

L3W45-G523

LED 3W Green 523nm COB K1

FEATURES

- REACH and RoHS Compliant
- High Power COB K1 Package provides excellent heat dissipation for the LED
- High brightness, high light efficiency, low attenuation
- Long life=50,000 Hours
- Support surface mount technology
- All copper brackets with bonded alloy wires
- More efficient than fluorescent lamps
- Wide luminous beam angle: 140°



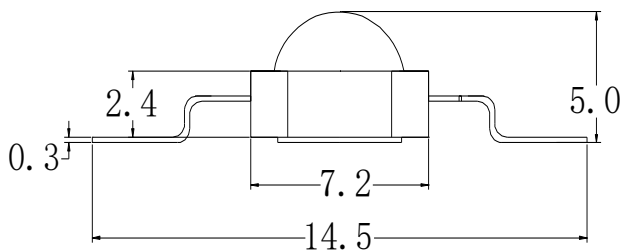
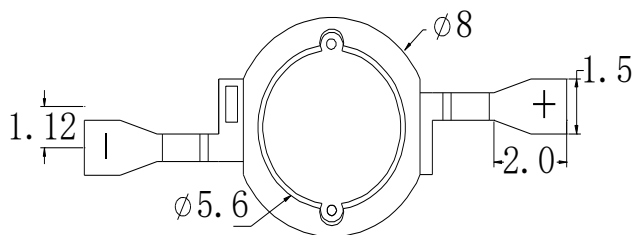
COB K1 Package

APPLICATIONS

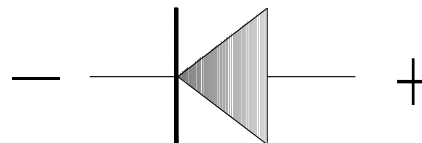
- Street lamp, Desk lamp, anti-riot flashlight
- Wall washer, Mining Lamps, Outdoor lights
- Spotlights, Ground lights

DIMENSION SPECIFICATION

Unit: mm



COB K1 Package



Notes: Tolerances unless otherwise specified ± 0.25

All products, product specifications and data are subject to change without notice to improve reliability, function or design or otherwise.

PHOTOELECTRIC CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	Min.	Typical	Max.	Unit	Condition
Forward Voltage	V _F	3.0	-	3.2	V	IF= 700mA
Luman	ΦV	120	-	140	LM	
Wavelength	λ _d	520	-	525	nm	
Beam Angle	2θ ^{1/2}	-	140	-	deg	
Leakage Current	IR	0	-	5	μA	VR=5V

Remarks: 2θ^{1/2} means that the angle between the luminous intensity value and the radiation axial (normal) is called θ^{1/2}, and 2 times the viewing angle (or half power angle) of θ^{1/2} is the viewing angle (or half power angle).

ABSOLUTE MAXIMUM RATING (T_A=25°C)

Item	Symbol	Value	Unit
Forward Current	I _F	700	mA
Power Dissipation	P _D	3	W
Junction Temperature	T _J	125	°C
Operating Temperature	T _{OPR}	-30 ~ +85	°C
Storage Temperature	T _{STG}	-40 ~ +100	°C

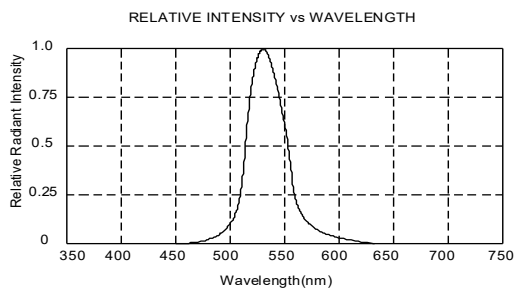
Remark:

1. Luminous intensity tolerance: ± 10%
2. The forward voltage tolerance: ± 0.1V
3. CIE color coordinate test tolerance: ± 0.005

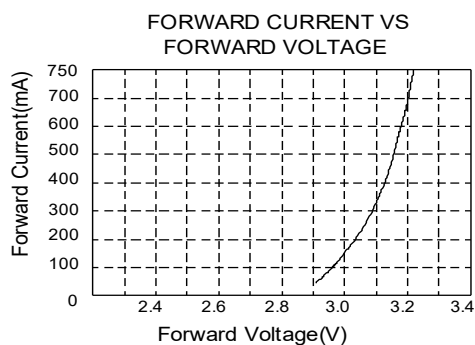
PHOTOELECTRIC CHARACTERISTIC CURVE ($I_F=700\text{mA}$) ($T_A=25^\circ\text{C}$)

