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DATA SHEET

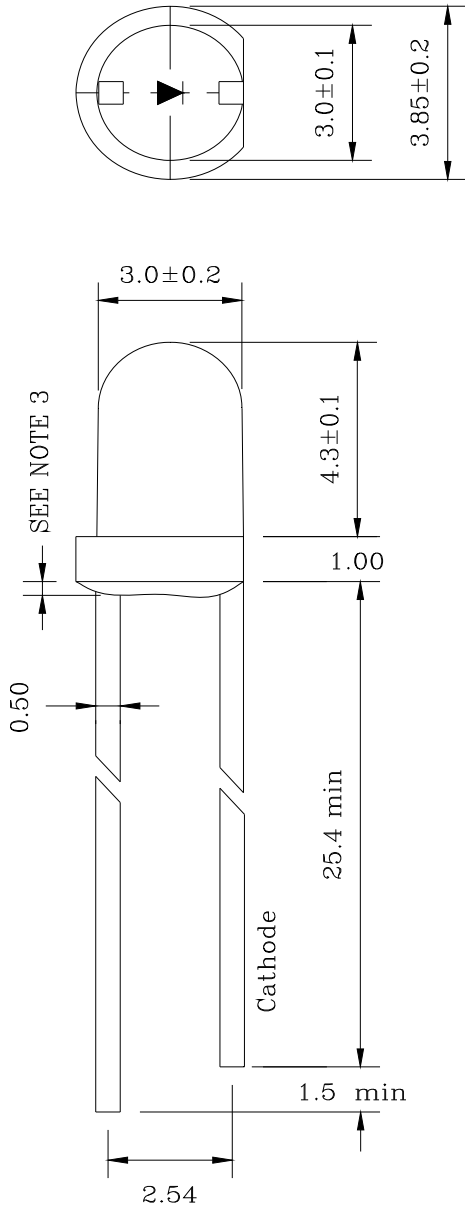
PART NO. : LUR3GD088G-IN

REV : A / 0

CUSTOMER'S APPROVAL : _____

DCC : _____

1. PACKAGE DIMENSIONS



Note:

备注:

1. All Dimensions are in millimeters.

所有尺寸标注以毫米为单位.

2. Tolerance is ± 0.25 mm. Unless otherwise specified.

所有尺寸公差为 ± 0.25 mm, 特别注明的除外.

3. Protruded resin under flange is 1.0mm max.

产品的底部溢胶最大不能超过 1.0mm

4. The lamps have sharp and hard points that may injure

human eyes or fingers etc., so please pay enough care in the handling.

产品胶体以及支架较为锋利, 对人体的眼睛与手有可能造成伤害, 因此取用时需特别小心.

5. Specifications are subject to change without notice.

规格书内容若有变更, 恕不另行通知.

2.1 FEATURES 产品特征

- 3.0mm Dia Led Lamp
3mm 直插式发光二极管
- Low Power Consumption.
低能耗
- I.c. Compatible.
高兼容性
- Long Life Solid State Reliability.
超长寿命、高稳定性
- Dice Material : GaAsInP/GaAsP
芯片材质: GaAsInP/GaAsP
- Light Color: Green
发光颜色: 绿色
- Lens Color: Green Diffused
胶体颜色: 绿色雾状
- Pb Free Products(Compliant With Eu's RoHs)
无铅产品(符合欧盟 RoHS 的指令标准.)

2.2 Applications 产品应用

- Computre
计算机应用
- Optical indicator
光学指示
- Industrial
工业应用
- Communication
通讯应用
- Home appliance
家电用品

3. ABSOLUTE MAXIMUM RATING : (Ta = 25°C)

最大额定参数(Ta = 25°C)

Parameter	Symbol	Max.	Units
Power Dissipation	Pd	65	mW
Forward Current	IF	30	mA
Peak Forward Current [1]	IFP	100	mA
Zener Reverse Current	ZR	100	mA
Electrostatic Discharge (HBM)	ESD	2000	V
Operating Temperature	opr	-40 ~ 100	°C
Storage Temperature	Tstg	-40 ~ +100	°C
Soldering Temperature	Tsol	260 (5sec)	°C

4.ELECTRO-OPTICAL CHARACTERISTICS : (Ta = 25°C)

产品光电参数(Ta = 25°C)

