



CHINA  
SEMICONDUCTOR  
CORPORATION

|           |                  |
|-----------|------------------|
| Spec. No. | PS-LL-U55BYL4-A0 |
| Rev.      | A                |

# PRODUCT SPECIFICATION

**Model No : CSLR-U55BYL4-A0**

| Descriptions:    |                     |
|------------------|---------------------|
| ■ LED Type       | : Lighting LED Lamp |
| ■ LED Package    | : Round LED Lamp    |
| ■ Emitting Color | : Yellow            |
| ■ Viewing Angle  | : 70°               |
| ■ No Stopper     |                     |



| CUSTOMER<br>APPROVED<br>SIGNATURES | APPROVED BY | CHECKED BY | PREPARED BY |
|------------------------------------|-------------|------------|-------------|
|                                    |             |            |             |

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**Model No : CSLR-U55BYL4-A0**

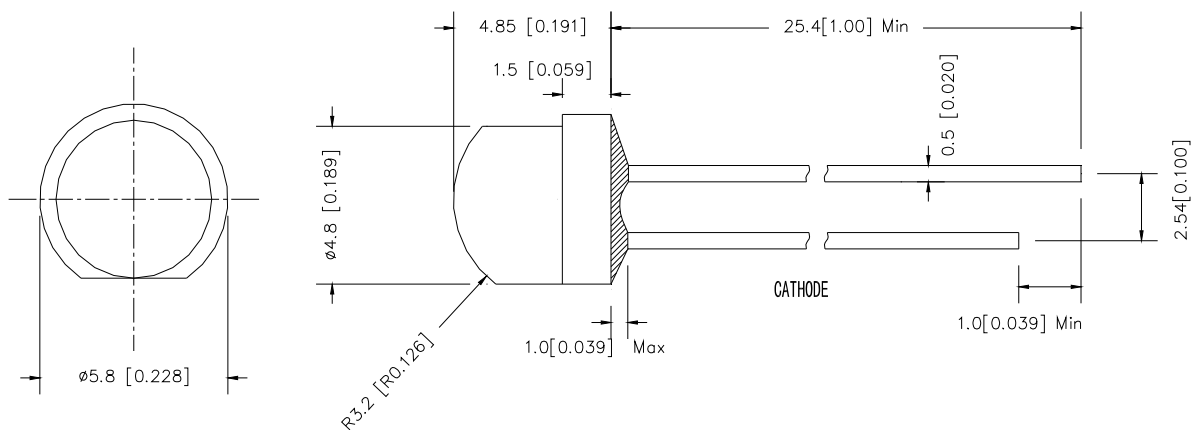
**Features -**

1. Low Power Consumption.
2. High Luminous Output
3. High Reliability and Solid Performance
4. Optimal Optical/Mechanical Design
5. Rohs Compliant

**Device Selection Guide -**

| Part No.        | Chip     |               | LED Lens          |
|-----------------|----------|---------------|-------------------|
|                 | Material | Emitted Color |                   |
| CSLR-U55BYL4-A0 | AlInGaP  | Yellow        | Water Transparent |

**Package Outline Dimensions -**



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



Model No : CSLR-U55BYL4-A0

■ Absolute Maximum Rating -

(Ta=25°C)

| Parameter                  | Symbol | Rating                                                 | Unit |
|----------------------------|--------|--------------------------------------------------------|------|
| Power Dissipation          | Pd     | 52                                                     | mW   |
| Forward Current (DC)       | If     | 30                                                     | 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 body) |      |

\* 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             | ----- | 2.1   | 2.6   | V       | If=20mA   |
| Luminous Intensity  | Iv             | 290   | 630   | ----- | mcd     |           |
| Dominant Wavelength | $\lambda D$    | ----- | 590   | ----- | nm      |           |
| Viewing Angle       | 2 $\theta$ 1/2 | ----- | 70    | ----- | deg     |           |
| Reverse Current     | IR             | ----- | ----- | 50    | $\mu$ A | VR=5V     |



**Model No : CSLR-U55BYL4-A0**

**■ Luminous Intensity Rank Limits (  $I_f = 20\text{mA}$  )**

unit : mcd

| Part No. | CSLR-U55BYL4-A0 |      |
|----------|-----------------|------|
| Code     | min.            | max. |
| H        | 290             | 380  |
| J        | 380             | 490  |
| K        | 490             | 640  |
| L        | 640             | 830  |
| M        | 830             | 1080 |

**■ Dominant Wavelength Rank Limits (  $I_f = 20\text{mA}$  )**

unit : nm

| Part No. | CSLR-U55BYL4-A0 |       |
|----------|-----------------|-------|
| Code     | min.            | max.  |
| Y2       | 587             | 589.5 |
| Y3       | 589.5           | 592   |
| Y4       | 592             | 594.5 |
| Y5       | 594.5           | 597   |

**■ Forward Voltage Rank Limits (  $I_f = 20\text{mA}$  )**

unit : v

| Part No. | CSLR-U55BYL4-A0 |      |
|----------|-----------------|------|
| Code     | min.            | max. |
| B        | 1.6             | 1.8  |
| C        | 1.8             | 2.0  |
| D        | 2.0             | 2.2  |
| E        | 2.2             | 2.4  |
| F        | 2.4             | 2.6  |

Notes:

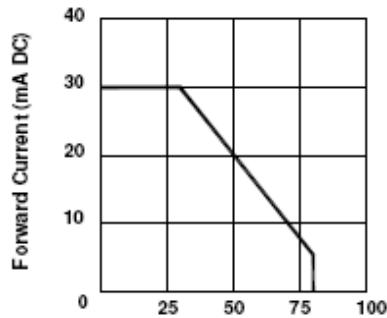
1. Tolerance of measurement of luminous intensity  $\pm 15\%$
2. Tolerance of measurement of Color Coordinates  $\pm 0.01$
3. Tolerance of measurement of forward voltage  $\pm 0.05\text{v}$
4. All data are measured by CSC's test equipment.
5. One delivery will include several color rank, VF rank and 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.



