



SPECIFICATION FOR APPROVAL

Customer: _____

Description: LED LAMP

Model: GL-5P1MBBD-T

Lot No.: _____

No.: _____

Date: 2008-08-06

Enclosure is the specification

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

APPROVED SIGNATURES			

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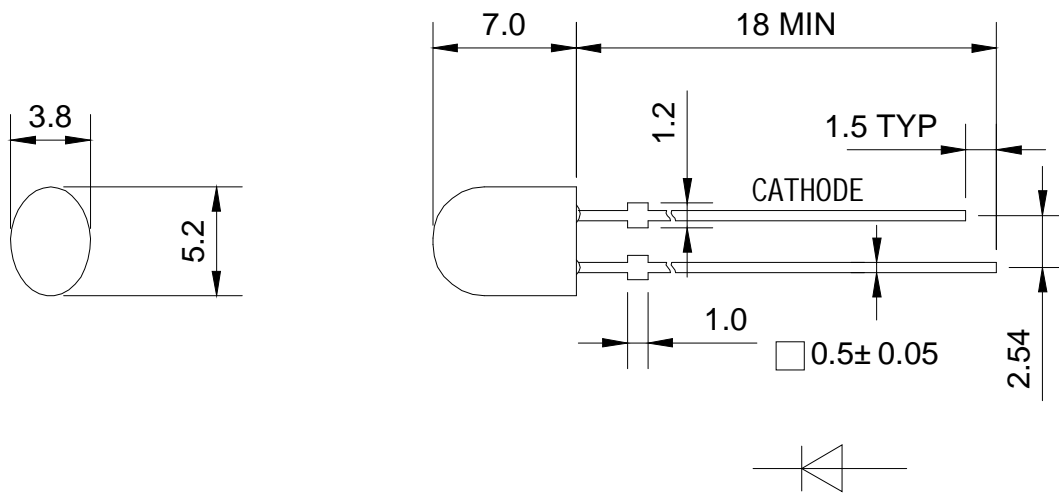
GL-5P1MBBD-T

BLUE

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:

BLUE

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



3.

Part No.	Chip Material	Emitting Color	Lens Type	Iv(mcd)@20mA			Viewing Angle
				Min.	Typ.	Max	2 θ 1/2
GL-5P1MBBD-T	GaN	Blue(藍色)	Blue Diffused	400	450	500	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_A=25° C

Parameter	Symbol	Min.	Typ.	Max.	Units	TestConditions
Forward Voltage	V _F	2.8	3.1	3.8	V	I _F =20mA
Peak Wavelength	λ _p	461	463	465	nm	I _F =20mA
Dominate Wavelength	λ _D	465	467	469	nm	I _F =20mA
Spectral Line Half-width	Δ λ	-	21	-	nm	I _F =20mA
Reverse Current	I _R	-	-	10	uA	V _R =5V

5. Absolute Maximum Ratings at T_A=25° C

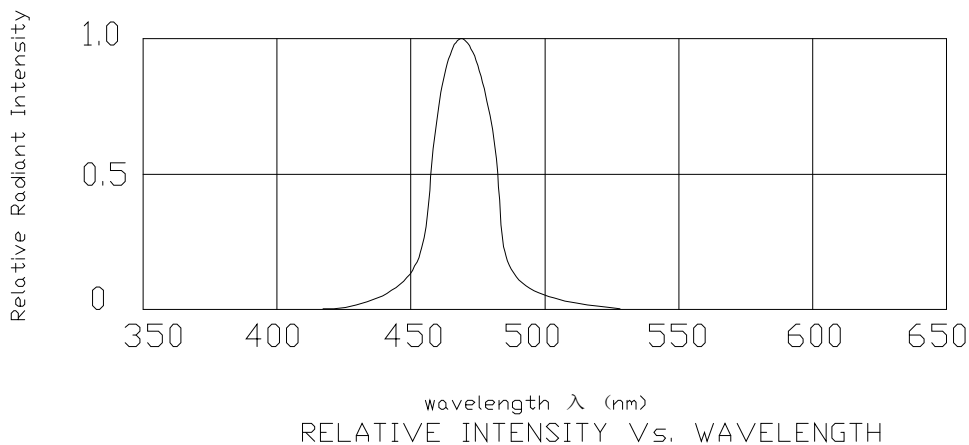
Parameter	Symbo	Maximum Rating	Units
Power dissipation	P _d	95	mW
Forward Current	I _F	25	mA
Peak Forward Current (1)	I _F (Peak)	130	mA
Reverse Voltage	V _R	5	V
Operating Temperature	T _{opr}	-40° C To +80° C	
Storage Temperature	T _{stg}	-40° C To +80° C	
Lead Solder Temperature(2)	T _{sol}	260° C for 3 seconds	

Note:

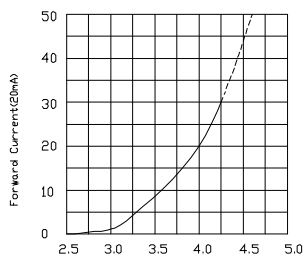
- 1) 1/10 Duty Cycle, 0.1ms Pulse Width.
- 2) 3mm below package base.
- 3) The production accord with the demand of ROHS.



