

# SPECIFICATION FOR APPROVAL

## 承 认 书

CUSTOMER'S CODE

客户代码

DESCRIPTION

品 名 发光二极管

SPECIFICATION

规 格 2\*5\*5白发红/绿/蓝四脚共阴

DATE

送样日期 2009-03-21

PART NO.

本厂型号 **2RGB59SC-FHE**

REFERENCE No.

档案号 0903035

NUMBER OF SAMPLE

送样数量 10 pcs

COPY OF ACKNOWLEDGEMENT

承认书份数 1

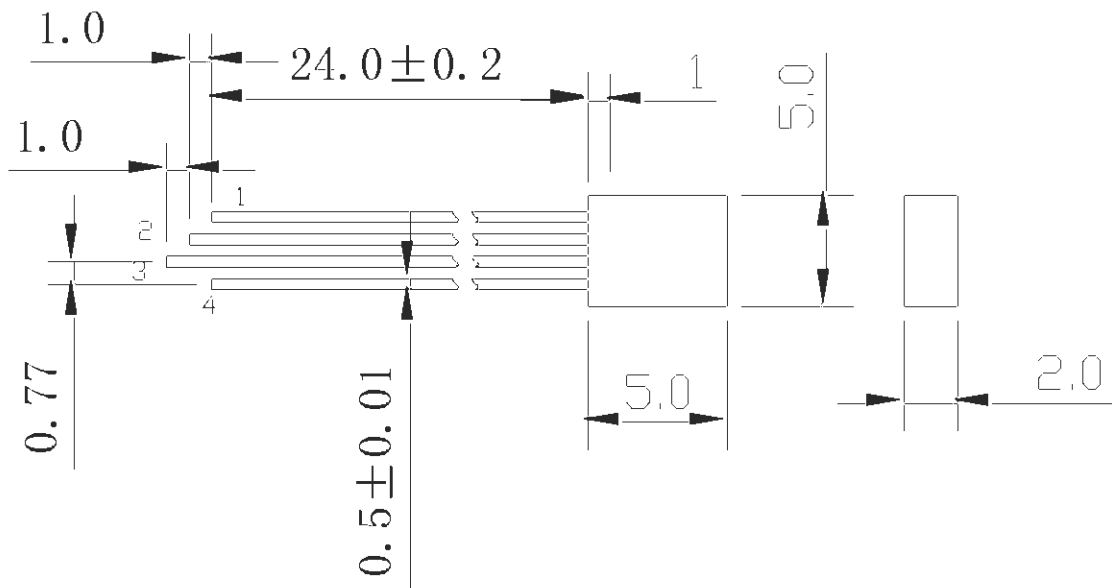
Approved By Customer 客户承认	Qualified By 核 准	Form Designer 制 作

### Product features

High brightness white LED 2\*5\*5 mm round package  
Light output intensity "F/H/E" grade Viewing angle 75 degree.  
Epoxy lens color: Water Clear

### Package dimension

Schematic drawing (unit in mm)



## ABSOLUTE MAXIMUM RATING

Item	SYMBOL	Absolute Maximum Rating	UNIT
Forward Current	IF	20	mA
Peak Forward Current	Ifp	100*	mA
Reverse Voltage	VR	5	V
Power Dissipation	PD	80	mw
Electrostatic discharge	ESD	2000	V
Operation Temperature	TOPR	-25°C to +80°C	°C
Storage Temperature	TSTG	-40°C to +80°C	°C
Lead Soldering Temperature	TSOL	Max.330 °C for 3sec Max	

\* Ifp Conditions:Pulse Wid $\leq$ 10msec $\leq$ 1/10

\* Tsol Conditions:3mm from the base of the epoxy bulb

## Typical Optical/Electrical Characteristics

Parameter		unit	Min.	Typical	Max
Light output(20mA)	R	mcd	200	300	400
	G		400	500	600
	B		100	200	300
Forward Voltage(20mA)	R	volt	1.8	2.0	2.4
	G		3.0	3.2	3.6
	B		3.0	3.2	3.4
Wavelength (20mA)	R	nm	620	623.5	625
	G		520	522.5	525
	B		460	462.5	465

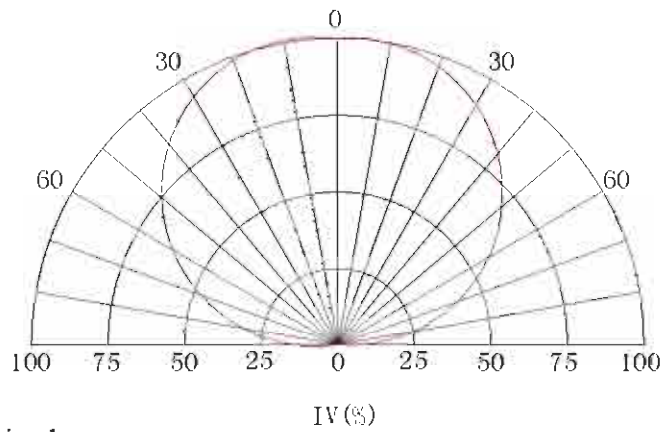
Notes:

