EVERSTAR

The Brightest LED

# DATASHEET

## ES-17-XX036-0900-XXXX

VER: V1 | 10.26

everstar.in

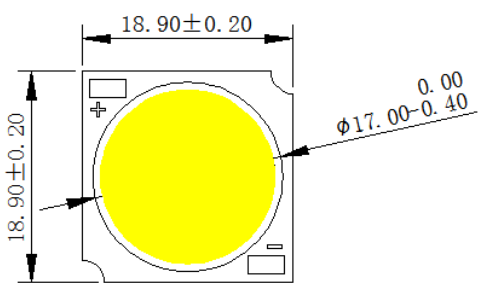
## INTRODUCTION

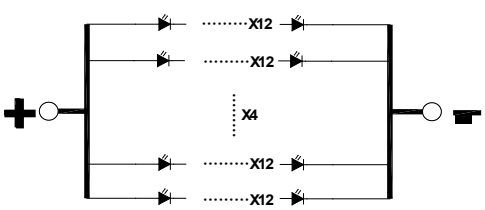
The series of products ,which use aluminum for substrate.The products have high brightness, long life, a variety of power, easy installation, general size, which are especially suitable for indoor and outdoor lighting products, etc.

## FEATURES

- High brightness、high reliability、long life
- Light angle：120°
- Typical color temperature：3000K/4000K/6500K
- Ra ：80+

## OUTLINE DIMENSIONS & CIRCUIT STRUCTURE




NOTES:

- All dimensions are millimeter.
- Tolerance is ±0.3mm unless otherwise noted.
- It is strongly recommended that the temperature of TS（Welding plate）is not higher than 85℃.
- The distance between Ts point and the outer dam is 2mm.

## Limit parameter（Ta = 25℃）

| Parameter | Symbol. | Test Condition | Value | | Unit. |
|---|---|---|---|---|---|
| | | | Min. | Max. | |
| DC Forward Current | IF | -- | -- | 920 | mA |
| Peak Pulse Current | Ipeak | Duty=1/10 1kHz | -- | 1150 | mA |
| Power Dissipation | Pd | -- | -- | 36.4 | W |
| LED Junction Temperature | TJ | -- | -- | 125 | °C |
| Operating Temperature | Topr | -- | -40 | +85 | °C |
| Storage Temperature | Tstr | -- | -40 | +100 | °C |
| ESD Sensitivity | -- | HBM | 2000 | -- | V |
| Soldering Temperature | -- | -- | 350°C for 5 Seconds max | | |

## PHOTOELECTRIC PARAMETERS（Ta = 25°C）

| CCT | Part Number | Ra | Forward Current / mA | Voltage/V | | | Luminous/lm | | | Thermal Resistance RJ/(℃/W) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Min. | Typ. | Min. | Typ. | Max. | Min. | Typ. | Max. | Typ. |
| 3000K | ES-17-XX036-0900-3080 | 80 | 600 | 33.4 | 36 | 39.6 | -- | 2485 | -- | 1.2 |
| 4000K | ES-17-XX036-0900-4080 | 80 | 600 | 33.4 | 36 | 39.6 | -- | 2590 | -- | 1.2 |
| 6500K | ES-17-XX036-0900-6580 | 80 | 600 | 33.4 | 36 | 39.6 | -- | 2700 | -- | 1.2 |

## TYPICAL CURVES

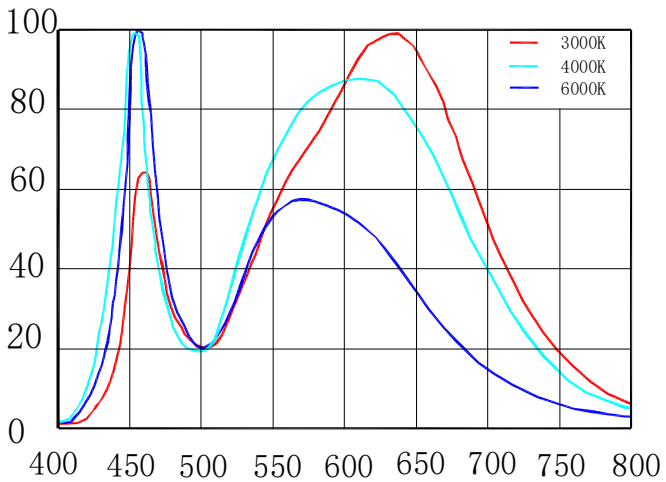



Fig.1 Forward Current(mA) Vs Forward Voltage(V)

