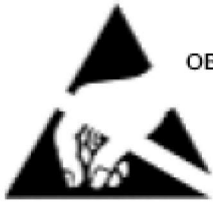


Part No.: **SOL-5090XWC-O**



ATTENTION

OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

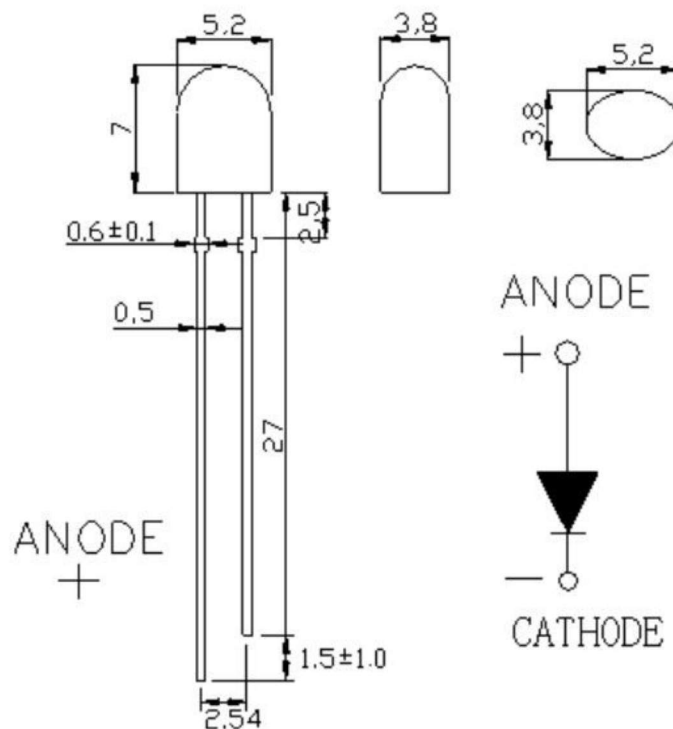
1. Features:

- Emitting Color: White
- High bright output
- Low power consumption
- High reliability and long life
- RoHS compliant

2. Descriptions:

- Dice material: InGaN
- Emitting Color: Super Bright White
- Device Outline: $\phi 5\text{mm}$ Round Type/5mm
- Lens Type: Water Clear

3. Dimensions:



Notes:

1. All dimensions are in millimeters.
2. Tolerance is $\pm 0.25\text{mm}$ unless otherwise noted.

Part No.: SOL-5090XWC-O

Absolute Maximum Rating @ Ta=25°C

Parameter	Symbol	Maximum Rating	Unit
Continuous Forward Current	IF	20	mA
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	IFp	50	mA
Reverse Voltage	VR	5	V
Power Dissipation	PD		mW
Electrostatic discharge	ESD	1000	V
Operating Temperature Range	TOPR	-25°C to +85°C	
Storage Temperature Range	TSTG	-35°C to +105°C	
Lead Soldering Temperature (3mm from the base of the epoxy bulb)	TSOL	360°C	

Electrical / Optical Characteristic @ Ta=25°C

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Forward Voltage	VF	3.0	3.2	3.4	V	IF=20mA
Light intensity	IV	5000	6000		mcd	IF=20mA
Color Temperature	Tc	6000	10000		K	IF=20mA
Reverse Current	IR	0		1	μA	VR=5V
Viewing Angle	2θ1/2		90/50		deg	IF=20mA
Recommend Forward Current	IF(rec)			20	mA	

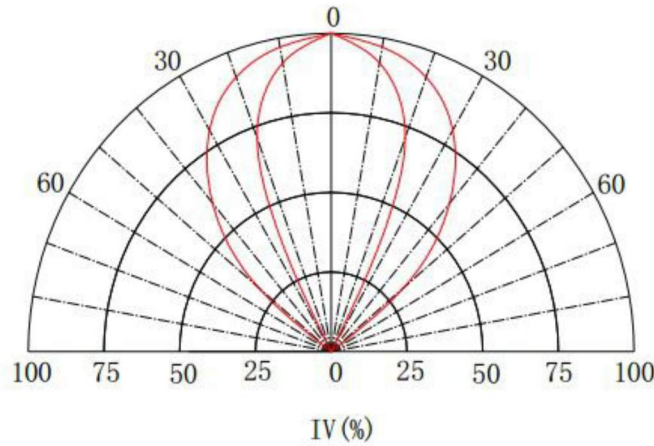
tolerance of measurement of forward voltage ±0.1V

