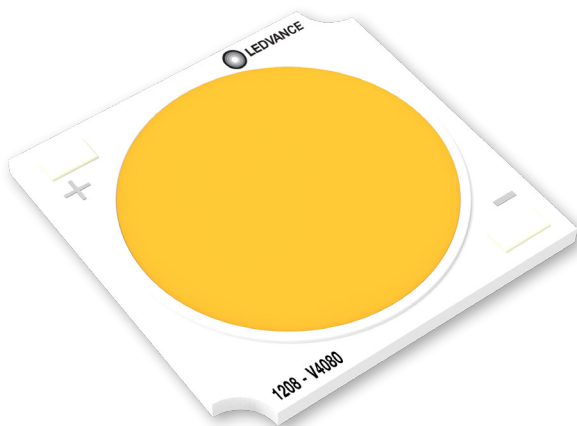


PRODUCT DATASHEET

LVCOB VAL-050-1208

COB LED VALUE 50W 1208



AREAS OF APPLICATION

- Tracking Light
- Spot Light
- Par Light
- Bulb Light
- Down Light

PRODUCT BENEFITS

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

TECHNICAL DATA

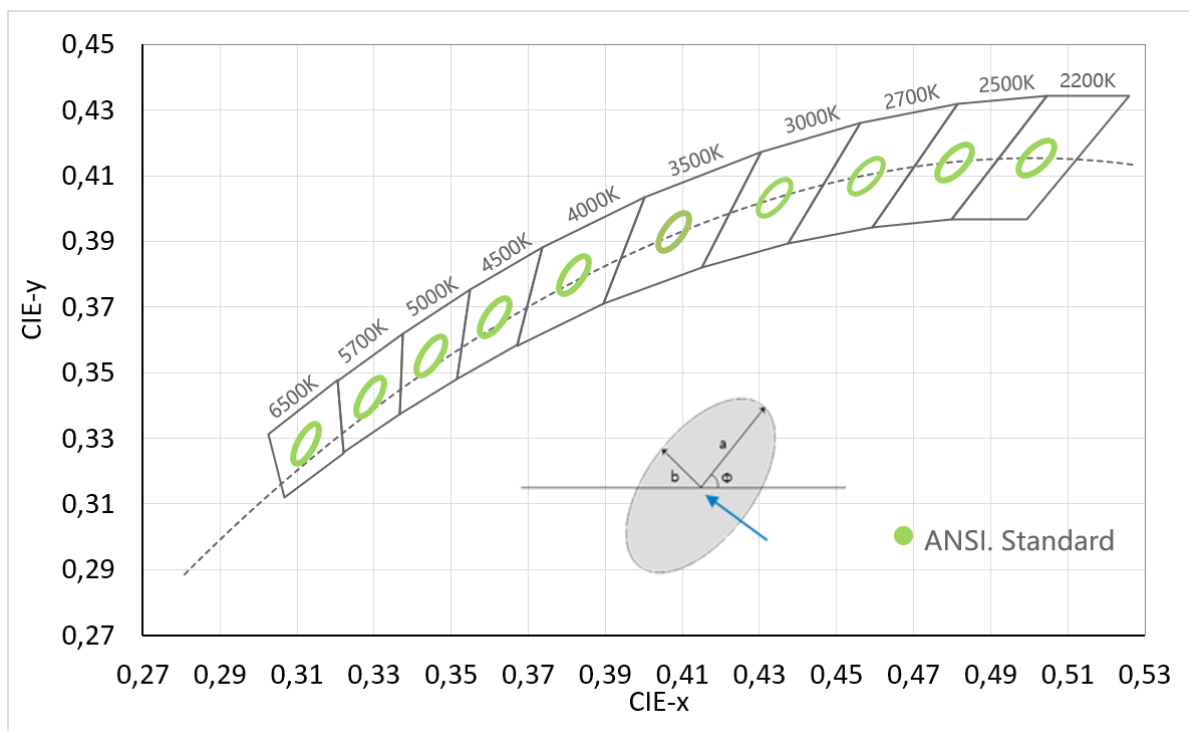
Electrical and Thermal Characteristics

| Item | Symbol | Min | Max | Unit |
|-----------------------|--------|------|------|------|
| Forward Current | IF | / | 1440 | mA |
| Forward Voltage | VF | 31.2 | 36.9 | V |
| Operating Temperature | Topr | -40 | +105 | °C |
| Storage Temperature | Tstg | -40 | +120 | °C |
| Soldering Temperature | Tsol | / | 350 | °C |
| Junction Temperature | Tj | / | 150 | °C |
| Case Temperature | Tc | / | 105 | °C |
| Thermal Resistance | Rj-c | / | 0.47 | °C/W |
| Antistatic Ability | ESD | 2000 | / | V |

The using temperature is less than 105°C; please reduce the using current or contact with us if using temperature is more than 105°C.