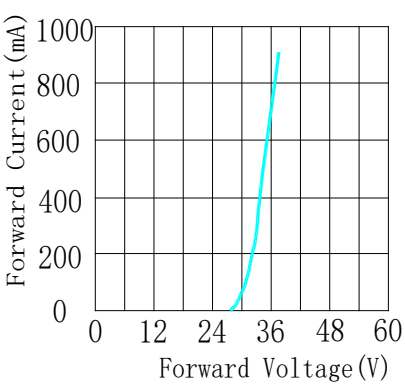



Fig.2 Relative Intensity Vs Forward Current (mA)

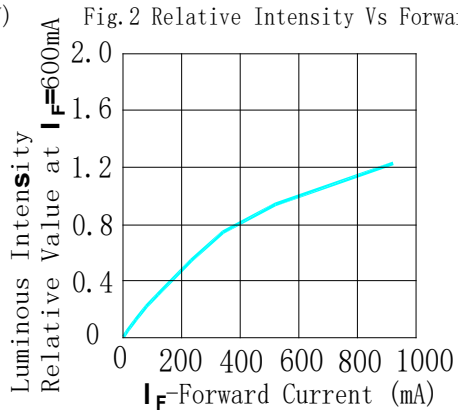



Fig.3 Forward Current Vs Temperature of Ts

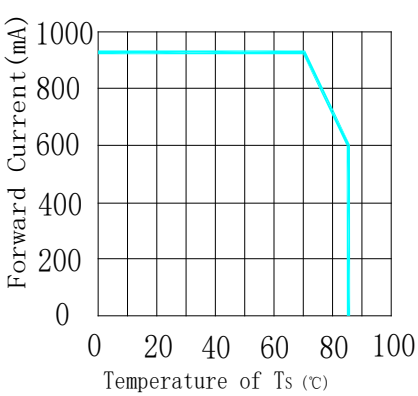
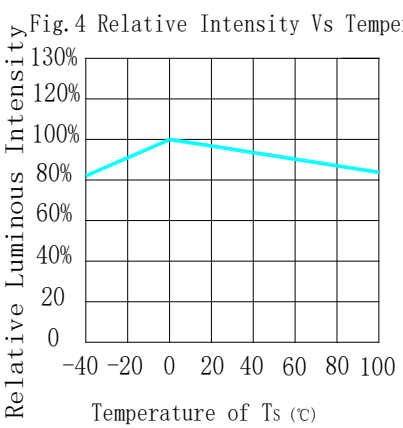
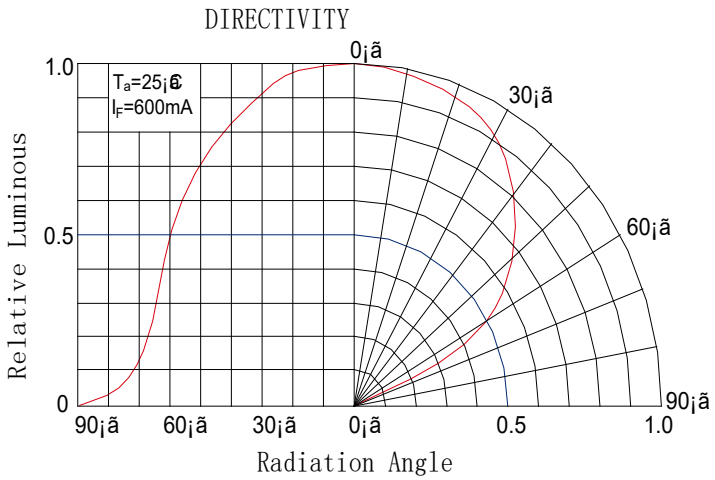
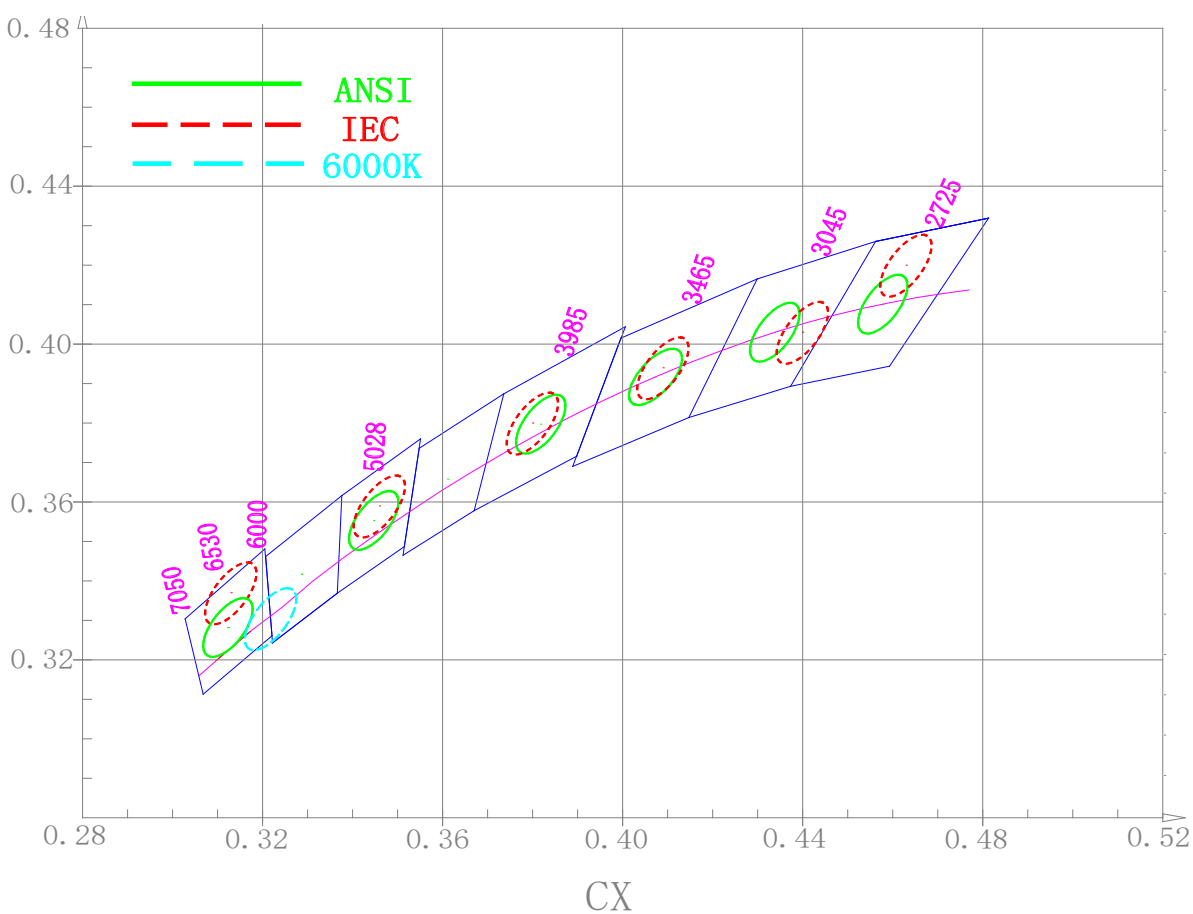



Fig.4 Relative Intensity Vs Temperature of Ts






## Chromaticity Coordinates Ranks(IF=600mA Ta=25°C)



## CHROMATICITY COORDINATES RANKS(IF=300mA Ta=25°C)

| Stands | Colour temperature | Center of Coordinates | | Long axis | Minor axis | Gradient | Explain |
|---|---|---|---|---|---|---|---|
| ANSI | TC | X | Y | a | b | θ | SDCM |
| | 3045±75K | 0.4338 | 0.403 | 0.00714 | 0.00408 | 53.22 | 3-step MacAdam |
| | 3985±140K | 0.3818 | 0.3797 | 0.00939 | 0.00402 | 53.72 | |
| 6500K | 6000K (-280K~+350K) | 0.3217 | 0.3303 | 0.00892 | 0.0038 | 58.23 | 4-step MacAdam |