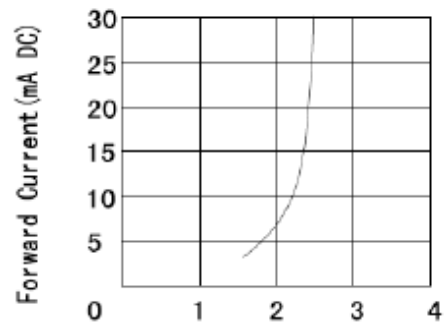
Model No : CSLR-U55BYL4-A0

## ■ Typical Electrical / Optical Characteristics Curves -

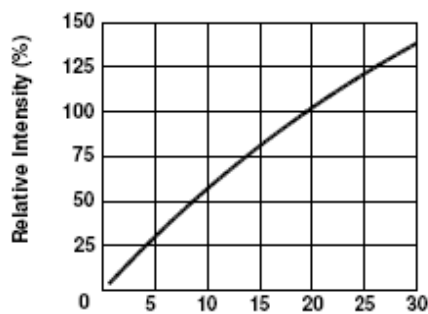
(Ta = 25°C Unless Otherwise Noted)



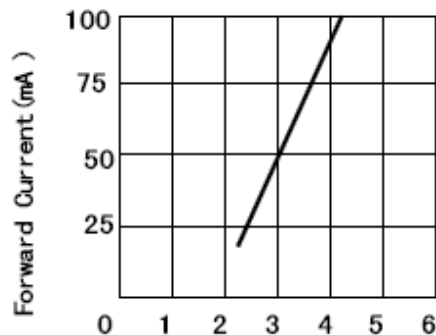
Ambient Temperature Ta (°C)  
Fig 1. Forward Current  
Vs. Ambient Temperature



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)

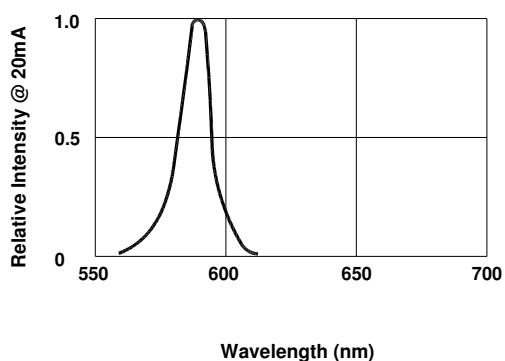


Fig 5. Relative Intensity Vs. Wavelength

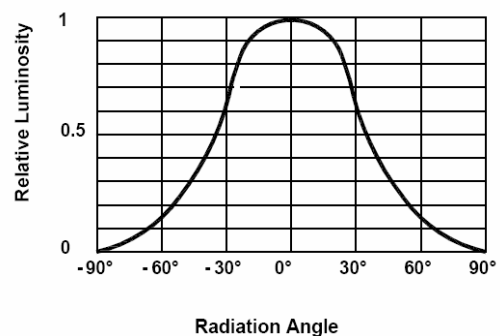


Fig 6. Relative Luminous Intensity vs. Radiation Angle

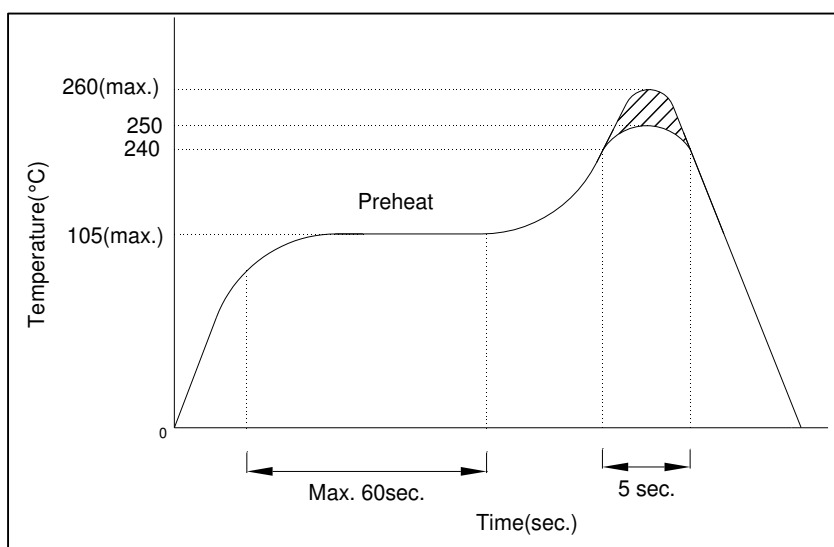


**Model No : CSLR-U55BYL4-A0**

## ■ 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

- a. 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.

- b. 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.