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

Chromaticity Coordinate Groups



| Standard Type | ANSI/A | | 2-step | | 3-step | | θ |
|---------------|--------------|--------|--------|--------|--------|--------|-------|
| | Center Point | CIE-X | CIE-Y | a | b | a | |
| 2200K | 0.5018 | 0.4153 | 0.0050 | 0.0028 | 0.0075 | 0.0042 | 52.78 |
| 2500K | 0.4806 | 0.4141 | 0.0052 | 0.0028 | 0.0078 | 0.0042 | 53.10 |
| 2700K | 0.4578 | 0.4101 | 0.0054 | 0.0028 | 0.0081 | 0.0042 | 53.42 |
| 3000K | 0.4339 | 0.4033 | 0.0056 | 0.0027 | 0.0083 | 0.0041 | 53.13 |
| 3500K | 0.4078 | 0.3930 | 0.0063 | 0.0028 | 0.0095 | 0.0042 | 52.58 |
| 4000K | 0.3818 | 0.3797 | 0.0063 | 0.0027 | 0.0094 | 0.0040 | 53.43 |
| 4500K | 0.3613 | 0.3670 | 0.0059 | 0.0025 | 0.0088 | 0.0038 | 56.4 |
| 5000K | 0.3446 | 0.3551 | 0.0055 | 0.0024 | 0.0082 | 0.0035 | 59.37 |
| 5700K | 0.3287 | 0.3425 | 0.0050 | 0.0021 | 0.0075 | 0.0032 | 58.86 |
| 6500K | 0.3123 | 0.3283 | 0.0045 | 0.0019 | 0.0067 | 0.0029 | 58.34 |

LEDVANCE maintains chromaticity (x, y) ± 0.005 , color region stay within MacAdam 2-step ellipse from the chromaticity center.

The ANSI standard is A standard for short, reference standard is ANSI-C78.377-2015.

The using current should be consistent with the label, and chromaticity will change if working current is outside this range of the label.

Product Selection Guide

If=720mA Tj= 85°C

| Product Code | CCT | CRI Min. | Luminous Flux (lm) | | Efficacy (lm/w) Typ. | Voltage (V) Typ. |
|--------------------------|-------|----------|--------------------|------|----------------------|------------------|
| | | | Min. | Typ. | | |
| LVCOB VAL-050-1208-V3070 | 3000K | 70 | 3819 | 4063 | 166 | 34 |
| LVCOB VAL-050-1208-V4070 | 4000K | 70 | 3941 | 4193 | 171 | 34 |
| LVCOB VAL-050-1208-V5070 | 5000K | 70 | 3942 | 4194 | 171 | 34 |
| LVCOB VAL-050-1208-V2780 | 2700K | 80 | 3399 | 3616 | 148 | 34 |
| LVCOB VAL-050-1208-V3080 | 3000K | 80 | 3536 | 3762 | 154 | 34 |
| LVCOB VAL-050-1208-V3580 | 3500K | 80 | 3640 | 3872 | 158 | 34 |
| LVCOB VAL-050-1208-V4080 | 4000K | 80 | 3713 | 3950 | 161 | 34 |
| LVCOB VAL-050-1208-V5080 | 5000K | 80 | 3744 | 3983 | 163 | 34 |
| LVCOB VAL-050-1208-V5780 | 5700K | 80 | 3706 | 3943 | 161 | 34 |
| LVCOB VAL-050-1208-V6580 | 6500K | 80 | 3694 | 3930 | 161 | 34 |
| LVCOB VAL-050-1208-V2790 | 2700K | 90 | 2865 | 3048 | 125 | 34 |
| LVCOB VAL-050-1208-V3090 | 3000K | 90 | 2999 | 3190 | 130 | 34 |
| LVCOB VAL-050-1208-V3590 | 3500K | 90 | 3119 | 3319 | 136 | 34 |
| LVCOB VAL-050-1208-V4090 | 4000K | 90 | 3184 | 3387 | 138 | 34 |
| LVCOB VAL-050-1208-V5090 | 5000K | 90 | 3227 | 3433 | 140 | 34 |

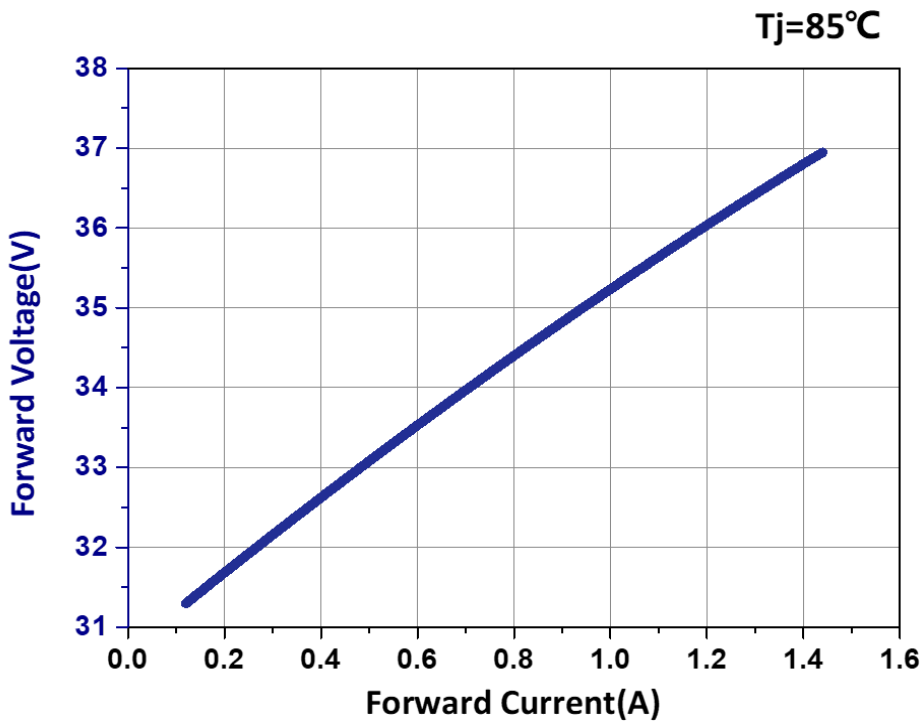
The tolerance of measurement at our tester is voltage±5%, luminous flux±7% and Ra±1.