## RELIABILITY TESTS AND RESULTS

| Test Item | Test Conditions | Duration / Cycle | Quantity | Ac / Re |
|---|---|---|---|---|
| High Temperature Storage | TA=100℃ | 1000 hours | 22 PCS | 0/10 |
| High Temperature Humidity Storage | TA=85℃ RH=85% | 1000 hours | 22 PCS | 0/10 |
| Low Temperature Storage | TA=-40°C | 1000 hours | 22 PCS | 0/10 |
| High Temperature Operating Life | TC=85°C IF=600mA | 1000 hours | 22 PCS | 0/10 |
| Electrostatic Discharges | HBM 2KV 3KΩ 100Pf 3pulses negative | | 22 PCS | 0/10 |
| Temperature Cycle *1 | -40°C(30min)∞ (90s)°C110°C (30min)∞ 90s)-40°C | 300cycles | 22 PCS | 0/10 |

**Notes: Measurements are performed after allowing the LEDs to return to room temperature Failure Criteria.**

| Items | Conditions | Failure Criteria |
|---|---|---|
| Forward Voltagd (VF) | $I_F$=600mA | >Initial value x 1.1 |
| Luminous Flux (ΦV) | $I_F$=600mA | <Initial value x 0.7 |

**Notes:**

- **Tolerance of measurements of the Forward Voltage is ±2%V**
- **Tolerance of measurements of the Luminous Flux is ±10%**
- **Tolerance of measurements of the Color Rendering Ra is ±2**
- **The color temperature control tolerance is plus or minus 3%**

## ENCODING

ENCODING

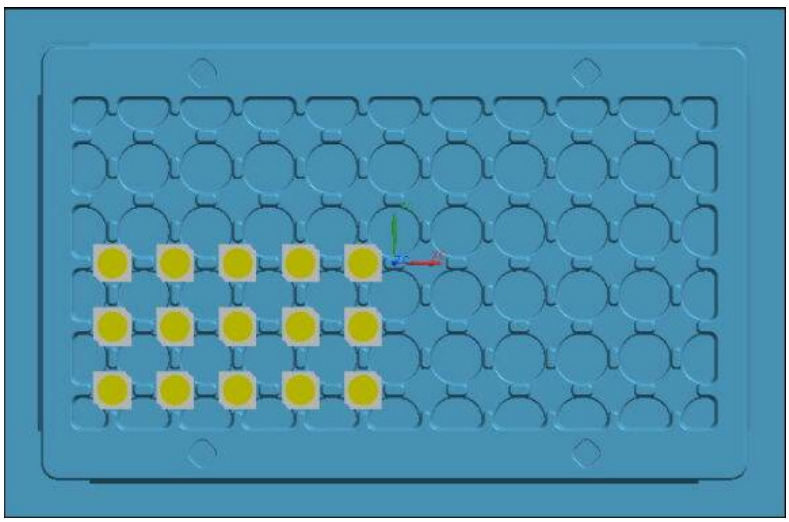
XX-XX-XX XXX-XXXX-XX-XXXX

1 2 3 4 5 6 7 8

Nomenclature

1. ES- Product Code
2. LES- Light Emitting Surface
3. XX- Product Series code
4. Power
5. If typical Current mA
6. CCT
7. CRI-(70/80/90)
8. Lumen BIN code

## PACKAGING



**120PCS**

## LABEL

EVERSTAR
The Brightest LED

RoHS

Model No.

