



佛山市国星光电股份有限公司
FOSHAN NATIONSTAR OPTOELECTRONICS CO., LTD

SPECIFICATION

Customer		Product	Lamp Type LED
Customer Type		Type	BT-3123YED-31-589A09-C19-T19.5
Customer No.	11201505000346	Version NO	A3



18

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Research & Development Center			Customer Stamp
DRAW	CHECK	APPROVE	CONFIRM
(Release Date) 2020-08-10			

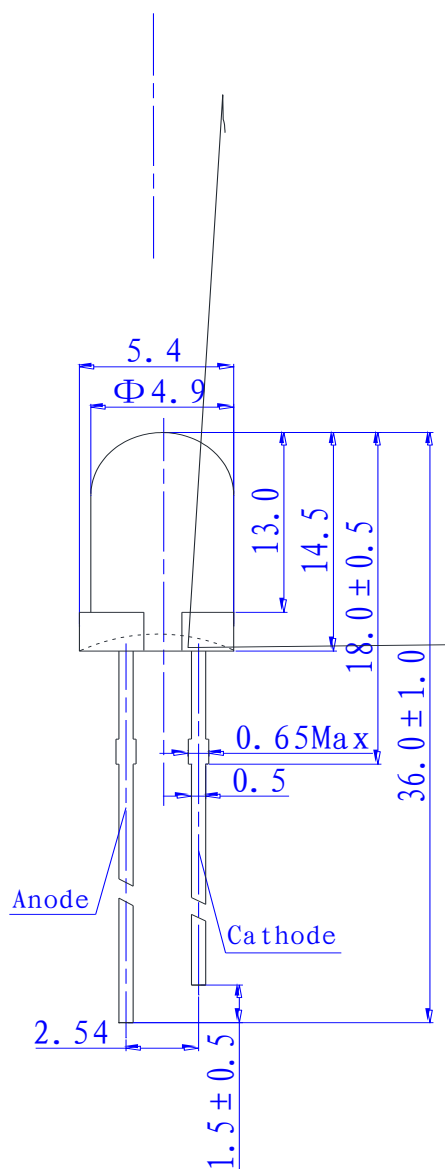


This product is generally used as indicator and





Dimension:

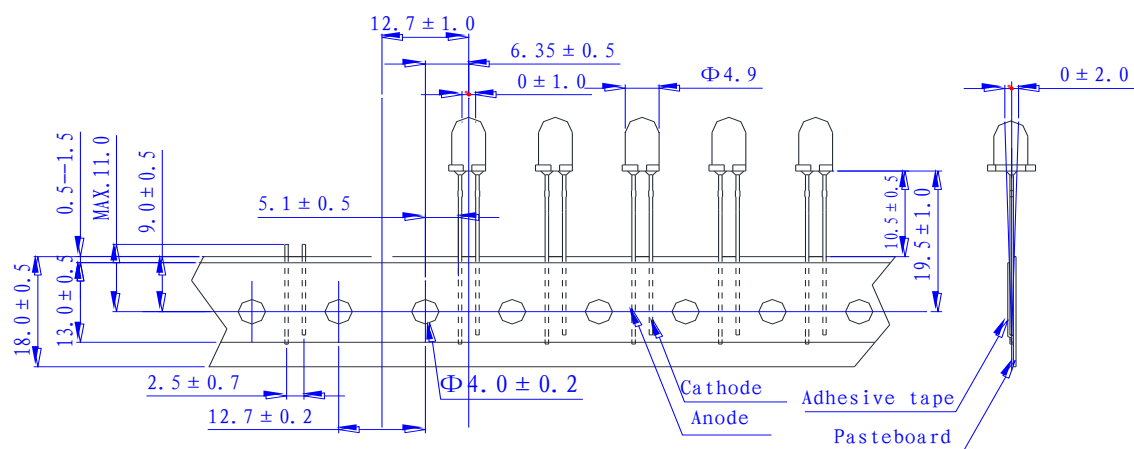


mm

0.2 mm

All dimensions in mm, tolerances unless mentioned is 0.2 mm.

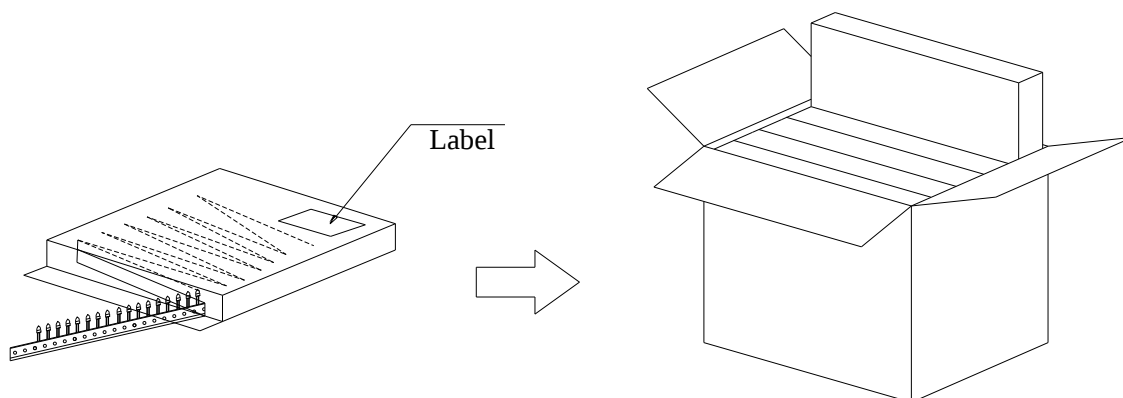
☆ Packaging:



mm

0.2 mm

All dimensions in mm, tolerances unless mentioned is 0.2 mm.



