



## SPECIFICATION FOR APPROVAL

Customer: \_\_\_\_\_

Description: LED LAMP

Model: GL-5P1UGBD-T

Lot No.: YJF080765

No.: \_\_\_\_\_

Date: 2008-07-30

Enclosure is the specification

SHENZHEN GUOYEXING OPTOELECTRONICS CO., LTD.			
Production Dept.	Quality Dept.	Engineering Dept.	Marketing Dept.

APPROVED SIGNATURES			

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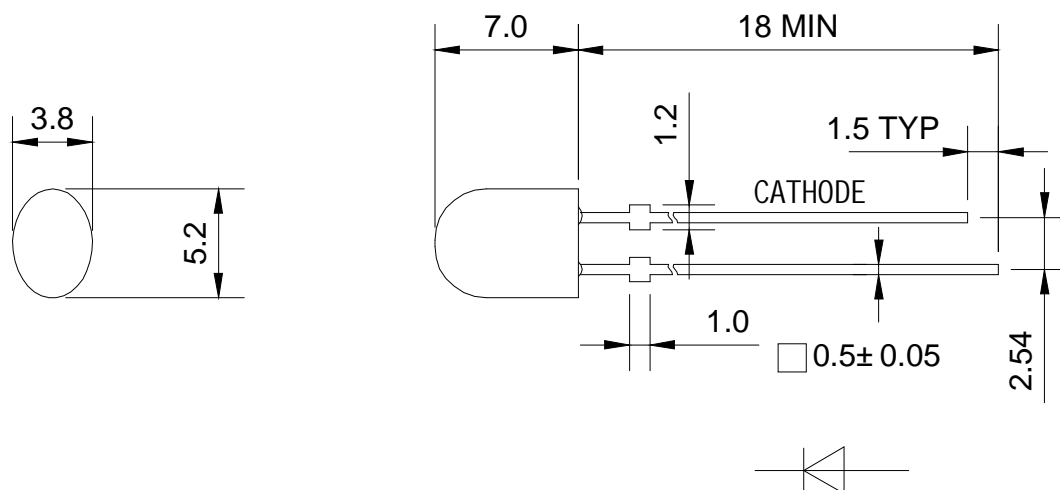


GL-5P1UGBD-T

GREEN

**Features**

- 1) 3.8\*5.2\*7mm DIAMETER LAMP
- 2) LOW CURRENT REQUIREMENT
- 3) LOW POWER CONSUMPTION
- 4) VERSATILE MOUNTING ON P.C. BOARD PANEL
- 5) LONG LIFE-SOLID STATE RELIABILITY

**Package Dimensions****Notes:**

1. All dimensions are in millimeters.
2. Tolerance is  $\pm 0.25$  unless otherwise noted.
3. Specifications are subject to change without notice.

**GREEN**



3.

Part No.	Chip Material	Emitting Color	Lens Type	Iv(mcd)@20mA			Viewing Angle
				Min.	Typ.	Max	2 θ 1/2
GL-5P1UGBD-T	GaN	Green	GreenDiffused	1850	2000	2500	86° /50°

Note:

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

4. Electrical / Optical Characteristics at T<sub>A</sub>=25° C

Parameter	Symbol	Min.	Typ.	Max.	Units	TestConditions
Forward Voltage	V <sub>F</sub>	2.8	3.1	3.8	V	I <sub>F</sub> =20mA
Peak Wavelength	λ <sub>p</sub>	516	518	520	nm	I <sub>F</sub> =20mA
Dominate Wavelength	λ <sub>D</sub>	521	523	525	nm	I <sub>F</sub> =20mA
Spectral Line Half-width	Δ λ	-	30	-	nm	I <sub>F</sub> =20mA
Reverse Current	I <sub>R</sub>	-	-	10	uA	V <sub>R</sub> =5V

5. Absolute Maximum Ratings at T<sub>A</sub>=25° C

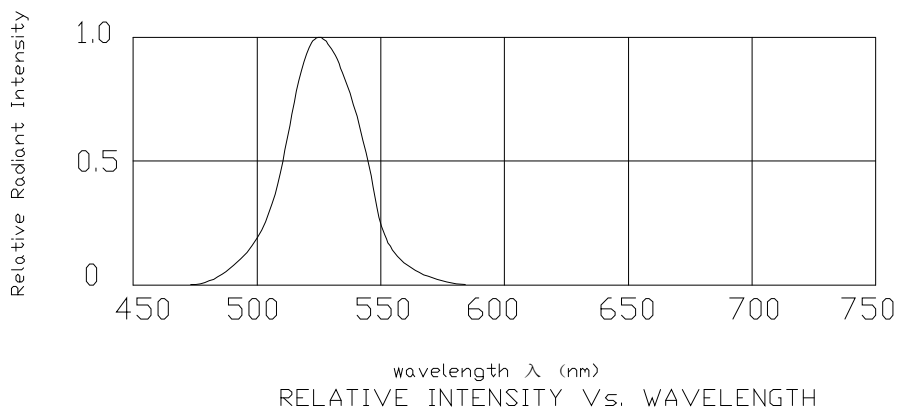
Parameter	Symbo	Maximum Rating	Units
Power dissipation	P <sub>d</sub>	95	mW
Forward Current	I <sub>F</sub>	25	mA
Peak Forward Current (1)	I <sub>F</sub> (Peak)	130	mA
Reverse Voltage	V <sub>R</sub>	5	V
Operating Temperature	T <sub>opr</sub>	-40° C To +80° C	
Storage Temperature	T <sub>stg</sub>	-40° C To +80° C	
Lead Solder Temperature(2)	T <sub>sol</sub>	260° C for 3 seconds	

Note:

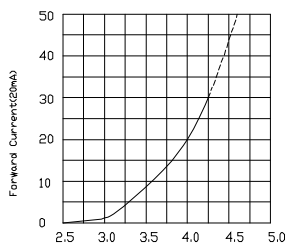
- 1) 1/10 Duty Cycle, 0.1ms Pulse Width.
- 2) 3mm below package base.
- 3) The production accord with the demand of ROHS.



