



深圳市国冶星光电子有限公司

SHENZHEN GUOYEXING OPTOELECTRONICS CO., LTD.

# 承认书

## SPECIFICATION FOR APPROVAL

客户名称 Customer: \_\_\_\_\_

产品名称 Description: LED LAMP

产品型号 Model: GL-5F0UGDT

样品编号 Lot No.: \_\_\_\_\_

编号 No.: \_\_\_\_\_

日期 Date: 2008-09-04

附产品规格书 Enclosure is the specification

深圳市国冶星光电子有限公司 SHENZHEN GUOYEXING OPTOELECTRONICS CO., LTD.			
生产部 Production Dept.	质量部 Quality Dept.	工程部 Engineering Dept.	市场部 Marketing Dept.

客户确认签名 APPROVED SIGNATURES			

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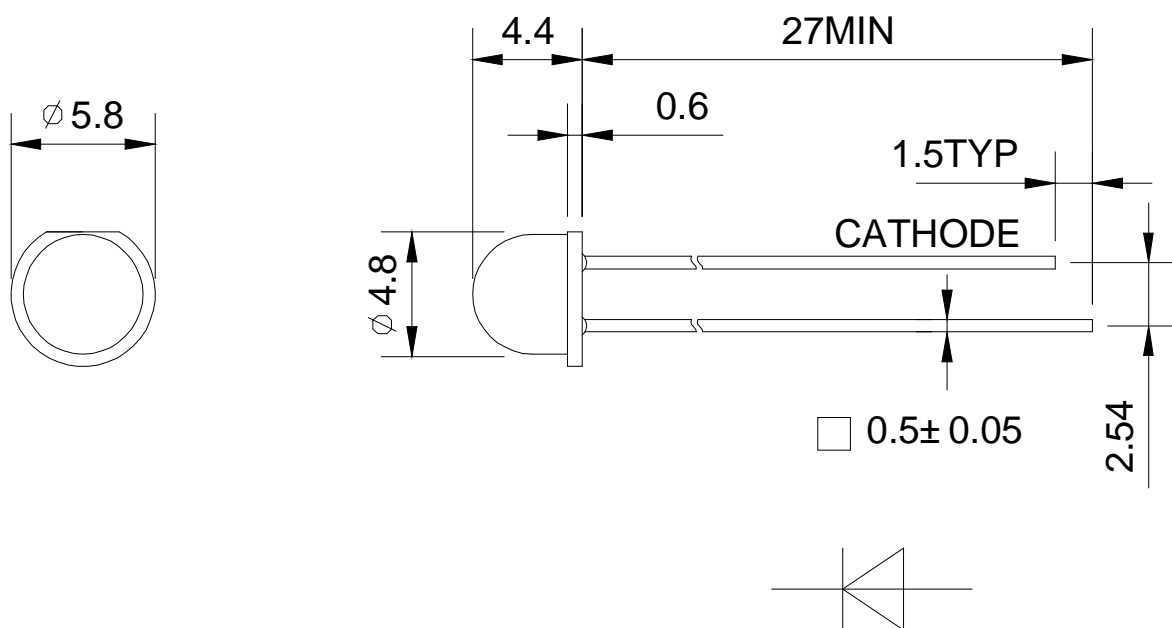


GL-5F0UGDT

GREEN(绿色)

**Features (特征)**

- 1) 4.8mm DIAMETER LAMP  
( $\Phi$ 4.8 发光二极管)
- 2) LOW CURRENT REQUIREMENT  
(低电流驱动)
- 3) LOW POWER CONSUMPTION  
(低功率消耗)
- 4) VERSATILE MOUNTING ON P.C. BOARD PANEL  
(易安装)
- 5) LONG LIFE-SOLID STATE RELIABILITY  
(寿命长)

**Package Dimensions(封装尺寸)**

GREEN (绿色)

**Notes:**

1. All dimensions are in millimeters.  
(单位: 毫米)
2. Tolerance is  $\pm 0.25$  unless otherwise noted.  
(尺寸公差:  $\pm 0.25$ ,另有标注除外.)
3. Specifications are subject to change without notice.  
(规格若有变动,恕不另行通知.)



3. 注：此页参数仅对样品，出货范围参照最后一页

Part No. (产品型号)	Chip Material (晶片材质)	Emitting Color (发光颜色)	Lens Type (胶体颜色)	Iv(mcd)@20mA (发光强度)			Viewing Angle (发光角度)
				Min. (最小值)	Typ. (规格值)	Max (最大值)	2 θ 1/2 (角度)
GL-5F0UGDT	GaN	Green (绿色)	Green Transparen (绿色透明)	1254	-	1336	80°

Note:

θ 1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

(θ 1/2 是指当亮度减到一半时与发光特性曲线相交所对应的角度值.)