性能参数 Characteristics	符号 Symbol	条件 Test Condition	最小值 Min	平均值 Typ	最大值 Max	单位 Unit
Forward voltage 顺向电压	Vf	IF=20mA	1.8	2.0	2.3	V
Luminous Intensity 亮度	Iv	IF=20mA		20		mcd
Dominant Wavelength 主波长	λ_D	IF = 20mA		570		nm
Spectral Line Half-Width 半波宽	$\Delta\lambda$	IF = 20mA		18		nm
Reverse Current 反向电流	IR	Vr=7V	-	-	5	μ A
View angle 半功率视角	2 $\theta_{1/2}$	IF=5mA	-	80	-	Deg

★1. 2 $\theta_{1/2}$ is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

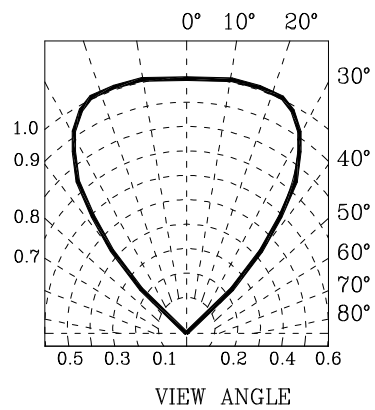
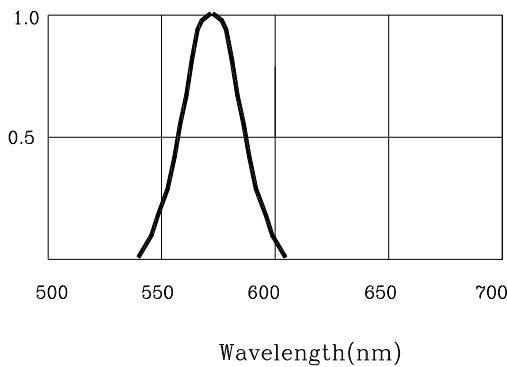
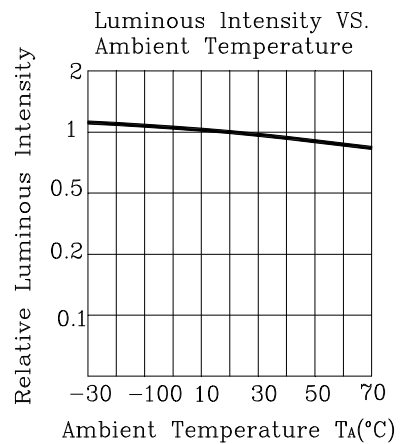
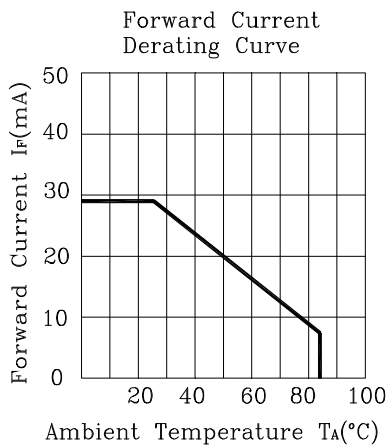
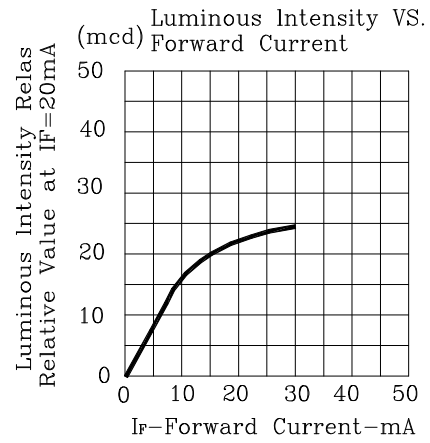
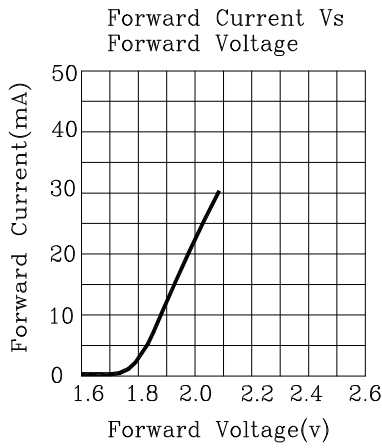
($\theta_{1/2}$ 是半值角,指光强是光学中心线光强的 1/2 处到光学中心线的角度)

★2. The above luminous flux measurement allowance tolerance is $\pm 10\%$ (上述发光通量的测试允许公差为 $\pm 10\%$)