Luminous flux inside the integrating sphere measurements. (Tj=Tc=85°C)

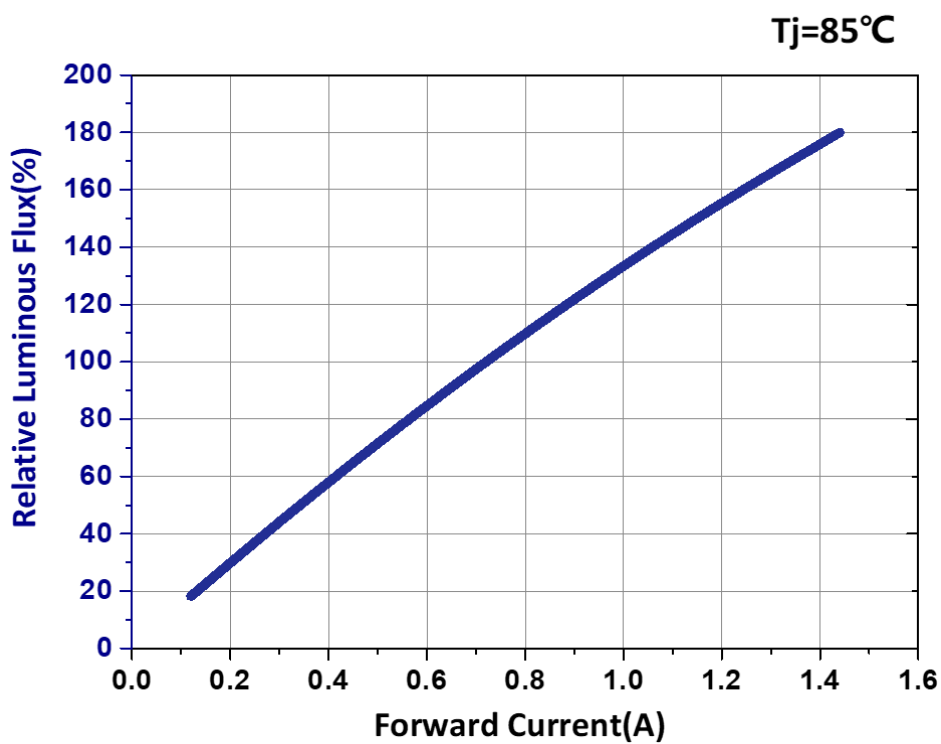
CHARACTERISTIC CURVES

Forward Current Characteristics

Forward Voltage vs Forward Current

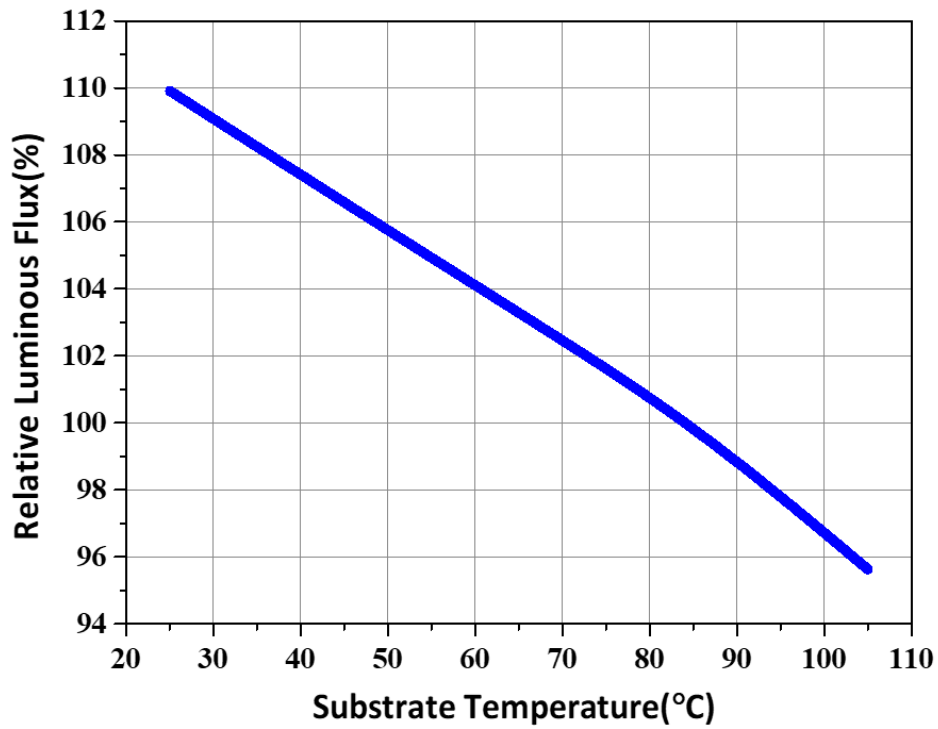


Forward Current vs Relative Luminous Flux

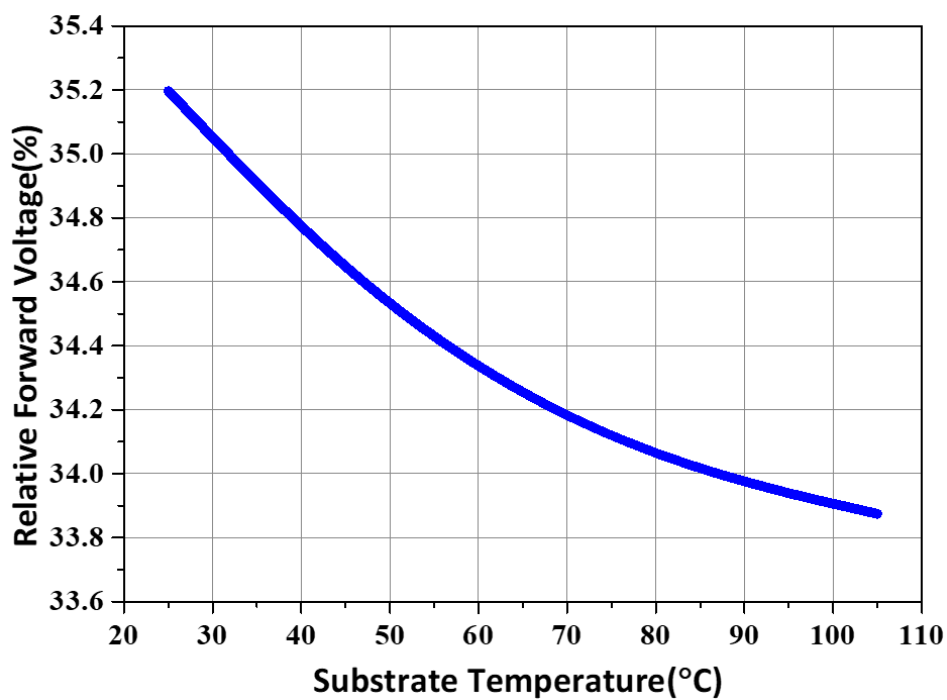


Temperature Characteristics

Relative Luminous Intensity vs Substrate Temperature $I_f=720\text{mA}$

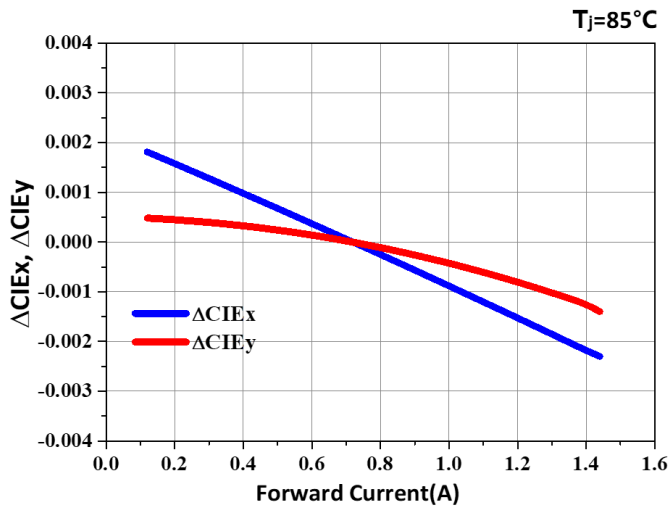


Forward Voltage vs Substrate Temperature $I_f=720\text{mA}$

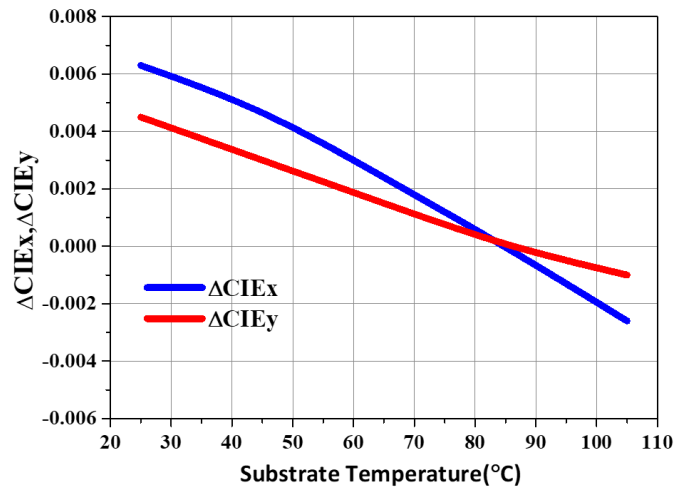


Color Shift Characteristics

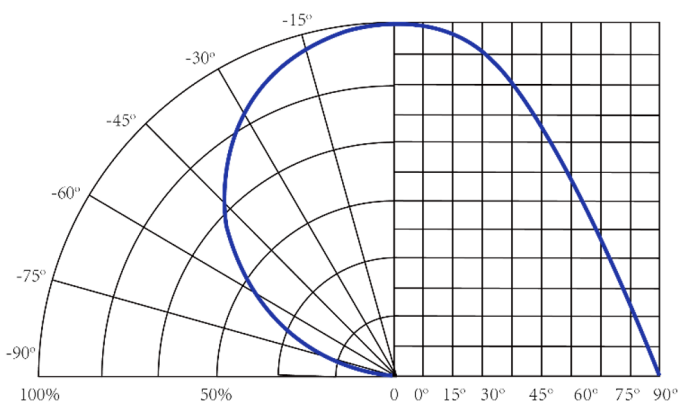
$\Delta CIE_x, \Delta CIE_y$ vs Forward Current
CRI(Ra)=80 $T_j=85^\circ\text{C}$ $I_f=720\text{mA}$