4. Electrical / Optical Characteristics at TA=25° C(25° C 环境下之电性/光学特性)

Parameter(参数)	Symbol (符号)	Min. (最小值)	Typ. (规格值)	Max. (最大值)	Units (单位)	TestConditions (测试条件)
Forward Voltage (正向电压)	V <sub>F</sub>	2.8	3.1	3.8	V	I <sub>F</sub> =20mA
Peak Wavelength (峰值波长)	λ <sub>p</sub>	-	518	-	nm	I <sub>F</sub> =20mA
Dominate Wavelength (主波长)	λ <sub>D</sub>	-	523	-	nm	I <sub>F</sub> =20mA
Spectral Line Half-width (带宽)	Δ λ	-	35	-	nm	I <sub>F</sub> =20mA
Reverse Current (反向电流)	I <sub>R</sub>	-	-	10	uA	V <sub>R</sub> =5V

5. Absolute Maximum Ratings at TA=25° C(在 25° C 环境下之最大绝对额定值)

Parameter(参数)	Symbo(符号)	Maximum Rating(最大值)	Units(单位)
Power dissipation(功率消耗)	Pd	95	mW
Forward Current(正向电流)	I <sub>F</sub>	25	mA
Peak Forward Current (1)(正向电流峰值)	I <sub>F</sub> (Peak)	130	mA
Reverse Voltage(反向电压)	V <sub>R</sub>	5	V
Operating Temperature(操作温度)	Topr	-40° C To +80° C	
Storage Temperature(贮藏温度)	Tstg	-40° C To +80° C	
Lead Solder Temperature(2)(焊接温度)	Tsol	260° C for 3 seconds	

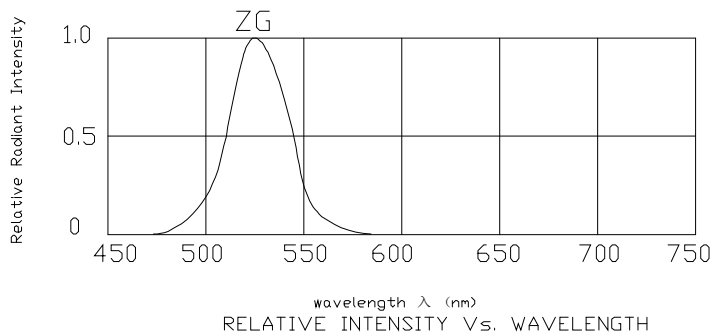
Note:

- 1) 1/10 Duty Cycle, 0.1ms Pulse Width.  
(1/10 周期, 0.1ms 脉宽)
- 2) 3mm below package base.  
(在胶体 3 毫米以下焊接)
- 3) The production accord with the demand of ROHS.  
(此产品符合 ROHS 要求.)

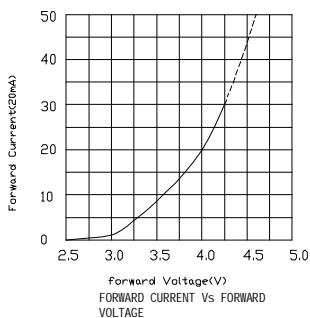


**Relative Intensity Vs Wavelength Chart**

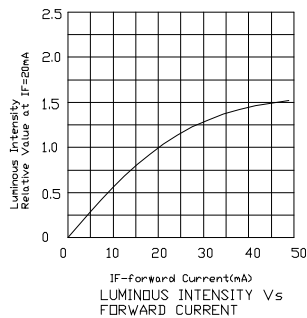
(相对亮度与波长关系曲线图)



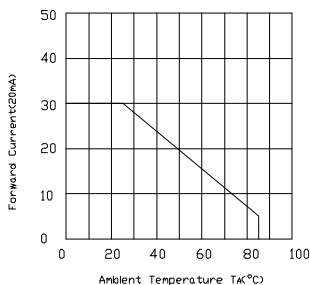
(绿色 GL-5F0UGDT)