★3. The above color coordinates measurement allowance tolerance is ± 0.003 . 以上所示坐标测量误差 ± 0.003

★4. The above forward voltage measurement allowance tolerance is $\pm 0.1V$ (以上所示电压测量误差 $\pm 0.1V$)

5. Typical optical characteristics curves 典型光学特性曲线





3.0 mm ROTUNDITY LED LAMP

LUR3GD088G-IN

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6. Reliability 可靠性**6.1 Reliability Test Item 可靠性实验项目**

Test Items(测试项目)	Test Conditions(测试条件)	Notes
High Temperature Storage (高温储存)	100°C, 1,000hr.	0/22
Low Temperature Storage (低温储存)	-40°C, 1,000hr.	0/22
Temp. Humidity Storage (高温高湿储存)	85°C, 85% RH, 1,000hr.	0/22
Steady State Operating life(常温寿命测试)	25°C, 20mA, 1,000hr.	0/22
High Temperature Operating Life (高温寿命测试)	85°C, 20mA, 1,000hr	0/ 2
Low Temperature Operating Life(低温寿命测试)	-30°C, 20mA, 1,000hr.	0/22
Steady State Operating life Of High Humidity Heat(高温高湿寿命测试)	65°C, 85% RH, 10mA, 500hr.	0/22
Thermal Shock(冷热冲击)	-40°C(30min)↔100°C(30min.), 100 cycle	0/22
ESD(防静电)	HBM, 100 pF, 1.5 kohm, 3 times	0/22

6.2 Failure Criteria 失效判定标准

Test Items 项目	Symbol 符号	Test Condition 测试条件	Failure Criteria (判定标准)	
			Min. 最小	Max. 最大
Forward Voltage 正向电压	VF	IF = 20mA	--	U.S.L*)x1.1
Reverse Current 反向电流	IR	VR = 5V	--	10uA
Luminous Intensity 光强	mcd	IF = 20mA	L.S.L*)x0.7	

U.S.L: Upper Specification Limit 规格上限 L.S.L: Lower Specification Limit 规格下限

7.SOLDERING 焊接要求

METHOD 方式	SOLDERING CONDITIONS 焊接条件	REMARK 备注
DIP SOLDERING 浸锡焊接	Bath temperature: 240℃ 锡液温度: 240 度 Immersion time: with 5 sec, 1 time 浸锡时间: 5 秒以内, 1 次	<ul style="list-style-type: none"> Solder no closer than 3mm from the base of the package 焊接位置离胶体底部3mm以上 Using soldering flux," RESIN FLUX" is recommended. 推荐使用助焊剂增加焊接可靠性
SOLDERING IRON 烙铁焊接	Soldering iron: 30W or smaller 烙铁功率: 小于等于 30 瓦 Temperature at tip of iron: 260℃ or lower 烙铁温度: 小于等于 260 度 Soldering time: within 5 sec. 焊接时间: 5 秒以内	<ul style="list-style-type: none"> During soldering, take care not to press the tip of iron against the lead. (To prevent heat from being transferBlue directly to the lead, hold the lead with a pair of tweezers while soldering 焊接时, 不要把焊铁压到支架上。 (为防止热量直接转移到支架上, 在焊接的时候用一副小镊子夹住支架)

8.LED MOUNTING METHOD

LED 的安装使用

- 1) When mounting the LED by using a case, as shown Fig.4, ensure that the mounting holds on the PC board match the pitch of the leads correctly-tolerance of dimensions of the respective components including the LED should be taken into account especially when designing the case, PC board, etc. to prevent pitch misalignment between the leads and board holes, the diameter of the board holes should be slightly larger than the size of the lead. Alternatively, the shape of the holes should be made oval. (See Fig.4)

当使用一个外壳来装配 LED 时, 如图 4 所示, PC 板上装配的孔洞, 要符合支架的间距以及各部件包括 LED 的尺寸公差, 尤其在设计外壳, PC 板等的时候就应该考虑到这些, 以防支架与孔洞对不齐。孔径应略大于支架尺寸。如若不然, 孔洞的形状最好制成椭圆形。(见图 4)

