPR-N30ATG4-A0R | InGaN    | Green         | 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 Rating -

(Ta=25°C)

| Parameter                  | Symbol | Rating   | Unit |
|----------------------------|--------|--|------|
| Power Dissipation          | Pd     | 190  | mW   |
| Forward Current (DC)       | IF     | 50   | mA   |
| Peak Forward Current *     | IFP    | 100  | mA   |
| Reverse Voltage            | VR     | 5  | V    |
| Operating Temp.            | Topr   | -30 ~ +80  | °C   |
| Storage Temp.              | Tstg   | -40 ~ +100   | °C   |
| Lead Soldering Temperature | Tsol   | Max. 260°C for 5 sec Max.<br>(3mm from the epoxy bulb) |      |

\* Pulse width  $\leq 0.1$  msec. duty  $\leq 1/10$

■ Electro-optical Characteristics -

(Ta=25°C)

| Parameter           | Symbol        | Min.  | Typ.  | Max.  | Unit    | Condition |
|---------------------|---------------|-------|-------|-------|---------|-----------|
| Forward Voltage     | VF            | ----- | 3.3   | 3.8   | V       | IF=50mA   |
| Luminous Intensity  | Iv            | 3000  | 6300  | ----- | mcd     |           |
| Luminous Flux       | $\Phi v$      | 3000  | 4500  | ----- | mlm     |           |
| Dominant Wavelength | $\lambda d$   | ----- | 525   | ----- | nm      |           |
| Peak Wavelength     | $\lambda p$   | ----- | 515   | ----- | nm      |           |
| Viewing Angle       | $2\theta$ 1/2 | ----- | 60    | ----- | deg     |           |
| Reverse Current     | IR            | ----- | ----- | 100   | $\mu A$ | VR=5V     |



### ■ Luminous Flux Rank Limits ( $I_f = 50\text{mA}$ )

unit : mlm

| Part No<br>Code | CSPR-N30ATG4-A0R |      |
|-----------------|------------------|------|
|                 | min.             | max. |
| F               | 3000             | 3500 |
| G               | 3500             | 4000 |
| H               | 4000             | 5000 |
| J               | 5000             | 6000 |
| K               | 6000             | 7000 |

### ■ Dominant Wavelength Rank Limits ( $I_f = 50\text{mA}$ )

unit : nm

| Part No<br>Code | CSPR-N30ATG4-A0R |      |
|-----------------|------------------|------|
|                 | min.             | max. |
| TG1             | 515              | 520  |
| TG2             | 520              | 525  |
| TG3             | 525              | 530  |
| TG4             | 530              | 535  |

### ■ Forward Voltage Rank Limits ( $I_f = 50\text{mA}$ )

unit : v

| Part No<br>Code | CSPR-N30ATG4-A0R |      |
|-----------------|------------------|------|
|                 | min.             | max. |
| H               | 2.8              | 3.0  |
| J               | 3.0              | 3.2  |
| K               | 3.2              | 3.4  |
| L               | 3.4              | 3.6  |
| M               | 3.6              | 3.8  |

#### Notes:

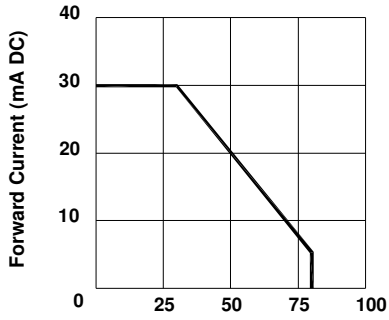
1. Tolerance of measurement of luminous Flux  $\pm 15\%$
2. Tolerance of measurement of dominant wavelength  $\pm 2\text{nm}$
3. Tolerance of measurement of forward voltage  $\pm 0.05\text{v}$
4. All data are measured by CSC's test equipment.
5. One delivery will include several color rank, VF rank and Iv ranks of the products.
6. The quantity-ratio of the ranks is decided by CSC.
7. Please confirm with CSC salesman, if your request different from standard specification.