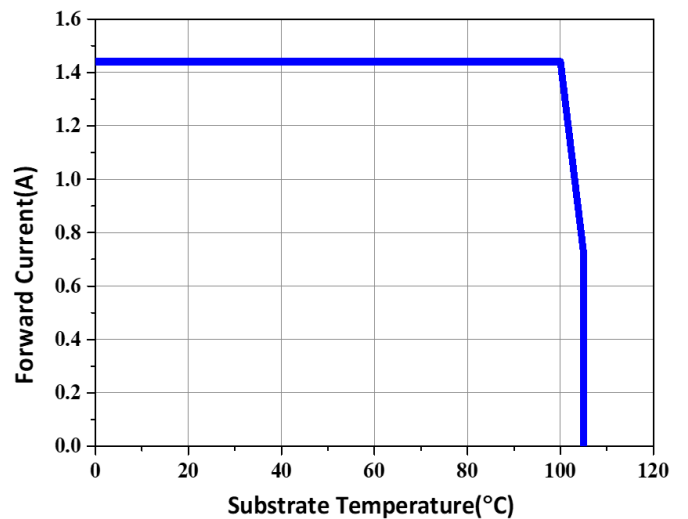
$\Delta CIE_x, \Delta CIE_y$ vs Substrate Temperature
CRI(Ra)=80 $T_j=85^\circ\text{C}$ $I_f=720\text{mA}$