Spectral relative energy distribution curve and CIE1931 diagram

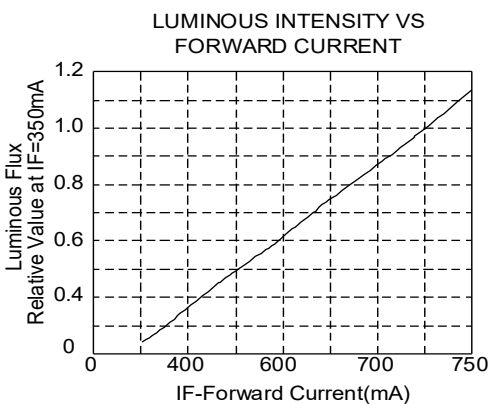
■ Spectrum Distribution



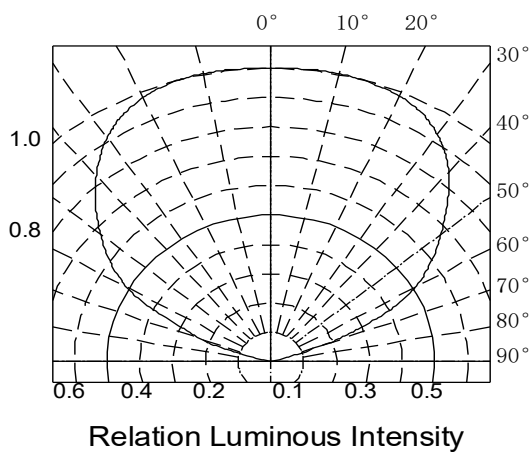
■ VF-IF Characteristics



■ IF- F V Characteristics



■ Radiation Diagram



PART NUMBER CODING SYSTEM

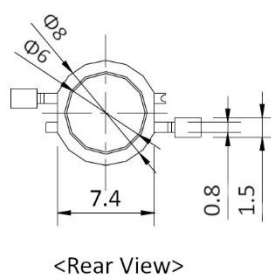
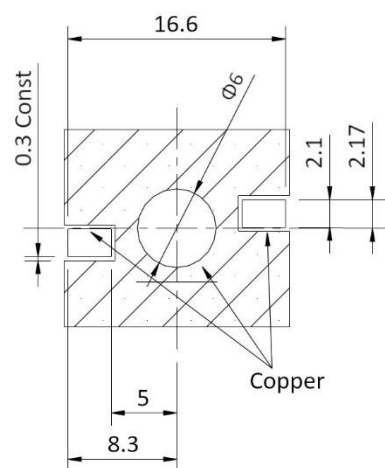
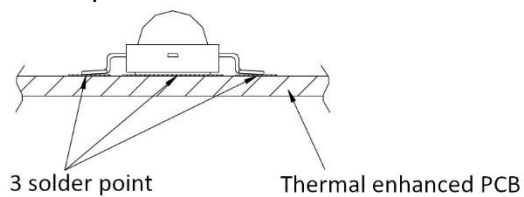
L 1W 33 13000K
 (1) (2) (3) (4)

(1)	Series	L = Lumimax High Power COB K1 LED series
(2)	Power of the LED	1W 3W 5W
(3)	Die Size of the COB Chip	33 = 33 Mil 2448 = 24 Mil +48 mil Dual Chip 42 = 42 Mil
(4)	Wavelength / Color Temperature	R625: Red Color 625nm 13000K: 13000K (Typ.) 4250K: 4250K (Typ.)

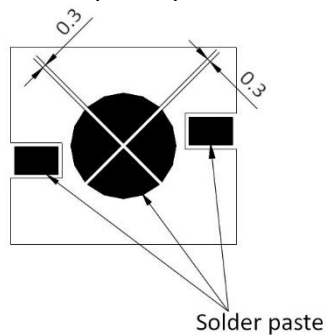
Items/Objects	Parameter description
Aluminum heatsinks	It is necessary to add a large enough heat dissipation surface area to ensure that the temperature of the aluminum substrate does not exceed 60°C
Anti-static	Human Model: 2.4V
soldering iron soldering temperature	350°C for 3 seconds
Solder paste	Solder paste with a melting point of 138°C
Heating platform Temperature	The maximum temperature should not exceed 160°C, and it is guaranteed that it should be lowered as much as possible under the condition of welding
Reflow Temperature	The maximum temperature should not exceed 170°C, and it should be lowered as much as possible under the condition of welding
Storage Temperature	-30 ~ 85°C
Store Humidity	10% ~ 90%
Corrosion Resistance	Strong
Waterproof rating	IP30

RECOMMENDED SOLDER PAD

1. Solder pad



2. Solder paste pattern



Note:

1. All dimensions are in millimeters (tolerance: ± 0.2)
2. Scale none

PRECAUTIONS FOR PRODUCT USE

1. Conditions

The LED conditions used must operate within the rated parameters.

2. Installation

When installing lamps, do not use a high-temperature soldering iron to burn the luminous layer of the product to avoid dead lamps or affect the luminous effect.

3. Electrostatics

Static electricity or surge voltages can render the product ineffective. We recommend that you wear anti-static wrists or anti-static gloves when using the product, all devices, equipment and machines must be grounded, and it is recommended to take precautions to prevent the surge voltage generated by the equipment from acting on the product. When inspecting a single product into a finished product, it is recommended to check whether each product is damaged by static electricity, and the inspection can be tested by an indicator light or a positive on-voltage test at a low current (current 300mA is the most suitable), and the damaged product will show different characteristics from the normal product, such as the forward voltage change is lower or does not emit light at a small current.

4. Cooling

The heat dissipation design of the end product is particularly important. When designing a system, the increase in the input temperature coefficient of the product's electrical power is determined by the thermal resistance of the board and the density of the product on the board and its components. Therefore, it is necessary to avoid a large amount of concentrated heat dissipation and to operate in strict accordance with the parameters given in the specification sheet. Please decide to consider the current ambient temperature and refer to the ambient temperature vs. allowable forward current characteristics on the specification sheet before using the current passing through each product, and take measures to improve the operational characteristics of the product by dissipating the heat around the product thermal sinking.

5. Cleaning

Alcohol is recommended as a cleaning solvent for LED products. When cleaning with other solvents, it is necessary to determine whether it will damage the packaging and the luminous area of the product. According to international practice, Freon cannot be used as a solvent for cleaning LED products, do not use ultrasonic cleaning, when it is really necessary to use ultrasonic cleaning, before cleaning, it is necessary to test in advance to determine whether it will cause damage to LED products. The role of ultrasonic cleaning LED products depends on factors such as ultrasonic intensity and associated conditions.

6. Other

LED integrated products emit light of sufficient intensity may damage the human eye, do not directly look at the product without wearing an eye mask, glare makes people feel uncomfortable and irritating, so precautions can be taken during use, and necessary protective measures should also be taken when using modules assembled from a single product.