EVERSTAR
The Brightest LED

# DATA SHEET

## ES-25-ES100-3200-XXXXX

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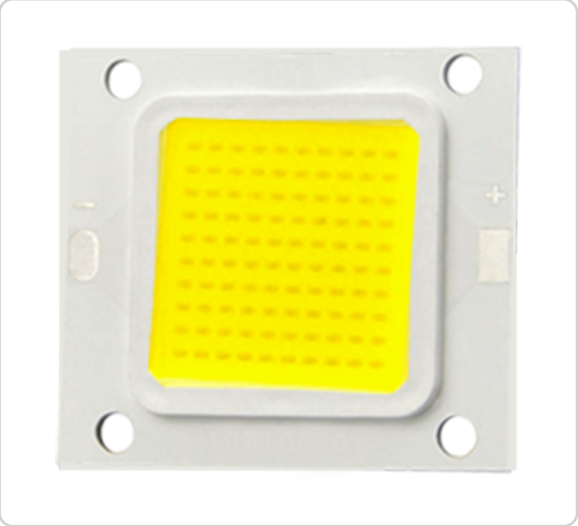
# ES-25-ES100-3200-XXXXX Datasheet

Our product has excelllent reliability & high quality. Everstar COB series covers a wide range of luminous flux.

The element arrangement in LED package is capable of utilizing light more effectively with higher performance.



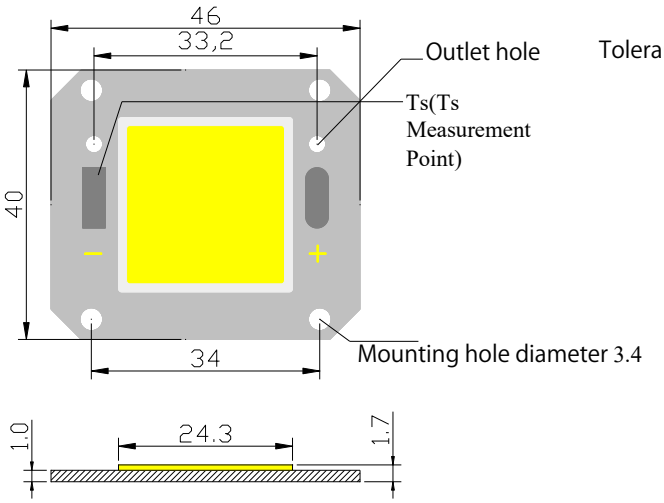
## FEATURES

- High color quality, high flux, high efficacy
- Low thermal resistance
- Long lifetime
- Easy to assemble
- RoHS compliant
- Available in white chromaticity bins form ANSI

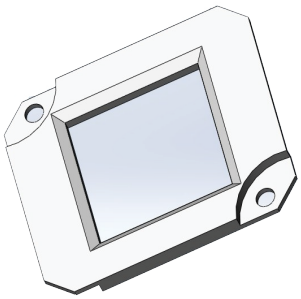
## APPLICATIONS

- Flood Lights
- High Bay
- Street Lights
- Mining Lamp

## Mechanical Dimensions




Tolerance unless otherwise specified: ±0.3mm.



All dimensions are in millimeters (mm), tolerances are ±0.25 mm.

## Electro Optical Parameters

| Parameters | Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|
| Forward V | IF=3200mA | 30 | 32 | 36 | V |
| Forward A | | - | - | 3200 | mA |
| Luminous flux | TC=2700K | - | - | - | LM |
| | TC=3000K | 11250 | 11750 | 12250 | |
| | TC=4000K | 11750 | 12300 | 12800 | |
| | TC=5000K | - | - | - | |
| | TC=5700K | - | - | - | |
| | TC=6000K | 11450 | 12000 | 12500 | |
| | TC=6500K | - | - | - | |
| Power | | - | 100 | - | W |
| Ra | | 65 | 70 | - | |

Note:

1) device tolerance for luminous flux:±4%
2) device tolerance for color coordinate:±0. 002
3) device tolerance for forward voltage:±0.1V
4) device tolerance for angle :±5 degrees

## Absolute Maximum Ratings

| Item | Symbol | Min | Max | Unit |
|---|---|---|---|---|
| Operating Temperature | $T_{opr}$ | -10 | +85 | °C |
| Storage Temperature | $T_{stg}$ | -40 | +100 | °C |
| Soldering Temperature | $T_{sol}$ | / | 350 | °C |
| Junction temperature | $T_j$ | / | 120 | °C |
| Thermal Resistance | $R_{j-c}$ | / | 1.0 | °C/W |
| Antistatic Ability | ESD | 2000 | / | V |