Radiation Angle



Maximum Forward Current vs Case Temperature Graph

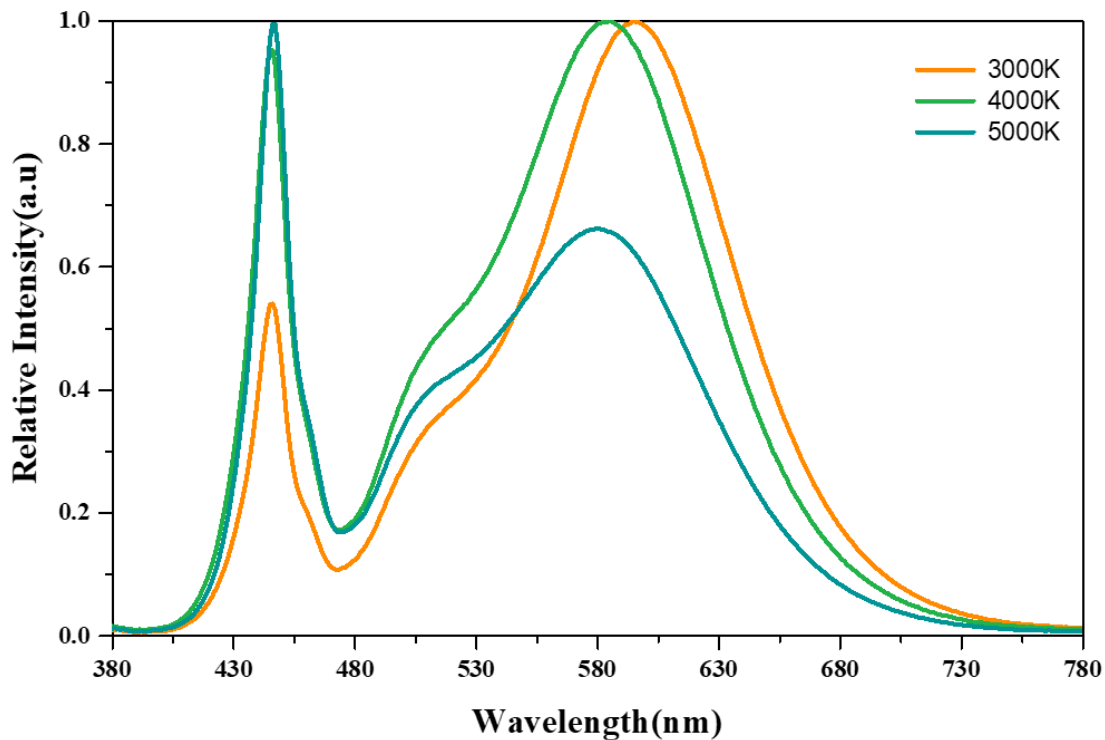


Spectrum Distribution

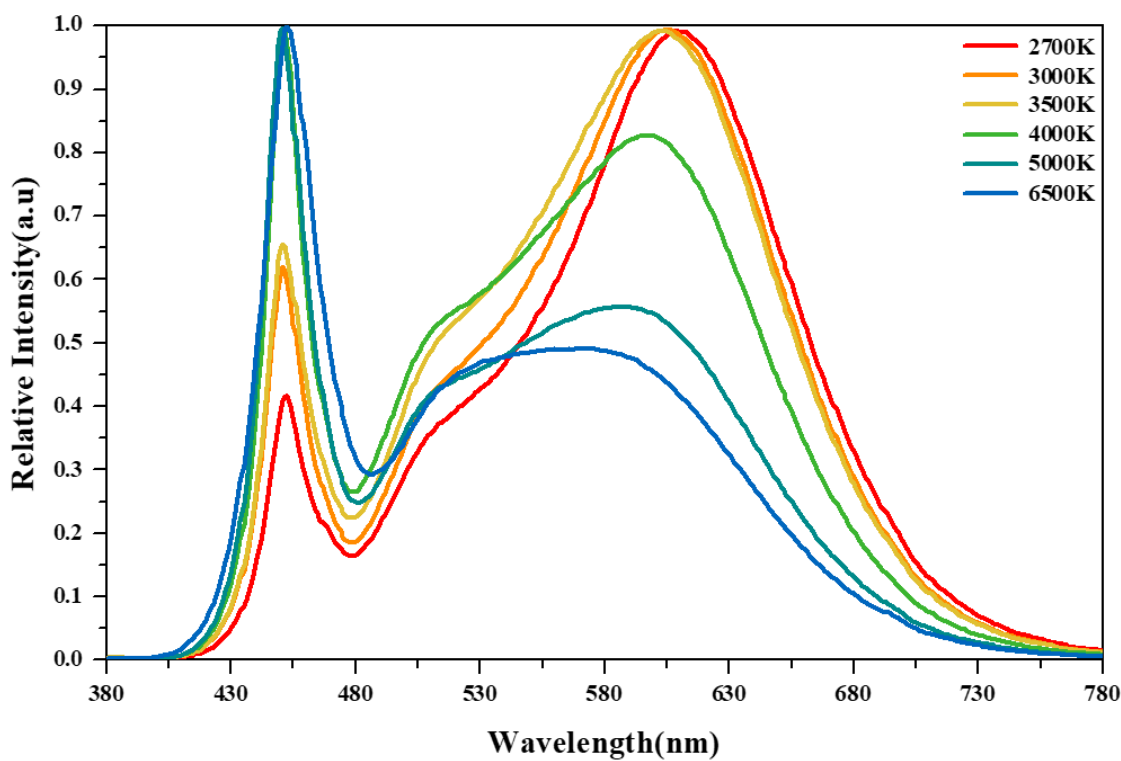
Relative Intensity vs Wavelength

