



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: SMD LED

产品型号 Model: GYX-SD-K1311QBC

样品编号 Lot No.: _____

编号 No.: SM-CG-0207

日期 Date: 2008-08-06

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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GYX-SD-K1311QBC BLUE
(GYX-SD-K1311QBC 蓝色)

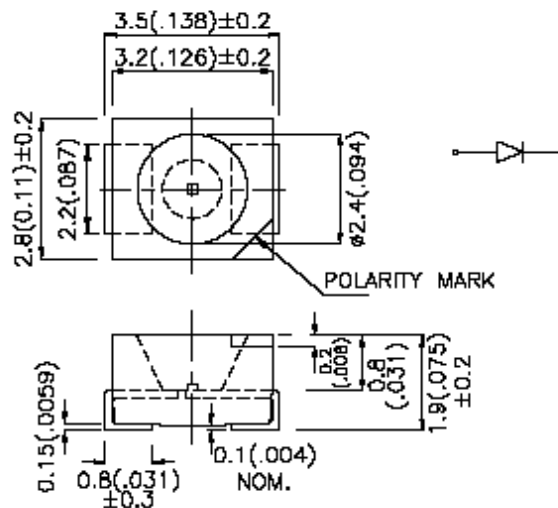
Features (特征)

- 1) 3.5mmx2.8mm SMD LED, 1.9mm THICKNESS.
(3.5mmx2.8mm SMD 发光二极管, 总高 1.9mm)
- 2) LOW POWER CONSUMPTION.
(低功率消耗)
- 3) WIDE VIEWING ANGLE.
(宽角度发光)
- 4) IDEAL FOR BACKLIGHT AND INDICATOR.
(背光源和指示灯的理想选择)
- 5) VARIOUS COLORS AND LENS TYPES AVAILABLE.
(多种发光颜色及胶体颜色可供选择)
- 6) PACKAGE: 2000PCS/REEL.
(装带: 2000 个/卷)

Description (说明)

The BLUE source color devices are made with InGaN, InGaAlP and InGaN Light Emitting Diode.
(此种蓝光之光颜色来源于由 GaN 化合物制成的发光二极管.)

Package Dimensions (封装尺寸)



Notes:

1. All dimensions are in millimeters (inches).
(单位: 毫米<英寸>)
2. Tolerance is ± 0.1 (0.004") unless otherwise noted.
(允差: ± 0.1 <0.004" >,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.)



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)	Dice (发光颜色)	Lens Type (胶体颜色)	Iv (mcd) @20mA (亮度)			Viewing Angle (发光角度)
			Min (最小值)	Typ (规格值)	Max (最大值)	2 θ 1/2
GYX-SD-K1311QBC	Blue <GaN> (蓝色)	Water Clear (无色透明)	-	260	-	120°

Note:

1. 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。)

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

Symbol (符号)	Parameter (参数)	Device (发光颜色)	Min (最小值)	Typ (规格值)	Max (最大值)	Units (单位)	Test Conditions (测试条件)
λ peak	Peak Wavelength (峰值波长)	Blue (蓝色)	/	459	/	nm	IF=20mA
λ D	Dominate Wavelength (主波长)	Blue (蓝色)	460	-	470	nm	IF=20mA
Δ λ 1/2	Spectral Line Half-width (波宽)	Blue (蓝色)	/	25	/	nm	IF=20mA
C	Capacitance (电容)	Blue (蓝色)	/	105	/	PF	VF=0V;f=1MHz
VF	Forward (正向电压)	Blue (蓝色)	2.9	/	3.5	V	IF=20mA
IR	Reverse Current (反向电流)	Blue (蓝色)	/	/	10	uA	VR=5V

Absolute Maximum Ratings at T_A=25° C (在 25° C 环境下之绝对最大额定值)

Parameter (参数)	Blue (蓝色)	Units (单位)
Power dissipation (功率消耗)	105	mW
DC Forward Current (正向直流电流)	30	mA
Peak Forward Current (I) (正向电流峰值)	150	mA
Reverse Voltage (反向电压)	5	V
Operating/Storage Temperature (操作/贮藏温度)	-40° C To +85° C	

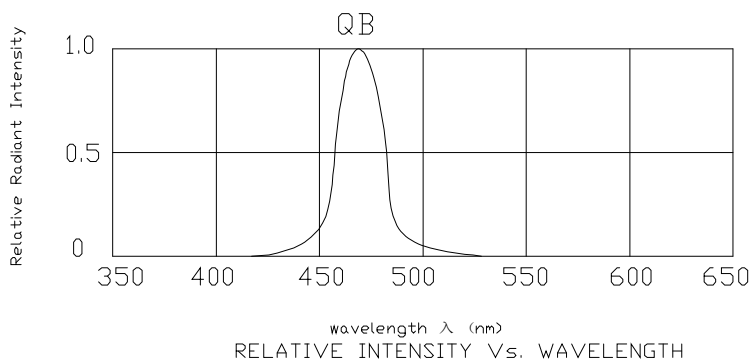
Note:

1. 1/10 Duty Cycle, 0.1ms Pulse Width. (1/10 周期, 0.1ms 脉宽)



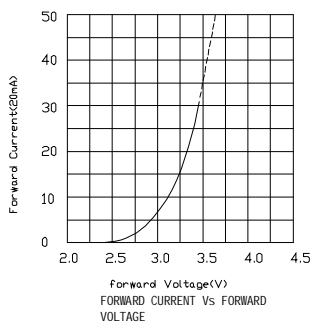
Relative Intensity Vs Wavelength Chart

(相对亮度与波长关系曲线图)

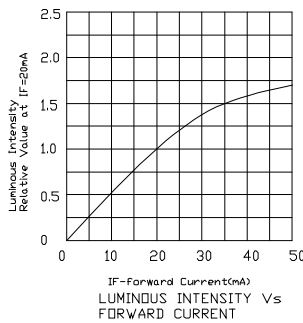


Blue GYX-SD-K1311QBC

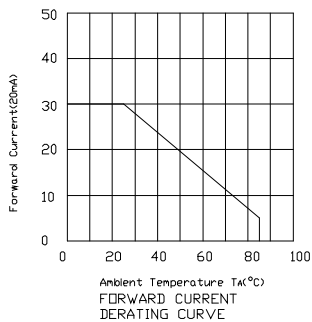
(蓝光 GYX-SD-K1311QBC)



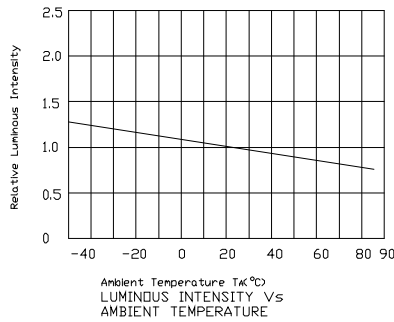
正向电流与正向电压关系曲线图



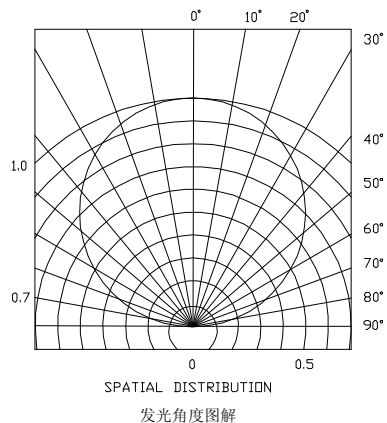
亮度与正向电流关系曲线图



正向电流递减曲线图



亮度与环境温度关系曲线图





GYX-SD-K1311QBC

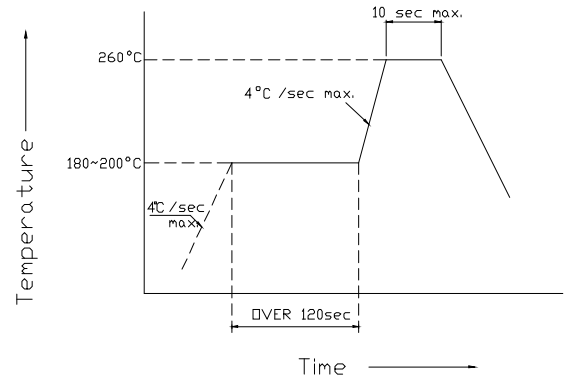
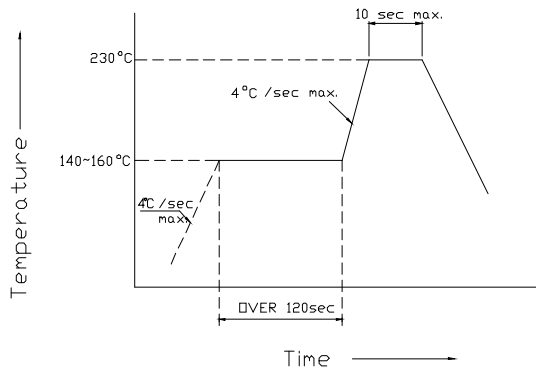
SMT Reflow Soldering Instructions (SMT 回流焊说明)

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.)