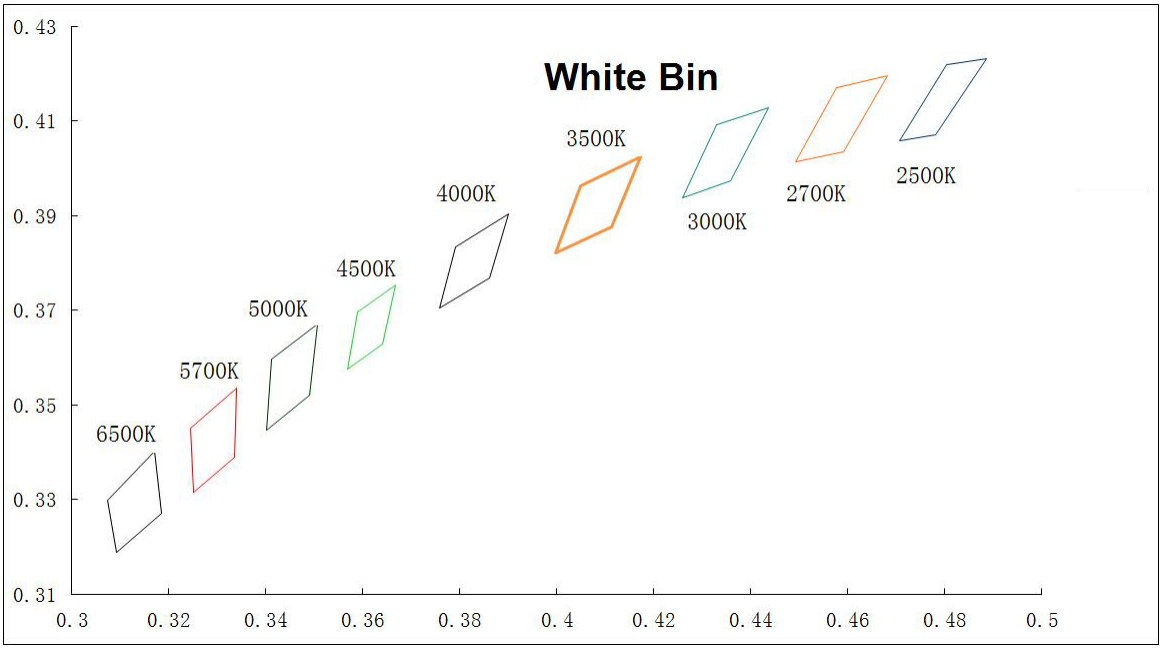
Note:

The temperature of Aluminum PCB do not exceed 85°C.

When hand soldering, keep the temperature of iron below 350°C and for less than 5 seconds

## Chromaticity Coordinate Groups

White bins on CIE -1931 (Ta=25°C)



Color Temperature and BIN

| CT | 2500K | 2700K | 3000K | 3500K | 4000K | 4500K | 5000K | 5700K | 6000K | 6500K |
|---|---|---|---|---|---|---|---|---|---|---|
| CT Range | 2410-2550 | 2640-2810 | 2940-3140 | 3330-3580 | 3820-4120 | 4375-4635 | 4840-5200 | 5400-5900 | 5700-6300 | 6150-6850 |
| CT Factor | ± 70 | ± 85 | ± 100 | ± 125 | ± 150 | ± 130 | ± 180 | ± 250 | ± 300 | ± 350 |
| Center CT | 2480 | 2725 | 3045 | 3465 | 3985 | 4503 | 5028 | 5665 | 6000 | 6530 |