T_j=85°C I_f=720mA

CRI(Ra) 70Min

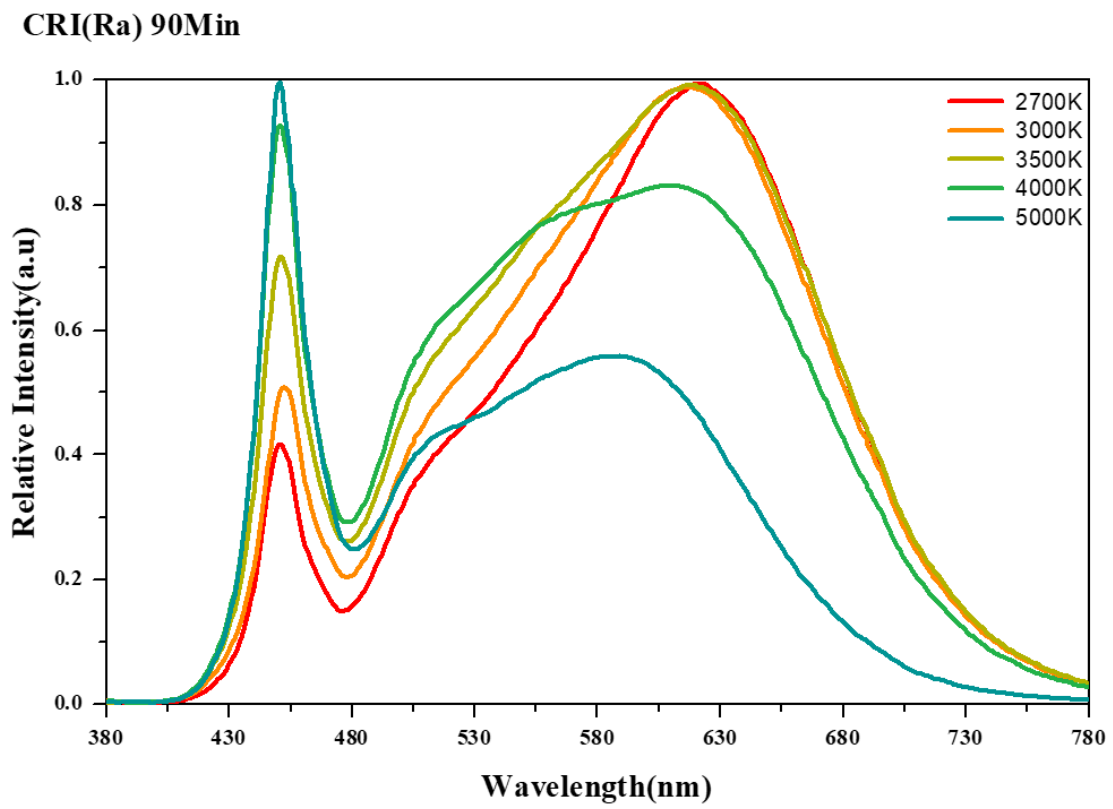


CRI(Ra) 80Min

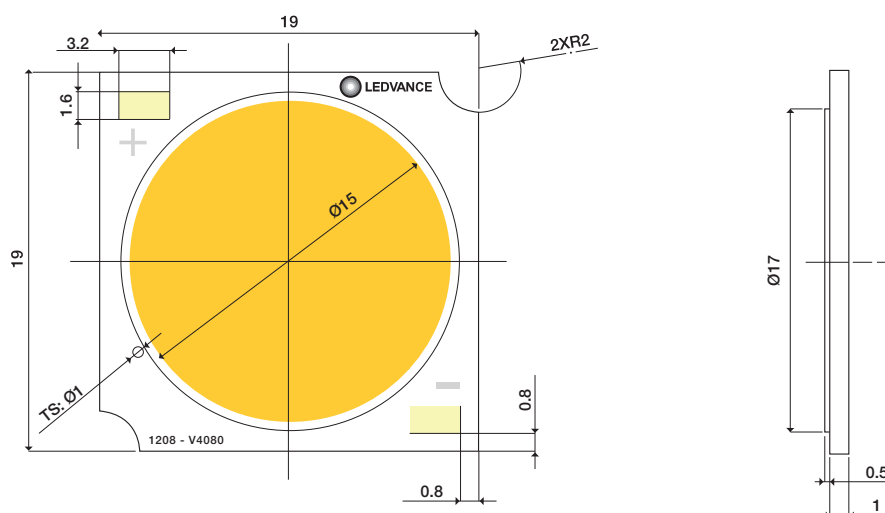


Characteristic Curves

Spectrum Distribution