Inner Cardboard Box

Packaging Unit	Quantity
Inner Cardboard Box	2500 / 4000 pcs/box
Outer Cardboard Box	10 / 10 boxes/box

Outer Cardboard Box

Label

 LAMP LED 佛山市国星光电股份有限公司	
物料编码:	
物料数量:	
生产日期:	
生产批次:	
公司代码:	
产品型号:	Bin:
二维码	

Label B

✧ **Reliability Test:**

Test Items	Test Conditions	Quantity	Judging Criteria
Solderability	Solder Temperature (235 ± 5) Solder Duration 5 sec.	15	Good Wetting
Resistance For Soldering Heat	(260 ± 5) 10 Sec.	15	I*
Thermal Shock Followed by High Temperature And High Humidity Cyclic	-40 15 min. 5 Cycles Shift (2~3) min. 100 15 min. -10 ~65 0%~90% RH 2 48 hrs. 2 hrs. 2 Cycles for 48 hrs., Recover for 2 hrs.	18	I*
High Temperature And High Humidity Cyclic	-10 ~65 0%~90% RH 10 Cycles for 240 hrs., Recover for 2 hrs.	18	I**
DC Operating Life	1000 hrs. Forward Current 20mA	22	I**
High Temperature Storage	100 1000 hrs.	15	I**
Terminal Strength	(Pull Test): 5N 30 sec. (Bending Test): 5N 2 (2 times)	15	No Noticeable Damaged

***1 Criteria For Judging Damage**

Items	Symbol	Test Conditions	I* Criteria For Judging Damage I*	I** Criteria For Judging Damage I**
Forward Voltage	V _F	I _F =20mA	USL	USL ×1.2
Reverse Current	I _R	V _R =5V	USL	USL ×2.0
Luminous Intensity	I _v	I _F =20mA	LSL	IL ×0.5

* USL

LSL

IL

* USL: Upper Standard Level. LSL: Lower Standard Level. IL: Initial Level

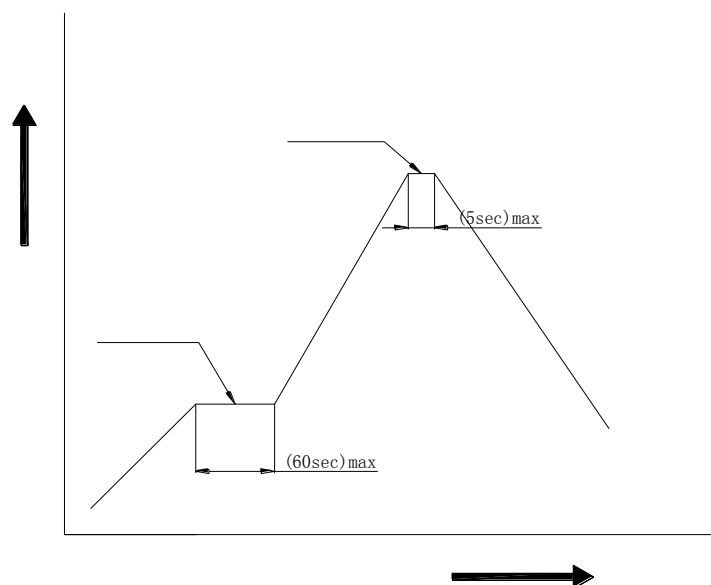
✧ Soldering

Be careful because damages always caused during soldering. Please note that stress to the Leads and expose bulb should be avoided during soldering particularly when heated. When soldering, leave certain distance from soldering joint to base, the distance is determined by different soldering techniques. It is recommended that soldering be performed base on the following conditions.

* Recommended Soldering Conditions:

/ DIP Soldering		Hand Soldering	
Pre-Heat	100 Max., 60 sec. Max.	Temperature	300 Max.
Bath Temperature	260 Max.		
Dipping Time	5 sec. Max.	Soldering Time	3 sec. Max.
Dipping Position	2 mm Min.		

/



Precautions

1.

Storage

30

70%RH

6

Under the storage conditions of 30 or less and humidity less than 70% RH, the LEDs can be storage sealed for 6 months. Storage in a sealed container with moisture absorbent material can prolong the storage time to a certain extent. Bad storage conditions may cause the leadframes to corrode or degradation of LED characteristics. It is recommended that the LEDs be used as soon as possible.

2.

Static electricity

Static electricity or surge voltage damages the LEDs. Damaged LEDs will show some unusual chrematistics such as the forward voltage becomes lower, or the LEDs do not light at the low current, even not light.

All devices, equipment and machinery must be properly grounded. At the same time, it is recommended that wrist bands or anti-electrostatic gloves, anti-electrostatic containers be used when dealing with the LEDs.

3.

Design Consideration

LED

LED

LED

When designing a circuit, the current through each LED must not exceed the absolute maximum rating specified for each LED. In the meanwhile, resistors for protection should be applied, otherwise slight voltage shift will cause big current change, burn out may happen.

Thermal Design is paramount importance because heat generation may result in the Characteristics decline, such as brightness decreased, Color changed and so on. Please consider the heat generation of the LEDs when making the system design.

4.

Lead Forming

3mm

PCB

Any lead forming must be done before soldering, not during or after soldering. When forming leads, the leads should be bent at a point at least 3mm from the base of the expose bulb. Bending at the same point twice or even more should be avoided.

Please use proper tools to hold and bent the leads, do not use the base of the leadframe as a fulcrum during lead forming. Bending stress to the base of the leadframe may cause characteristics change on LED or even break it.

Just for the same reason, when mounting the LEDs onto a printed circuit board, the holes on the circuit board should be exactly aligned with the leads of the LEDs.

5.

Safety Advice for Human Eyes

LED

LED