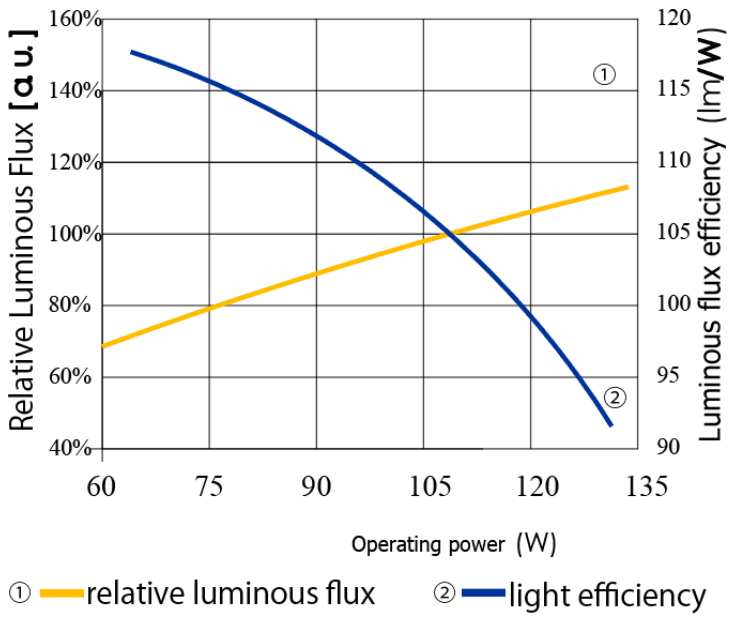
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6500K | 0.3178 | 0.3336 | 0.3184 | 0.3271 | 0.3093 | 0.3188 | 0.3084 | 0.3243 |
| 6000K | 0.3152 | 0.337 0 | 0.3167 | 0.3241 | 0.3277 | 0.3330 | 0.3274 | 0.3470 |
| 5700K | 0.3338 | 0.3463 | 0.3336 | 0.3390 | 0.3251 | 0.3315 | 0.3248 | 0.3383 |
| 5000K | 0.3498 | 0.3595 | 0.3490 | 0.3520 | 0.3401 | 0.3446 | 0.3406 | 0.3521 |
| 4500K | 0.3667 | 0.3753 | 0.3654 | 0.3691 | 0.3579 | 0.3636 | 0.3589 | 0.3697 |
| 4000K | 0.3901 | 0.3904 | 0.3881 | 0.3836 | 0.3774 | 0.377 | 0.3791 | 0.3835 |
| 3500K | 0.4173 | 0.4025 | 0.4143 | 0.3951 | 0.4023 | 0.3892 | 0.4048 | 0.3963 |
| 3000K | 0.4436 | 0.4129 | 0.4397 | 0.4051 | 0.4294 | 0.4015 | 0.4328 | 0.4092 |
| 2700K | 0.4681 | 0.4196 | 0.4636 | 0.4116 | 0.4535 | 0.409 2 | 0.4577 | 0.4171 |
| 2500K | 0.4885 | 0.4232 | 0.4833 | 0.4152 | 0.414 | 0.422 | 0.4885 | 0.4232 |

## Characteristic Curves

Forward Current / Radiation/ Temperature Characteristics

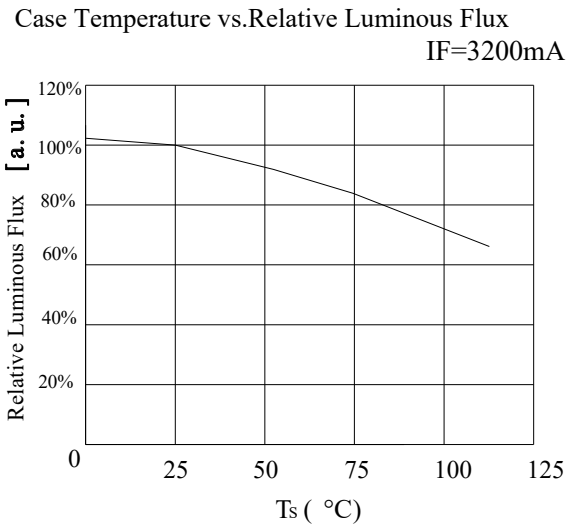
Luminous flux efficiency vs operating power (blue line)

Relative Luminous Flux vs Operating power (yellow line)



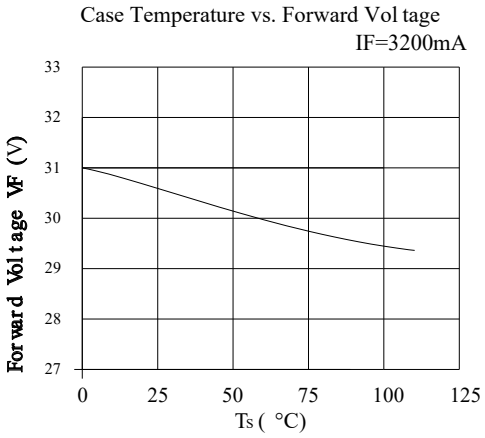
## Relative Luminous Intensity vs Substrate Temperature