Relative Intensity Vs Wavelength Chart

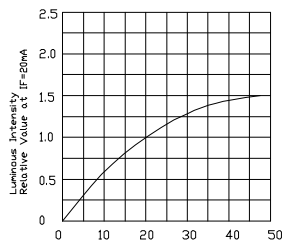


( GL-5PIUGBD-T)



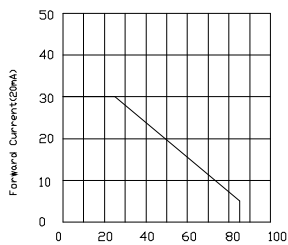
forward Voltage(V)  
FORWARD CURRENT VS FORWARD VOLTAGE

正向电流与正向电压关系曲线图



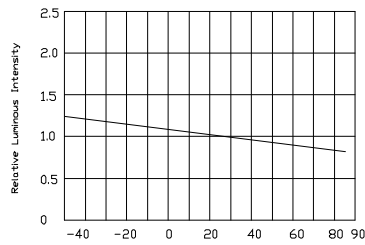
IF-Forward Current(mA)  
LUMINOUS INTENSITY VS FORWARD CURRENT

亮度与正向电流关系曲线图



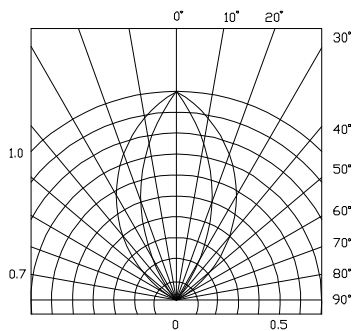
Ambient Temperature T(A°C)  
FORWARD CURRENT DERATING CURVE

正向电流递减曲线图



Ambient Temperature T(A°C)  
LUMINOUS INTENSITY VS AMBIENT TEMPERATURE

亮度与环境温度关系曲线图



SPATIAL DISTRIBUTION

发光角度图解



## RELIABILITY

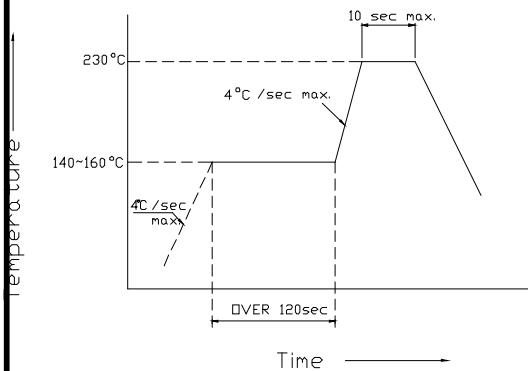
### (1) TEST ITEMS AND RESULTS

Type	Test Item	Test condition		Note	Sample size	Accept
		Test condition	Test condition			
(Environments Sequence)	Thermal shock	-20°C~80°C 15min, 10s,15min	-40°C~100°C 15min,10s, 15min	100 cycles	20~560	0
		190°C~240°C 5min		1 cycles	20~560	0
		240°C~260°C 5sec		1 cycles	20~560	0
(Operation Sequence)	Life test	Ta=25°C If=20mA	Ta=25°C If=20mA	1000Hrs	20~560	0
(Destructive Sequence)		Ta=100°C		60 minutes	10-20	0

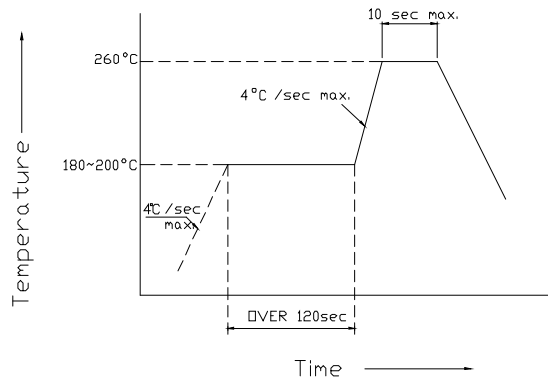
### Reflow Soldering Instructions

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

#### 1>Lead Solder



#### 2>Lead-Free Solder





### Intensity And Color Bin Limits

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

SELECTION CODE FOR SUPER BRIGHT LEDS		
Group	Light intensity in mcd(20mA) Super Bright Green	
	Min.	Max.
U	1190	1545
V	1545	2005
W	2005	2615
X	2615	3385

Tolerance for each Bin limit is ±10%

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

COLOR CODE FOR RED LEDS + DISPLAYS		
Group	Dom. WaveLength (nm)	
	min.	max.
V1	520	522
W1	522	524
X1	524	526

Tolerance for each Bin limit is ±1 nm.

#### Forward Voltage Bin limits(If=20mA)

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 ±0.05v.