1. Work absolute ratings Ta=25°C
2. Tolerance of measurement of forward volt $\pm$  0.1V

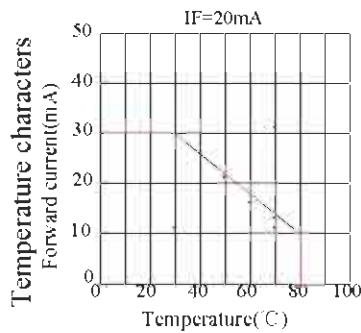
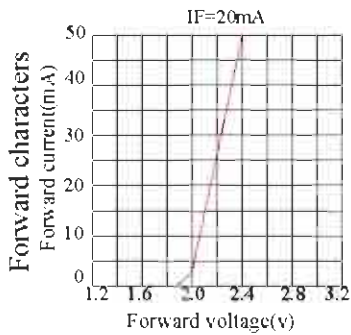
# TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

( 25 ° Ambient Temperature Unless Otherwise Noted )

## Spotial Distrbtion

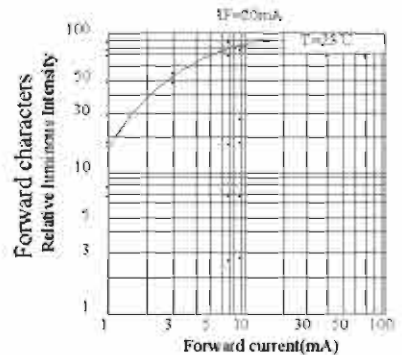
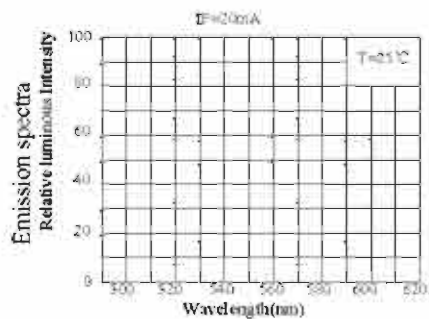
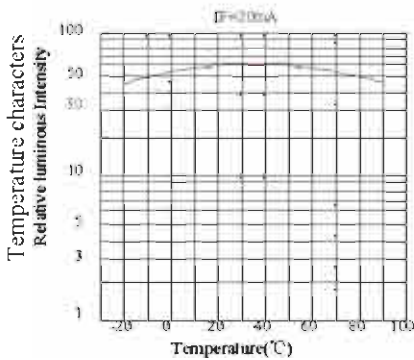


## Typical electrical-optical Characteristics curvers



### Notes:

The data are an typical presentation of the product, Contact customer service for details of technical information and warranty. The product is sensitive to static antistatic operation environment is recommended Products are shipped in either bulk bag package or taping.



## LED LAMP RELIABILITY

### ● Test Items And Results

Type	Test Item	REF. Standard	Test Condition	Note	Number of Damaged
Environmental Sequence	Temperature Cycle	JIS C 7021 (1997) A-4	-20°C → 25°C → 80°C → 25°C 30mins, 5mins, 30mins, 5mins	100 cycles	0/100
	High Humidity Heat Cycle	JIS C 7021 (1997) A-5	30°C → 65°C 90%RH 24hrs/1cycle	10 cycles	0/100
	High Temperature Storage	JIS C 7021 (1997) B-10	Ta=80°C	1000hrs	0/100
	Humidity Heat Storage	JIS C 7021 (1997) B-11	Ta=60°C RH=90%	1000hrs	0/100
	Low Temperature Storage	JIS C 7021 (1997) B-12	Ta= -30°C	1000hrs	0/100
Operation Sequence	Life Test	JIS C 7035 (1985)	Ta=25°C I <sub>F</sub> =20mA	1000hrs	0/100
	High Humidity Heat Life Test	*	60°C RH=90% I <sub>F</sub> =20mA	500hrs	0/100
	Low Temperature Life Test	*	Ta= -20°C I <sub>F</sub> =20mA	1000hrs	0/100
Destructive Sequence	Resistance to Soldering Heat	JIS C 7021 (1997) A-11	Tsol=260 ± 5°C, 10sec (3mm from the base of the epoxy bulb)	1 time	0/20
	Solderability	JIS C 7021 (1997) A-2	Tsol=235 ± 5°C, 5sec (Using flux)	1 time (over 95%)	0/20
	Lead Pull/Bend Test	JIS C 7021 (1997)A-11	Load 2.5N (0.25kgf) 0° → 90° → 0° Bending 3 times	No noticeable damage	0/20

- Refer to reliability test standard specification for in this line.

### ● Criteria for Judging The Damage

Item	Symbol	Test Condition	Criteria for Judgment	
			Min.	Max.
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 20mA	---	Initial data x 1.1
Reverse Current	I <sub>R</sub>	V <sub>R</sub> = 5V	---	Initial data x 2.0
Luminous Intensity	I <sub>v</sub>	I <sub>F</sub> = 20mA	Initial data x 0.7	---