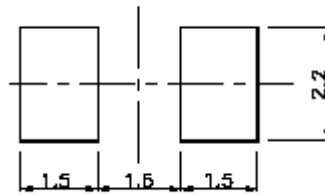
1>Lead Solder (有铅回焊)

2>Lead-Free Solder(无铅回焊)



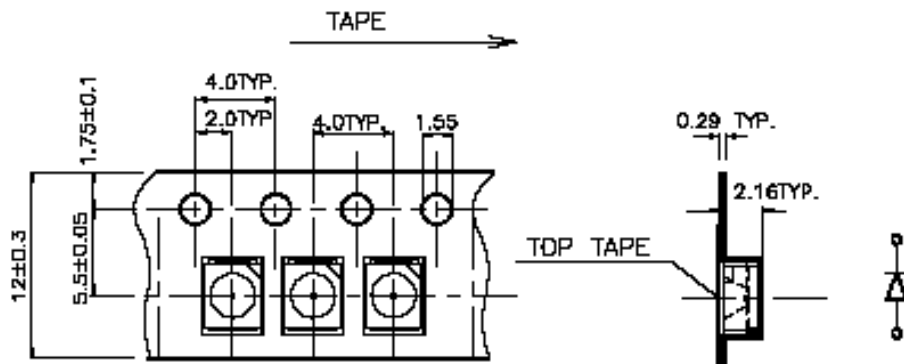
Recommended Soldering Pattern (推荐焊盘式样)

<Units:mm>(单位:毫米)



Tape Specifications (装带规格)

<Units:mm>(单位:毫米)



Adhesion Strength of Cover Tape : Adhesion strength to be 0.1 – 0.7N when the cover tape is turned off from the carrier at 10° angle to be the carrier tape.(盖带力度: 当盖带与载带成 10 度角时力度为 0.1 – 0.7N)



RELIABILITY(可靠性)

(1) TEST ITEMS AND RESULTS (测试项目及结果)

Test Item	Standard Test Method	Test Conditions	Note	Number of Damaged
Resistance to Soldering Heat (Reflow Soldering)	JEITA ED-4701 300 301	Tsld=260°C, 10sec. (Pre treatment 30°C, 70%, 168hrs)	2 times	0/50
Solderability (Reflow Soldering)	JEITA ED-4701 300 303	Tsld=215±5°C, 3sec. (Leader Solder)	1time over 95%	0/50
Thermal Shock	JEITA ED-4701 300 307	-40°C~100°C 5min. 5min.	100cycles	0/50
Temperature Cycle	JEITA ED-4701 100 105	-40°C~25°C~100°C~25°C 30min. 5min. 30min. 5min.	100cycles	0/50
Moisture Resistance Cycle	JEITA ED-4701 200 203	25°C~65°C~-10°C 90%RH 24hrs./1cycle	10 cycles	0/50
High Temperature Storage	JEITA ED-4701 200 201	Ta=100°C	1000 hrs	0/50
High Temperature High Humidity Storage	JEITA ED-4701 100 103	Ta=60°C, 90%RH	1000 hrs	0/50
Low Temperature Storage	JEITA ED-4701 200 202	Ta=-40°C	1000 hrs	0/50
Steady State Operating Life		Ta=25°C, If=20mA	1000 hrs	0/50
Steady State Operating Life of High Temperature		Ta=85°C, If=5mA	1000 hrs	0/50
Steady State Operating Life of High Humidity Heat		60°C, 90%RH, If=15mA	500 hrs	0/50
Steady State Operating Life of Low Temperature		Ta=-30°C, If=20mA	1000 hrs	0/50
Drop		H=75cm	3 cycles	0/50
Substrate Bending	JEITA ED-4702	3mm, 5 ± 1 sec.	1 time	0/50
Stick	JEITA ED-4702	5N, 10 ± 1 sec.	1 time	0/50

(2) CRITERIA FOR JUDGING THE DAMAGE(损伤判断标准)

Item	Symbol	Test Conditions	Criteria for Judgement	
			Min.	Max.
Forward Voltage	V _F	If=20mA	-	U.S.L.*)X1.1
Reverse Current	I _R	V _R =5V	-	U.S.L.*)X2.0
Luminous Intensity	I _V	If=20mA	L.S.L.**))X0.7	-

*) U.S.L.: Upper Standard Level

**)) L.S.L.: Lower Standard Level



Intensity And Color Bin Limits

(1) Intensity Bin Limits (IF=20mA)

SELECTION CODE FOR SUPER BRIGHT LEDS		
Group	Light intensity in mcd(20mA)	
	min.	max.
N	120	180
P	180	240
Q	240	320
R	320	420

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

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

COLOR CODE FOR BLUE LEDS + DISPLAYS		
Group	Dom. WaveLength (nm)	
	min.	max.
0	460	462
1	462	465
2	465	468
3	468	470

Tolerance for each Bin limit is $\pm 1\text{nm}$

Forward Voltage Bin limits(IF=20mA)< VF 值等级 >

Grade (等级)	F	G	H	I
Range (范围)	2.7-2.9	2.9~3.1	3.1~3.3	3.3~3.5

Tolerance for each Bin limit is $\pm 0.1\text{v}$.