If= 3200mA

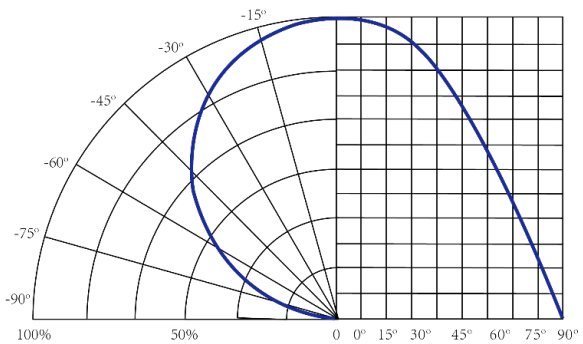



## Forward Voltage vs Substrate Temperature

If= 3200mA

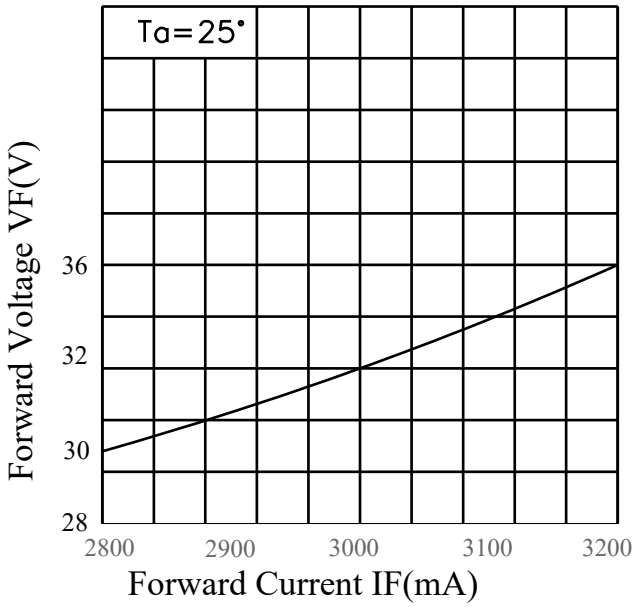



## Radiation Angle

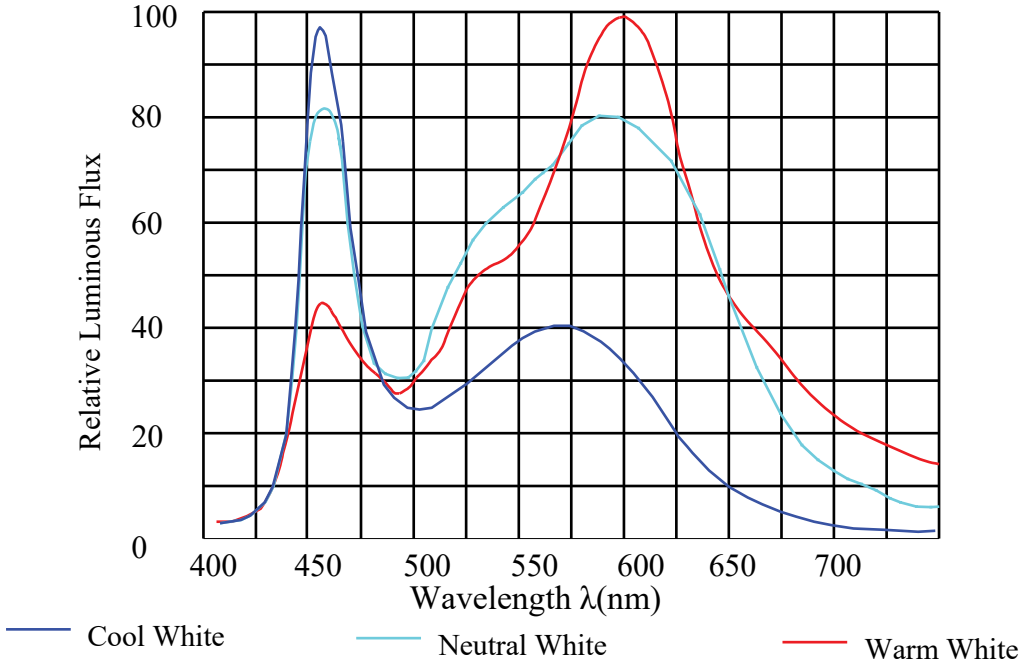


## Color Shift Characteristics

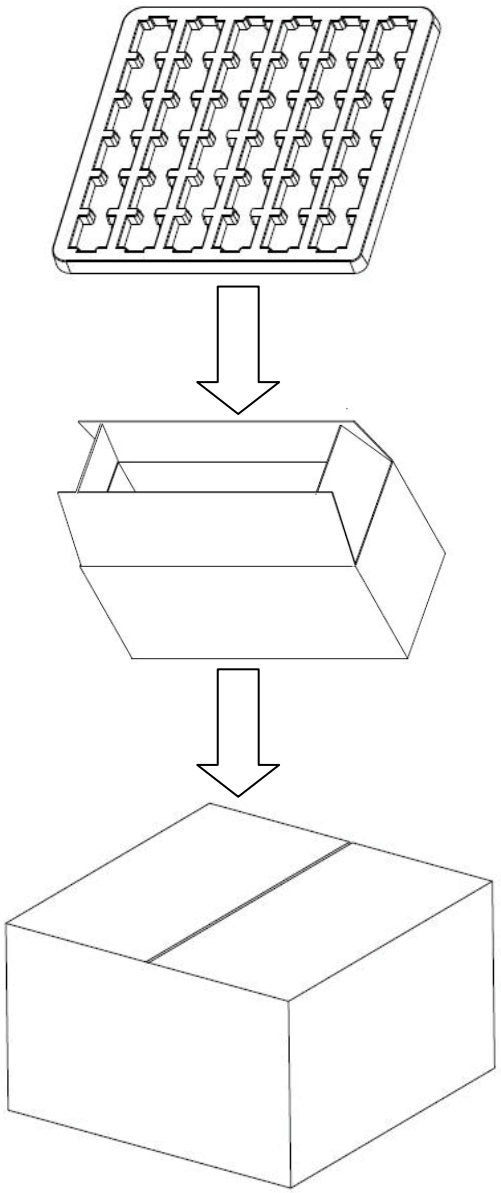
Forward Voltage vs. Forward Current




Wavelength Characteristics Ta=25°C



## Manner of packing



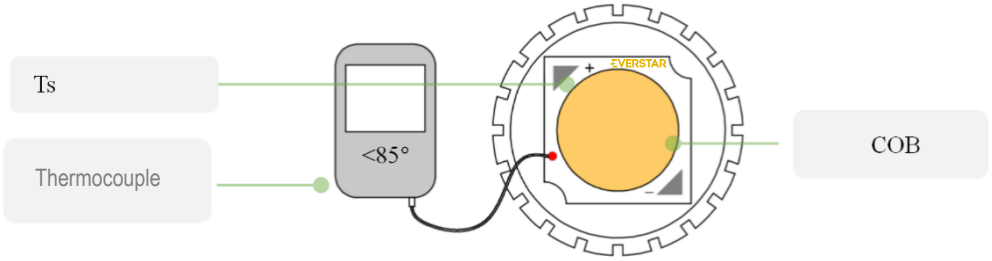
Tray Size : 17.5*18*1.5 cm
COB Quantity per tray : 49 pcs
2 trays in a vacuumed bag

Inner Box Size : 37*18.5*10.6 cm
10 vacuumed bags in one inner box
COB Quantity per inner box : 980 pcs
Total gross weight : 1.2 KG

Carton Size :41*41*27 cm
4 inner boxes in one carton
COB Quantity per carton : 3920 pcs
Total gross weight : 5.7 KG

*Above is for reference only, actual packaged quantities are based on the order.

**Thanks for using Everstar LED COB Modules!**




## Safety Tips

During using this product, the country relative safety standards (eg. GB7000.1 - 2007) should be accorded with. We will not be liable for the users' acts of non - observance of the country safety standards.

## Cautions

### Storage

Store the parts in a dry, nitrogen- purged cabinet or container that actively maintains the temperature at 20 - 30 and the RH at no greater than 60%.

### Precautions for Use

By using anti - static - electricity bracelets/ cushions/ overalls/ shoes/gloves and anti - static - electricity containers, it can effectively prevent static electricity and surge. The soldering iron point should be properly grounded. When hand soldering, keep the temperature of iron below less 350°C and less than 5 seconds

### ESD Protection

You need to take the protective measures for the product being sensitive to static electricity. It can lead to product damage electricity is beyond the maximum rating. The ground resistance if the high voltage current made by static can't beyond 10 Ω.

### Cleaning

Please do not make the thermal grease, oil exposed to the light - emitting surface. Airgun can be used to remove dirt. Gun's Pressure: 0.5MPa, Time: 1 to 2 seconds, Distance: more than 20cm.

### Overcurrent Protection

It is recommended to design PCB with ground circuit. Pay special attention to the operating environment of the products. Humidity must be between 50% and 80%, or else electrostatic breakdown and overcurrent damage would occur. The operating temperature is -10°C ~ 85°C. When using this product, please observe the absolute maximum ratings and the instructions for operating outlined in these data sheets. Company do not assume any responsibility for any damage, resulting from use of product which does not comply with the absolute maximum rating.