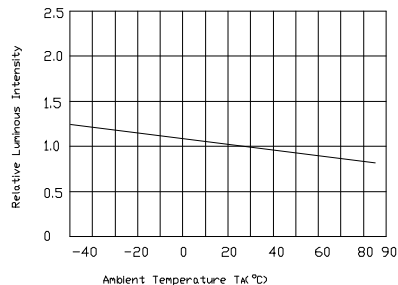
正向电流与正向电压关系曲线图



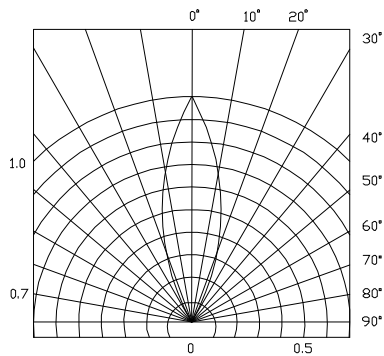
亮度与正向电流关系曲线图



正向电流递减曲线图



亮度与环境温度关系曲线图



发光角度图解



**RELIABILITY (可靠性)**

**(1) TEST ITEMS AND RESULTS (测试项目及结果)**

类别 Type	测试项目 Test Item	测试条件		备注 Note	取样数 Sample size	允收数 Accept
		Test condition(二/三元)	Test condition(四元)			
环境测试 (Environments Sequence)	冷热冲击 Thermal shock	-20°C~80°C 15min, 10s, 15min	-40°C~100°C 15min, 10s, 15min	循环 100 次 100 cycles	20~560	0
	回流焊	190°C~240°C 5min		循环 1 次 1 cycles	20~560	0
	波峰焊	240°C~260°C 5sec		循环 1 次 1 cycles	20~560	0
寿命试验 (Operation Sequence)	常温寿命测试(L.F) Life test	Ta=25°C If=20mA	Ta=25°C If=20mA	1000Hrs	20~560	0
破坏性试验 (Destructive Sequence)	墨水渗透实验	Ta=100°C 红墨水		60 minutes	10-20	0

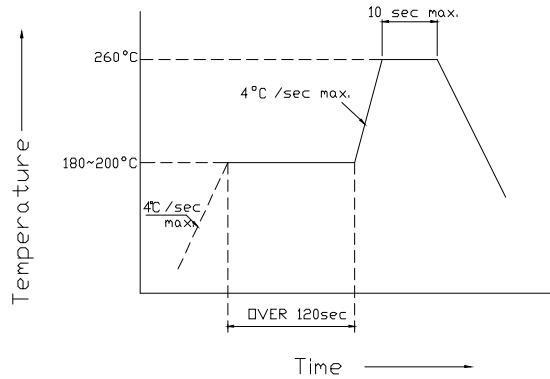
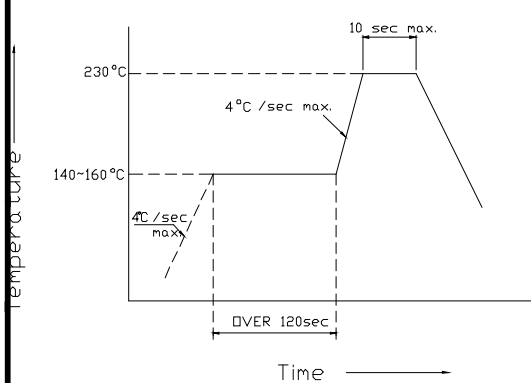
**Reflow Soldering Instructions (回流焊说明)**

Number of reflow process shall be less than 2 times and cooling process to normal temperature is required between first and Second soldering process.

(本产品最多只可回焊两次,且在首次回焊后须冷却至室温之后方可进行第二次回焊.)

1>Lead Solder (有铅回焊)

2>Lead-Free Solder(无铅回焊)





**Intensity And Color Bin Limits(亮度及波长等级)**

**(1)Intensity Bin Limits (If=20mA)**

SELECTION CODE FOR SUPER BRIGHT LEDS		
Group	Light intensity in mcd(20mA) Super Bright GREEN	
	Min.	Max.
T	915	1190
U	1190	1545
V	1545	2005

Tolerance for each Bin limit is  $\pm 10\%$

**(2)Color Bin Limits (If=20mA)**

COLOR CODE FOR RED LEDS + DISPLAYS		
Group	Dom. WaveLength (nm)	
	min.	max.
F1	520	522
G1	522	524
H1	524	526

Tolerance for each Bin limit is  $\pm 1$  nm.

**Forward Voltage Bin limits(If=20mA) < V<sub>F</sub> 值等级 >**

Grade (等级)	G3	H3	I3	J3	K3
Range (范围)	2.8-3.0	3.0-3.2	3.2-3.4	3.4-3.6	3.6-3.8

Tolerance for each Bin limit is  $\pm 0.05$  v.