YUJILEDS® BC series LED datasheet

# YJ-BC-900H-G01

## Chip On Board LED

### Applications

- Photographic/broadcast lighting
- Photoelectric device and relevant research

### Features

- Industrial highest CRI performance
- 1500W power consumption
- Φ72 mm LES (Light-Emitting Surface)
- TLCI & TM-30 specified

About Yujileds®

Rev Version: 2.0
P3190007.00

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## General description

Yujileds® BC series 900H LED aims to provide the industrial highest color rendition performance and super-compact layout simultaneously. With flip-chip technology, the 900H LED achieves 1500W within the Φ72 mm LES (Light-Emitting Surface) which is the ideal solution for the applications requiring high power density. It can be widely used in professional stage lighting, photography lighting, cinematography lighting or photoelectric device and relevant research.

The BC series 900H LED also supports the unique service/certification by Yujileds® as described below.


**TM-30-18 specification**

The most advanced colorimetric for color rendition, widely recognized as the successor of CRI.


**TLCI specification**

Based on the Macbeth ColorChecker, for evaluating the colorimetric quality of the broadcast lighting.


**REACH compliance (Phosphor)**

## Ordering information

| PART NUMBER | PRODUCT CODE | CCT | CHROMATICITY BINS |
|---|---|---|---|
| **YJ-BC-900H-G01-56** | P3190007.56 | 5600K | 56L, 56R |
| **YJ-BC-900H-G01-XX** | P3190007.XX | Custom CCT | - |

## Characteristics

Electrical-optical characteristics ($T_A$ = 25°C, 48A)

| PARAMETER | SYMBOL | VALUE | | | UNIT | TOLERANCE |
|---|---|---|---|---|---|---|
| | | MIN. | TYP. | MAX. | | |
| **Forward voltage** | $V_F$ | 30 | - | 41 | V | ±0.05 |
| **Luminous flux** | $\Phi_{5600K}$ | - | 120000[1] | - | lm | - |
| **Correlated color temperature[2]** | $CCT_{5600K}$ | 5300 | 5600 | 5900 | K | - |
| **Color rendering index** | Ra | - | 95 | - | - | ±1 |
| **TCS R9 (CRI red)** | R9 | - | 97 | - | - | - |
| **Fidelity index[3]** | Rf | - | 92 | - | - | - |
| **Gamut index[3]** | Rg | - | 99 | - | - | - |
| **TLCI 2012[4]** | - | - | 98 | - | - | - |
| **View angle** | $2\theta_{1/2}$ | - | 120 | - | Deg | ±5 |

1. Theoretical data.
2. Yujileds® promises the chromaticity coordinate tolerance of ±0.0015 (CIE 1931 x,y) based on Yuji standard equipment shall prevail.
3. Defined by the IES TM-30-18 method, this data is for trial.
4. Defined by the EBU, TLCI is the abbreviation of Television Lighting Consistency Index, this data is for trial.

## Characteristics

Absolute maximum ratings ($T_A$ = 25°C)

| PARAMETER | SYMBOL | LIMIT | UNIT |
|---|---|---|---|
| **Power Consumption** | $P_D$ | 2000 | W |
| **DC Forward Current (pulsed)[1]** | $I_{Fp}$ | 60 | A |
| **DC Forward Current** | $I_F$ | 48 | A |
| **Junction Temperature** | $T_j$ | 125 | °C |
| **Case Temperature[2]** | $T_s$ | 85 | °C |
| **Storage Temperature** | $T_{stg}$ | -30 ~ +80 | °C |

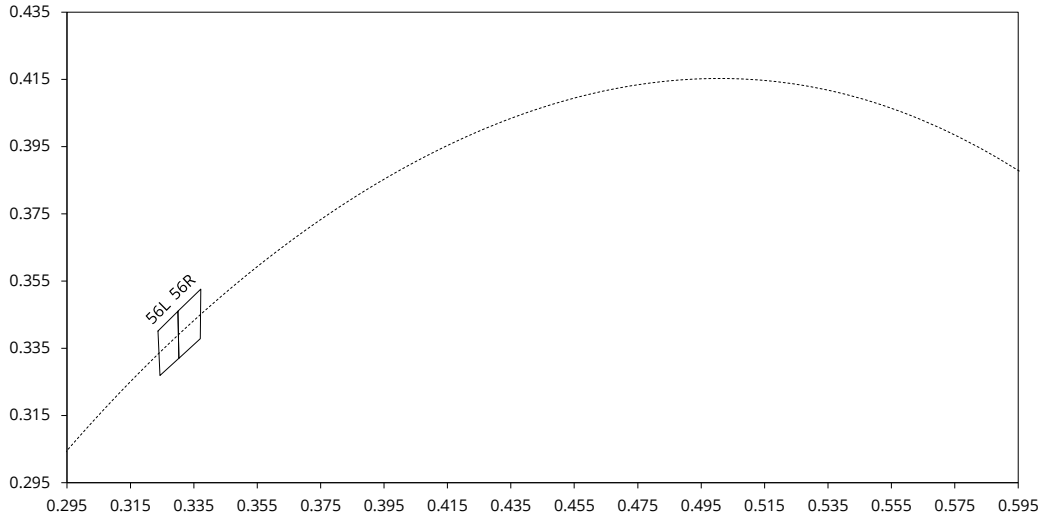
1. Pulse width ≤ 0.1ms, duty ≤ 1/10.
2. Theoretical data.