Lot no. Qty :

| VF (v) | IF (mA) | CCT (K) | Ra |
|---|---|---|---|
| | | | |

**Part Code :**

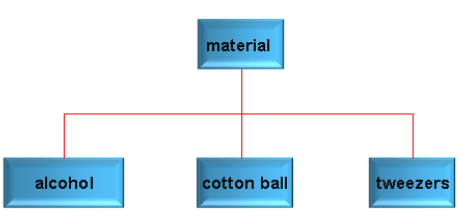
## USING & ATTENTION

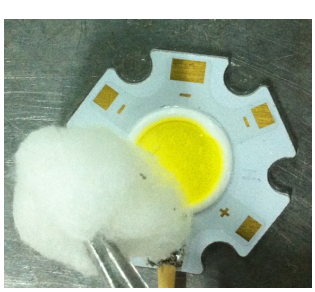
### Soldering

COB light source device is a very fragile encapsulation device. Careless in the process of soldering operation will cause the damage of the products easily and even lead to death lamp. client should be cautious. In the process of soldering iron or other welding equipment to heat up, please don't use hand or other items to put any pressure on the surface of a product, please avoid iron touch within white rubber dam. because under the white dam it is likely to be the gold thread connection with substrate.If it is extruded by any external things,it is likely cause that connections between gold wire and substrate loose or fall off leading to product stroboscopic at work or death lamp. soldering temperature shall not be higher than 350 and the time shall not be more than 3 seconds and the number less than 2 times. When the soldering operation is completed , it is necessary that the product is cooled to room temperature, then washed again, and other operations.

### Cleaning:

After soldering it is recommended that client should use alcohol to clean, The specific method is that Using tweezers clamping alcohol cotton ball in the source surface lightly wipe back and forth to clean, Prohibit the forceps tip injury to the source surface .Before using other similar solvent cleaning, please make sure that to use the solvent will not damage the product packaging materi-als such as silica gel and phosphor etc.



## Storage:

• This product use sealed moisture-proof anti-static bag packaging, storage method is as follows:

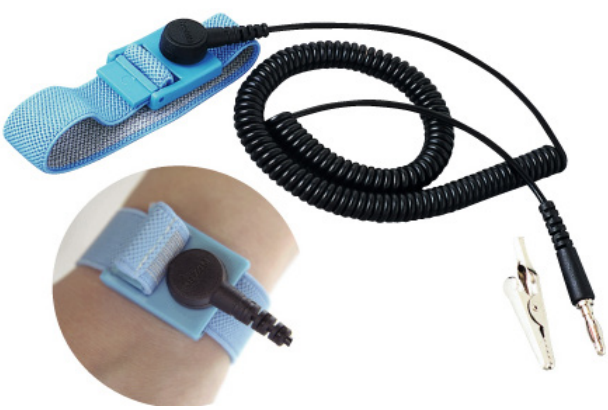
• Opened before, the product must be stored in room temperature and humidity environment is not higher than 70% RH.

• Once opened, the product can be stored in room temperature and humidity is not higher than 70% RH of the environment in a week, please use in the period of time.

• If not timely installation after opening, Should be stored in dry cabinet temperature and humidity not higher than 10%RH .

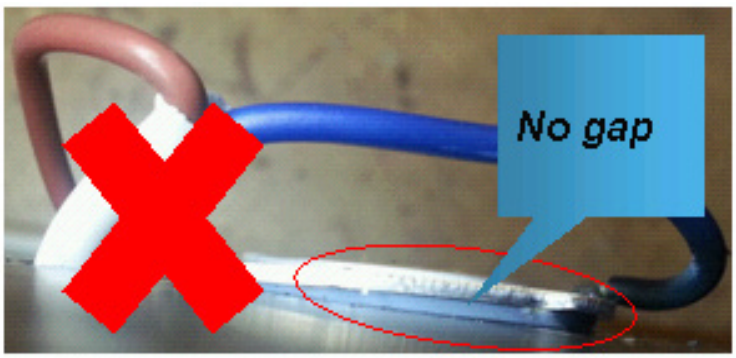
## Static Electricity:

Static and surge can cause product characteristics change, such as forward voltage to reduce, if severe cases may even damage the product. So When in use effective anti-static measures must be taken. All related equipment and machines should be properly grounded, at the same time must take other measures to prevent static and surge. Use anti-static bracelet, anti-static MATS, anti-static overalls, work shoes, gloves, anti-static container, are effective measures to prevent static and surge.