Relative Intensity Vs Wavelength Chart

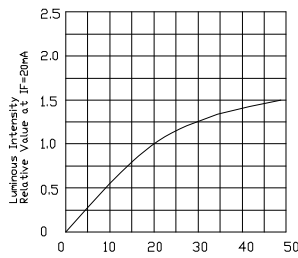


(GL-5P1MBBD-T)



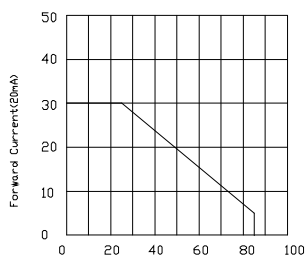
FORWARD CURRENT VS FORWARD VOLTAGE

正向电流与正向电压关系曲线图



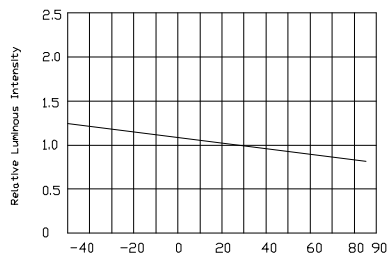
LUMINOUS INTENSITY VS FORWARD CURRENT

亮度与正向电流关系曲线图



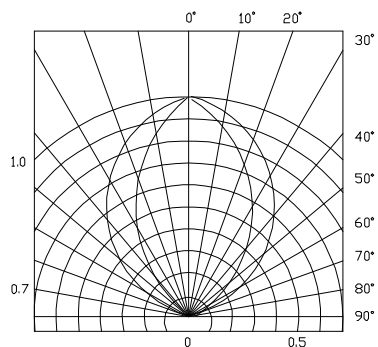
FORWARD CURRENT DERATING CURVE

正向电流递减曲线图



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

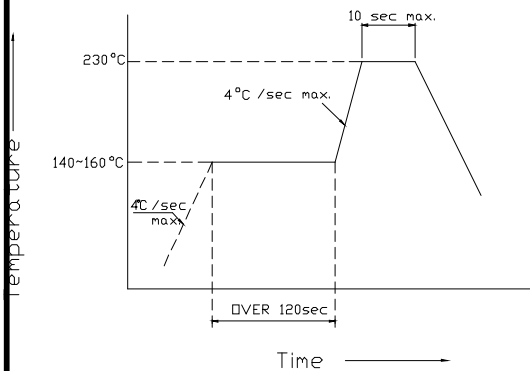
(1) TEST ITEMS AND RESULTS

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

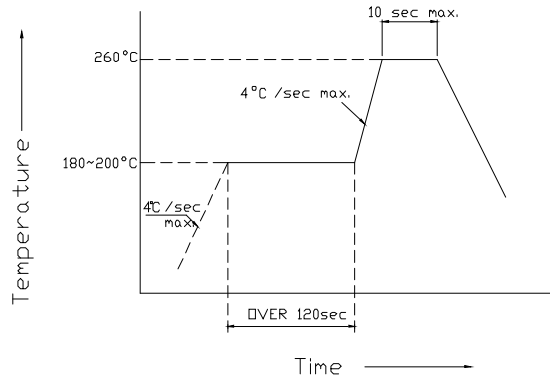
Reflow Soldering Instructions

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 (I_F=20mA)

SELECTION CODE FOR SUPER BRIGHT LEDS		
Group	Light intensity in mcd(20mA) BLUE	
	Min.	Max.
P	325	420
Q	420	545
R	545	705
S	705	915

Tolerance for each Bin limit is ±10%

(2) Color Bin Limits (I_F=20mA)

COLOR CODE FOR RED LEDS + DISPLAYS		
Group	Dom. Wavelength (nm)	
	min.	max.
E1	464	466
F1	466	468
G1	468	470

Tolerance for each Bin limit is ±1 nm.

Forward Voltage Bin limits(I_F=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.