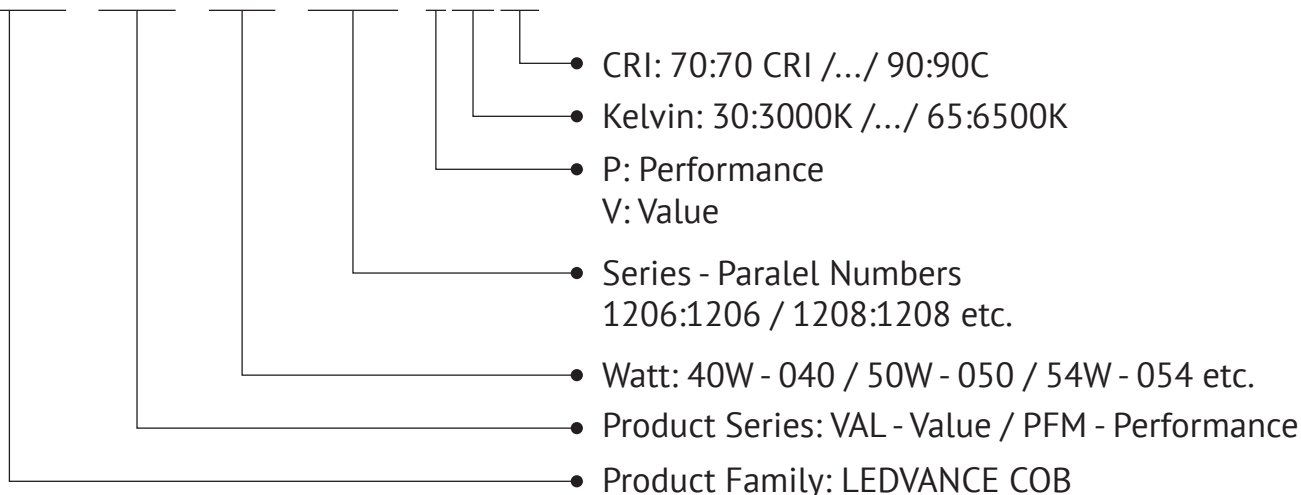


MECHANICAL DIMENSION



ENCODING

LVCOB - PFM - 040 - 1206 - P3070

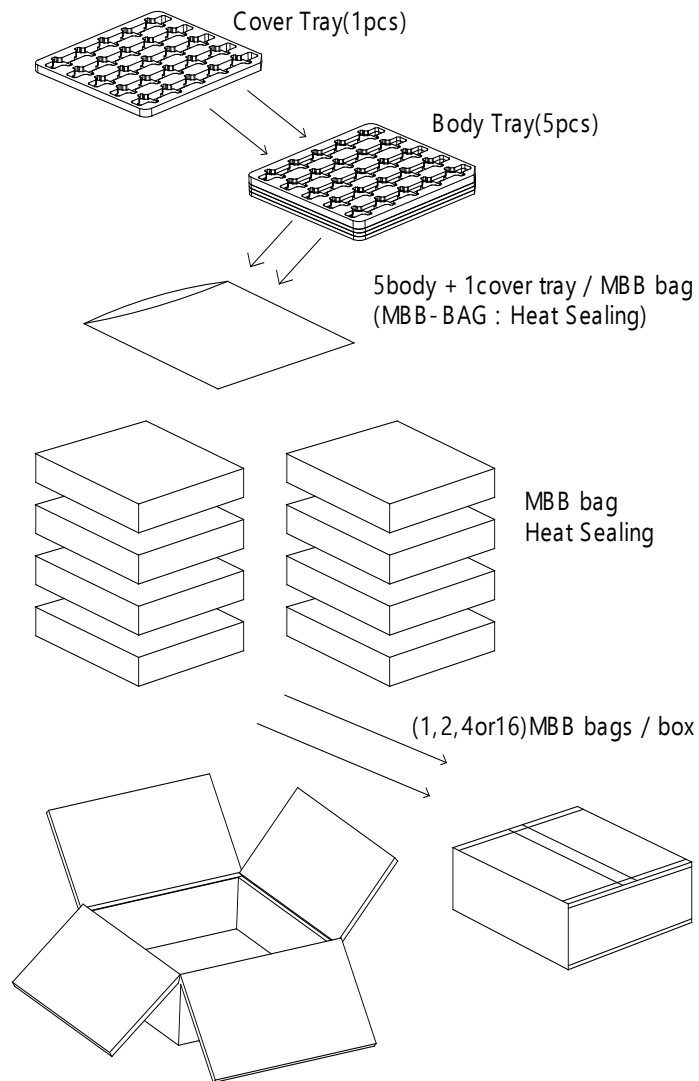
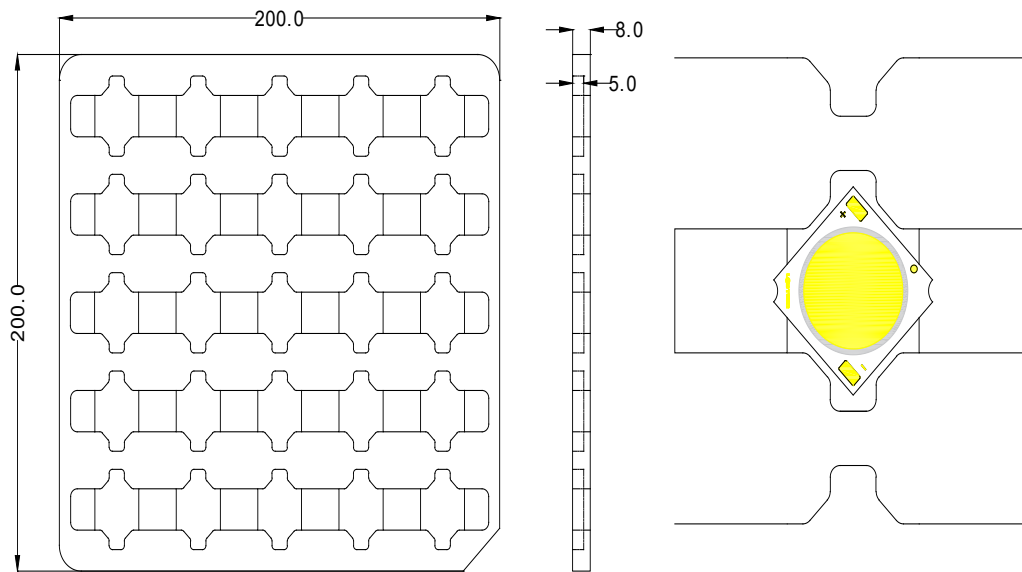