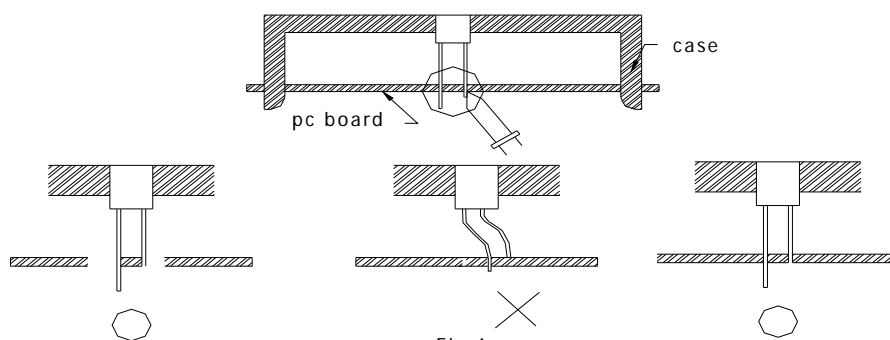
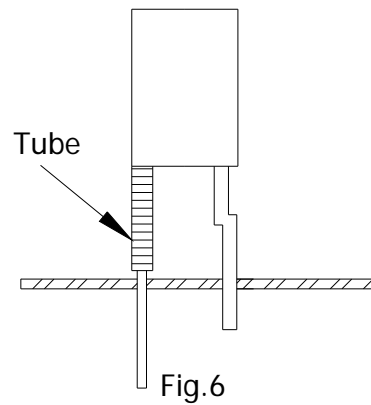
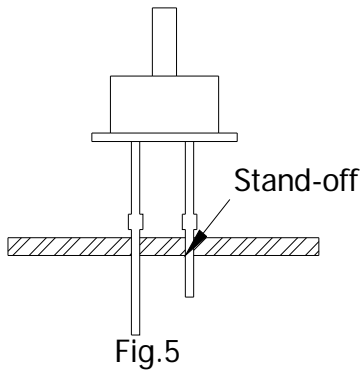


Fig.4

2) Use LEDs with stand-off (Fig.5) or the tube or spacer made of resin (Fig.6) to position the LEDs.
 用定位卡位（见图 5）或套管（见图 6）来放置需要定位的 LED。



9.FORMED LEAD 支架折弯

1) The lead should be bent at a point located at least 2mm away from the package. Bending should be performed with base fixed means of a jig or pliers (Fig.7)
 支架需要在离胶体至少 2 毫米的地方折弯，折弯的时候底部要用夹具或者钳子固定。（见图 7）

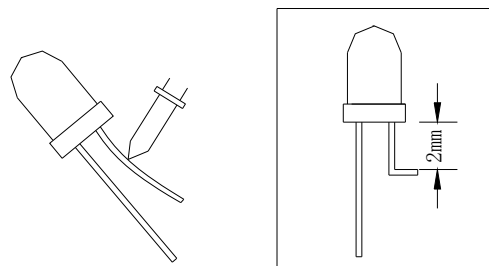


Fig. 7

2) Forming lead should be carried our prior to soldering and never during or after soldering.
 支架折弯应该先于焊接，一定不能在焊接时或焊接后进行。
 3) Form the lead to ensure alignment between the leads and the hole on board, so that stress against the LED is prevented. (Fig.8)
 折弯时要确保支架和板的孔洞的一致性，这样可以避免对 LED 产生压力。（见图 8）

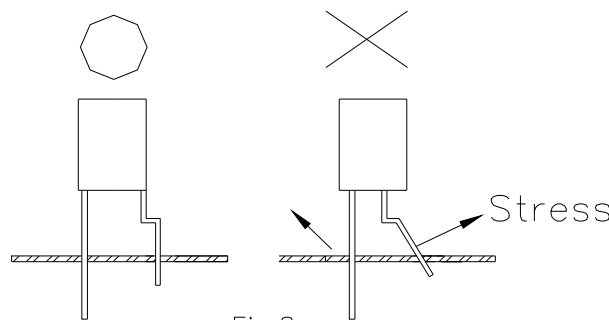


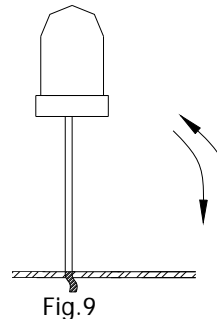
Fig.8

10. LEAD STRENGTH 支架强度

1) Bend strength 弯曲强度

Do not bend the lead more than twice. (Fig.9)

不要弯曲支架超过两次(Fig.9)



2) Tensile strength (@Room Temperature)

伸张强度 (室温条件下)

If the force is 1kg or less, there will be no problem. (Fig.10)

产品最大承受拉力为 1Kg(Fig.10)



11. HEAT GENERATION 产品发热注意事宜

1) Thermal design of the end product is of paramount importance. Please consider the heat generation of the LED when making the system design. The coefficient of temperature increase per input electric power is affected by the thermal resistance of the circuit board and density of LED placement on the board, as well as other components. It is necessary to avoid intense heat generation and operate within the maximum ratings given in this specification.