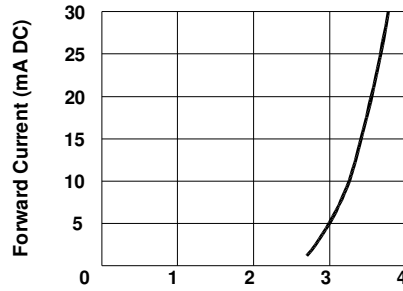
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■ Typical Electrical / Optical Characteristics Curves -

(Ta = 25°C Unless Otherwise Noted)



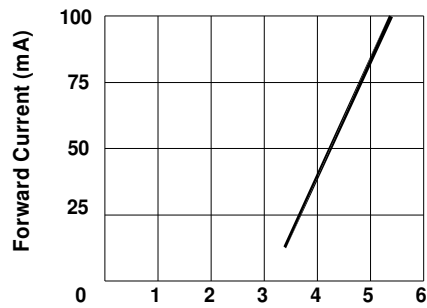
Ambient Temperature Ta (°C)  
Fig 1. Forward Current  
Vs. Ambient Temperature



Forward Voltage VF (V)  
Fig 2. Forward Current  
Vs. Forward Voltage



Forward Current IF (mA DC)  
Fig 3. Relative Intensity  
Vs. Forward Current



Forward Voltage (V)  
Fig 4. Peak Forward Voltage  
Vs. Forward Current  
(100us test pulse, 1% duty cycle)

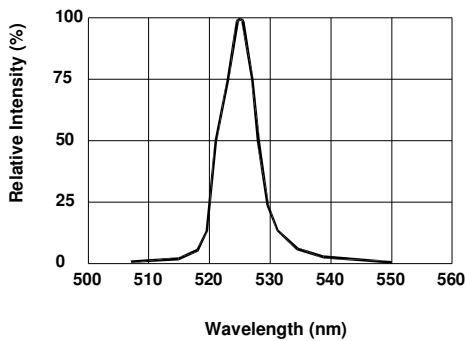


Fig 5. Relative Intensity Vs. Wavelength

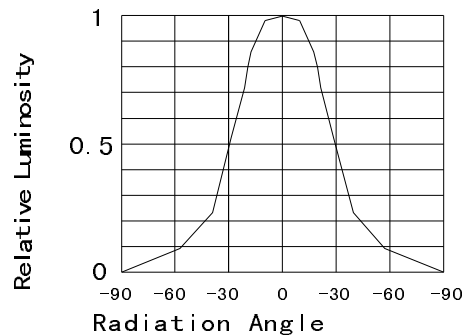


Fig 6. Relative Luminous Intensity vs. Radiation Angle

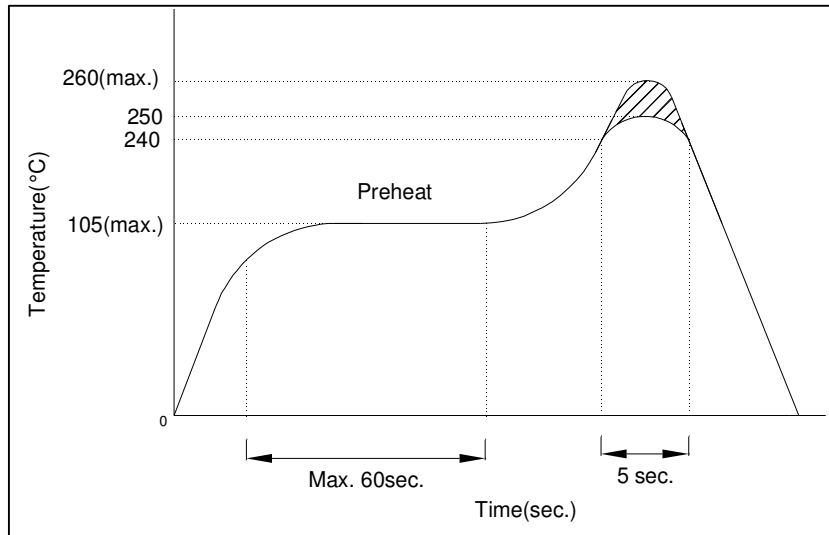


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## ■ Precautions For Use -

### 1. Recommended Soldering conditions

#### Wave Soldering



### 2. Soldering Iron

Basic SPEC. is  $\leq 5\text{sec.}$  When  $260^{\circ}\text{C}$ . If temperature is higher, time should be shorter ( $+10^{\circ}\text{C} \rightarrow -1\text{sec.}$ ). Power dissipation of iron should be smaller than 15W, and temperature should be controllable. Surface temperature of the device should be under  $230^{\circ}\text{C}$ .

### 3. Static Electricity

- Static electricity or surge voltage damages LEDs..

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

- 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.

Note: The specifications are subject to change without notice. Please contact us for updated information.