PACKING SPECIFICATION / EAN CODES

| | | |
|--|------------|------------------|
| RoHS | Qty:XXX | |
| PN: LVCOB VAL-050-1208-V4080 | | |
| Des: COB LED VAL 50W 1208 4000K 80CRI | | |
| If(mA):XXX | Vf(V):XX.X | Pi(W):XX |
| CCT(K):XXXX | Φ(lm):XXXX | Ra:XX |
| XXXXXXXXXX LotXXXXXXXXXX XXXX-XXXXXXXX | | |
| Date: xx / xx / xxxx | | www.ledvance.com |

| Short Text | EAN10 1PC LED | EAN20 1 BAG - 125 PCS | EAN40 1 BOX - 500 PCS |
|--|------------------|--------------------------|--------------------------|
| LVCOB VAL-050-1208-V2780 4XBT125 TRLEDV | 4058075690455 | 4058075690462 | 4058075690479 |
| LVCOB VAL-050-1208-V3080 4XBT125 TRLEDV | 4058075690486 | 4058075690493 | 4058075690509 |
| LVCOB VAL-050-1208-V3090 4XBT125 TRLEDV | 4058075690516 | 4058075690523 | 4058075690530 |
| LVCOB VAL-050-1208-V4080 4XBT125 TRLEDV | 4058075690547 | 4058075690554 | 4058075690561 |

MANNER OF PACKING



An empty tray is placed on top of a 5-tier tray which contain 25 PCS each.(Smallest packing unit:125 PCS)

A label whit product name,quantity and lot number is placed on the upper empty tray.(Tray Dimension:200*200*8 mm)

CAUTIONS

1. Storage

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

2. 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. Use soldering by hand: Soldering bit temperature shall be 350°C or less, Heating time: 5 seconds or less.

3. ESD Protection

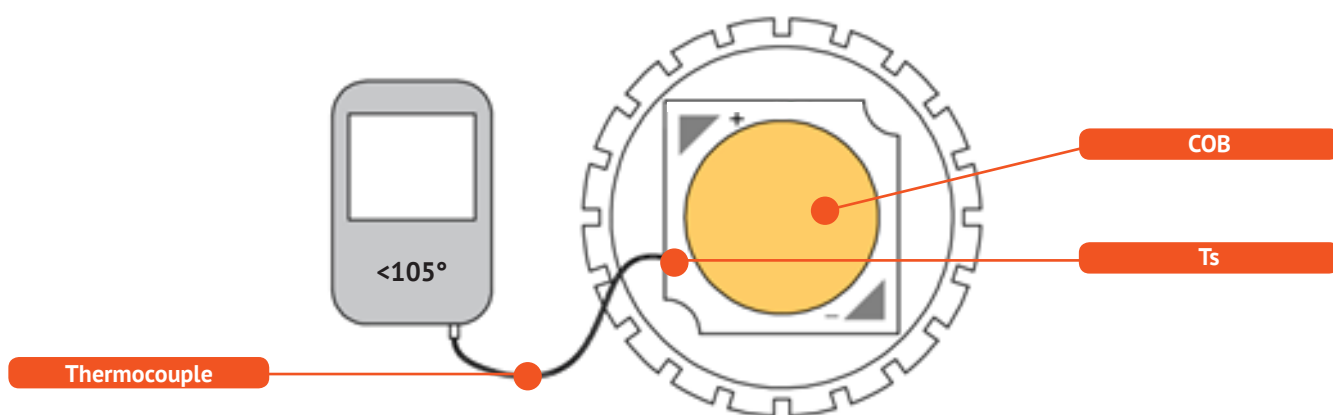
You need to take the protective measures for the product being sensitive to static electricity. It can lead to product damage or even the total invalid when the high voltage current made by static electricity is beyond the maximum rating. The ground resistance can't beyond 10Ω.

4. Cleaning

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

5. Overcurrent Protection

Any time, don't press colloid part, lest product surface come to be damaged or even invalid. It is recommended to design PCB with ground circuit. Pay special attention to the use environment of the products: Humidity must be between 50% and 80%, or else electrostatic breakdown and overcurrent damage would occur. The use temperature is -40°C~105°C. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these data sheets. LEDVANCE assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these data sheets.



6. Thermal Design

The thermal design to draw heat away from the LED junction is most critical parameter for an LED illumination system. High operating temperatures at the LED junction adversely affect the performance of LED's light output and lifetime. Therefore the LED junction temperature should not exceed the absolute maximum rating in LED illumination system.

7. 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.

Reminder: In order to protect the environment, please dispose the waste light according to the general waste

If you have any objection of this datasheet, please inform us in writing within 7 days, or it will be considered as accepting all the contents of this datasheet.