最终产品的散热设计是至关重要重要的，请在系统设计时考虑 LED 的产热量。单位输入电功率的温度增加系数受影响于电路板的热阻，电路板上的放置的 LED 密度以及其他因素。所以请避免高温操作，尽量在本规范所示最高范围内操作。

2) The operating current should be decided after considering the ambient maximum temperature of LEDs. 设计电路电流应考虑到 LED 的最高承受温度。

12. STORAGE 产品的存储

1、Led storage temperature is 30 °C or lower, humidity is 70% or less, after delivery from the factory, the shelf life is 1 year.

LED 储存温度为 30°C或更低，湿度为 70%或更低，在从工厂发货之后，保质期为 1 年。

2、Lead frames are comprised of a stannum plated iron alloy. The silver surface may be affected by environments which contain corrosive gases and so on. Please avoid conditions which may cause the LEDs to corrode, tarnish or discolor. This corrosion or discoloration may cause difficulty during soldering operations. It is recommended that the LEDs be used as soon as possible.

使用的支架为镀锡铁合金支架。镀银表面可能会受到包含有毒气体等不良外界环境的影响。请避免将 LED 置于会致使 LED 支架腐蚀，损坏或变色的环境中。腐蚀或者变色会对后续的焊接操作造成困扰。建议尽早使用。

3、Please avoid rapid transitions in ambient temperature, especially, in high humidity environments where condensation can occur.

请避免环境温度的快速转换，尤其是当湿度比较高的时候，会造成产品的冷凝。

13. CHEMICAL RESISTANCE 产品的耐化学性

1) Avoid exposure to chemicals as it may attack the LED surface and cause discoloration.

避免将 LED 产品暴露于化学物质中，以免产生其破坏 LED 表面或者内部结构。

2) When washing is required, refer to the following table for the proper chemical to be used. (Immersion time: within 3 minutes at room temperature.)

若必须要清洗，建议按照下列表格所列化学物质清洗（浸泡时间：室温下 3 分钟）

SOLVENT 清洁剂	ADAPTABILITY 适用性
Ethanol 乙醇	⊙
Isopropyl Alcohol 异丙醇	⊙
Thinner 稀释剂	×
Acetone 丙酮	×
Trichloroethylene 三氯乙烯	×

NOTE: Influences of ultrasonic cleaning of the LED resin

body differ depending on such factors as the oscillator output, size of the PC board and the way in which the LED is mounted. Therefore, ultrasonic cleaning should only be performed after confirming there is no problem by conducting a test under practical.

注意：超声波清洗对LED树脂本身的影响决定于不同的方面，例如超声波输出功率，PC板的尺寸以及LED放置的方式。因此，超声波清洗只能在实际测试清洗下没问题的前提下使用。

⊙--Usable 适用

×--Do not use. 不适用

14. OTHERS 其它

- Care must be taken to ensure that the reverse voltage will not exceed the absolute maximum rating when using the LEDs with matrix drive.

使用 LED 矩阵驱动时必须确保反向电压不会超过最大额定值

- Flashing lights have been known to cause discomfort in people; you can prevent this by taking precautions during use. Also, people should be cautious when using equipment that has had LEDs incorporated into it.

闪光已被发现会引起人的不适；所以在使用过程中需采取预防措施。同时，使用者也应在使用内置 LED 闪灯的设备时注意到这一点。

- The LEDs described in this brochure are intended to be used for ordinary electronic equipment (such as office equipment, communications equipment, measurement instruments and household appliances).



3.0 mm ROTUNDITY LED LAMP

LUR3GD088G-IN

REV:A / 0

本册所描述的 LED 只用于普通电器设备（例如办公设备，交流设备，测试仪器和家用）。

- The formal specifications must be exchanged and signed by both parties before large volume purchase begins.

在大量购买之前必须由双方签署合约且交换合约

- The appearance and specifications of the product may be modified for improvement without notice. This material does not accept customer complaints, complaints can be handled through replenishment
- 产品的外观和规格如有更改，恕不另行通知。此材料不接受客户投诉，投诉可以补货处理

LED Lamps: Part Number Rules