## Chromaticity group and diagram

Chromaticity bins & coordinates

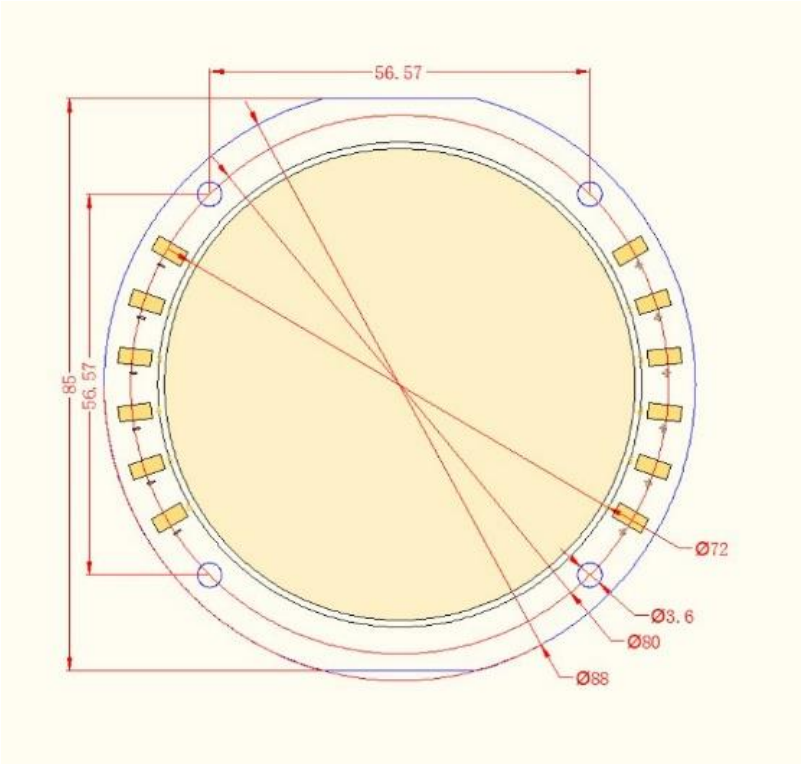
| CCT | BIN | CIE 1931 COORDINATES | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | X0 | Y0 | X1 | Y1 | X2 | Y2 | X3 | Y3 |
| 5600K | 56L | 0.3237 | 0.3401 | 0.3243 | 0.3269 | 0.3303 | 0.3320 | 0.3300 | 0.3460 |
| | 56R | 0.3300 | 0.3460 | 0.3303 | 0.3320 | 0.3370 | 0.3378 | 0.3372 | 0.3526 |

CIE 1931 diagram



## Mechanical dimension

All dimensions in mm, tolerance unless mentioned is ±0.1mm.



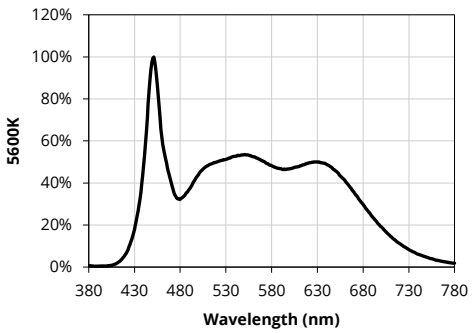

## Materials

| ITEM | DESCRIPTION |
|---|---|
| **Die material** | InGaN |
| **Substrate** | Superconducting aluminum |
| **Encapsulant resin material** | Silicon + Phosphor |

## Characteristic graph

Typical spectral power distribution (normalized)

All characteristic curves are for reference only and not guaranteed.



# About Yujileds


## The Yuji story

Yuji started with LED phosphor materials in 2006, and today we are known for nitride red LED phosphor with superior brightness and stability in the world. With the rapid growth in LED industry during the past years, we have serviced over 260 business customers in over 33 different countries or regions, and established subsidiaries or distributors in 6 locations including China, US, UK and Japan, now we are reaching the global markets with the full coverage efficiently.

## Our capabilities and achievements

In Yujileds®, we are a group of people passionate in creating the maximum value for customers. Dedicated to developing LED phosphor, LED light source and final products, we have accumulated unique experience in different projects. Nowadays, over 30 experts are gathered in a variety of areas including but not limited to semiconductor, chemistry, optics, photoelectricity, circuitry, materials and color science.

In commercial markets, we have been dedicating to providing comprehensive solutions for specific applications by deeply understanding these markets. Our goal is not only to offer an LED product simply but is to grow with customers and share the success of a business.

**Main website: www.yujiintl.com**
Find the comprehensive introduction of Yuji company and our insights into a variety of advanced technologies and applications.
Contact: info@yujigroup.com

**Subordinative website: www.yujileds.com**
Find more about our products, technical posts, featured support and service, blogs, news and whatever interesting and practical information.
Contact: contact@yujileds.com

**Online shop: store.yujiintl.com**
Find your favorite Yujileds® products with outstanding quality, fast shipment and superb sale service.
Contact: webstore@yujigroup.com