## Driving & Cooling Scheme:

In the design of driving, by the current cannot exceed a maximum value specified products. Over voltage, over current pulses generated at the moment of the power switch or reverse voltage pulse may cause product damage and even death light. Therefore it is recommended that choose drive power selection of high stability. Because the heat this for product is concentrated, It should be the choice of high thermal conductivity thermal grease or conductive adhesive and Evenly coated on the light back. There can be no gap between substrate and radiator.




## Halogen:

• The surface of the metal line material of this product is metal silver. As we all known silver and sulfur reaction generated black sulfide silver Ag2S extremely easily, cause substrate silver coating color, color temperature drift and light failure, greatly influence the product performance. In use process, the customer shall not use sulfur content is higher than 0.5% of the material. Common sulfide materials are:

• Production materials: carton/leather, flux, rubber, rubber gloves/sulfur gloves and other rubber materials, etc.

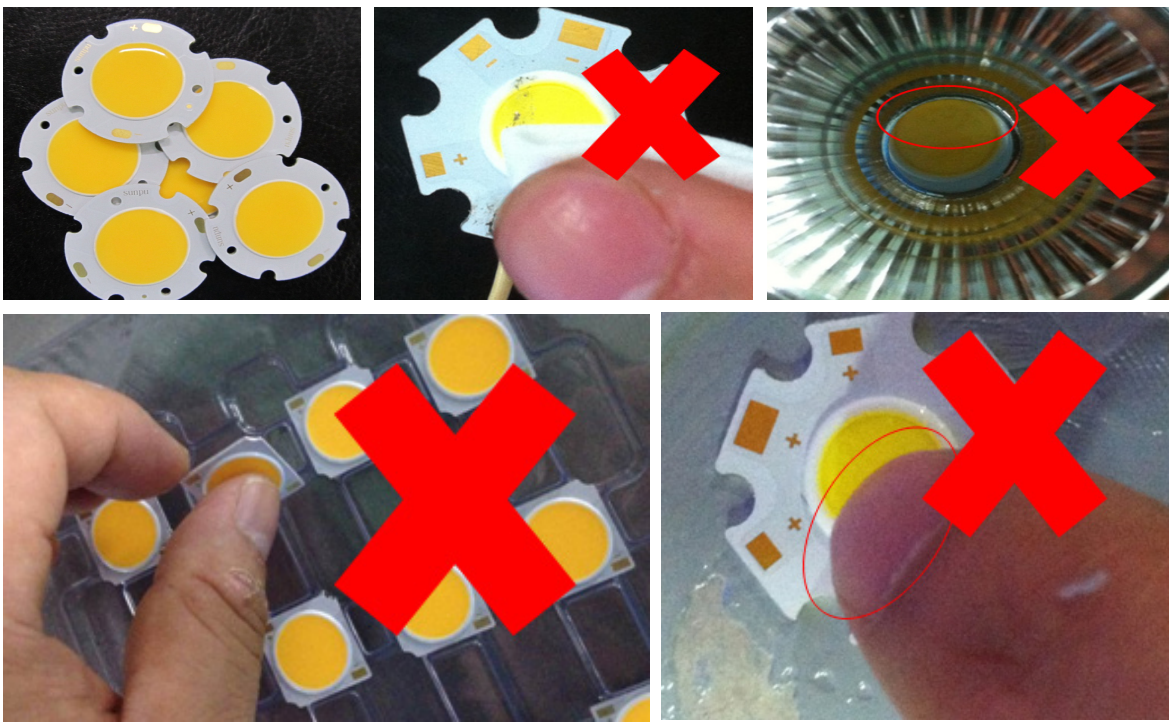
• Lamps and lanterns material: PCB, rubber gasket, sealing glue, and potting glue, insulating sleeve with sulphur, sulphur lamp shell, etc.

## External Force:

• Packaging adhesive products (including the white dam colloid) is fragile , when in use should pay attention to the following points:

• Do not use hard, sharp objects scratch, wipe the packaging adhesive part.

• Do not hand take products, avoid pollution package silica surface, and influence its optical properties.

• It should be noted that when using tweezers clip excessive pressure may damage , packaging silica gel,for example, damage, scratches, peeling,serious deformation and die lamp.

• Products dropped, the product may lead to deformation.