Part No.: **SOL-5090XWC-O**

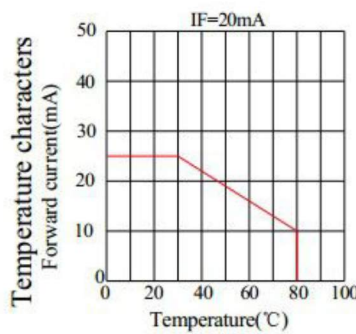
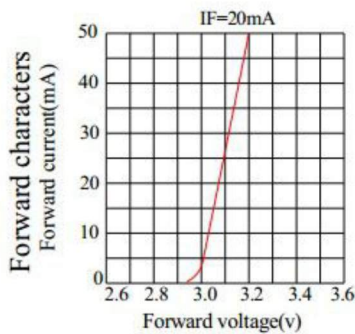
Typical Electrical / Optical Character Curves

(25 ° Ambient Temperature Unless Otherwise Noted)

Spotial Distrtrbution

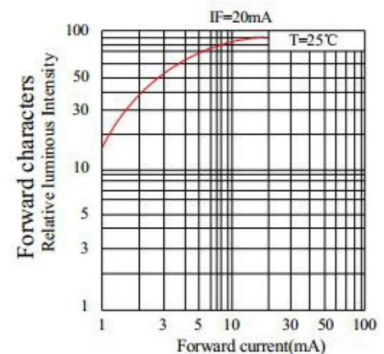
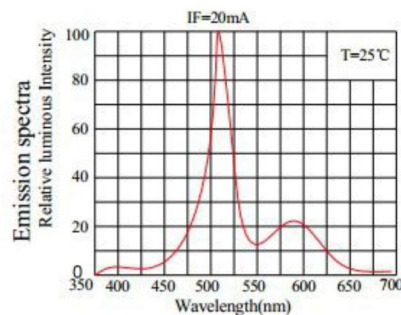
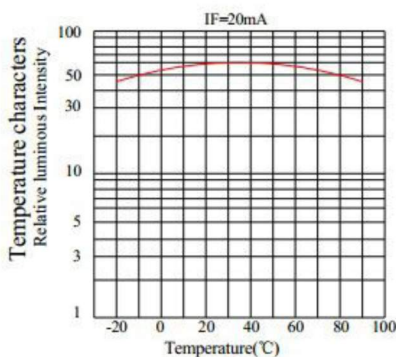


Typical electrical-optical Characteristics curvers



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.



Part No.: **SOL-5090XWC-O**

Reliability Tests

Type	Test Item	REF Standard	Test Condition	Note	Number of Damaged
Environmental Sequence	Temperature Cycle	JIS C 7021 (1997)A-4	-20°C*30mins~25°C *5mins~80°C * 30mins	100 cycles	0/100
	High Humidity Heat Cycle	JIS C 7021 (1997)A-5	30°C→65°C, RH= 90% 24hrs/1cycle	10 cycles	0/100
	High Temperature Storage	JIS C 7021 (1997)B-10	Ta= 80°C	1000h	0/100
	Humidity Heat Storage	JIS C 7021 (1997)B-11	Ta=60°C RH=90%	1000h	0/100
	Low Temperature Storage	JIS C 7021 (1997)B-12	Ta= -30°C	1000h	0/100
Operation Sequence	DC Operating Life	JIS C 7035 (1985)	Ta= 25°C, IF=20mA	1000h	0/100
	High Humidity Heat Life Test	*	Ta=60°C RH=90% IF=20mA	500h	0/100
	Low Temperature Life Test	*	Ta= -20°C, IF=20mA	1000h	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.

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11. Label Form Specification

	
P/N:	_____
Rank:	____ / ____ / ____
Qty:	_____ pcs QC: _____
Date:	_____
Lot No:	_____
	www.SOL-Lightengine.com

P/N: Customer's Production Number

QTY: Packing Quantity

Ranks: Iv / Vf / WD

Iv: Iv Rank ; Vf: Vf Rank ; WD: Color Group

QC: Quality Control chapter

Date: mm / dd / yy

mm: Month ; dd: Date ; yy: Year ;

Lot No: Production batch Number

12. Lead Forming

1. Any lead forming or bending must be done before soldering.

2. When forming leads, there must be a minimum of 2mm clearance between the base of the LED lens and the lead bend.

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- 3. Avoid bending the leads at the same point more than once.
- 4. During assembly onto PCB, the lead pitch of the LED must match the pitch of the mounting holes on the PCB during component placement.

13. Soldering Condition

Careful attention should be paid during soldering. When soldering, leave more than 2mm from solder joint to case, and soldering beyond the base of the tie bar is recommended.

Avoiding applying any stress to the lead frame while the LEDs are at high temperature particularly when soldering.

Recommended soldering conditions :

Hand Soldering		DIP Soldering	
Temp.at tip of iron	300°C Max.(30WMax.)	Preheat temp.	100°C Max. (60 sec Max.)
Soldering time	3 sec Max.	Bath temp.	260°C Max
Distance	2mm Min.(From solder joint to case)	Bath time.	3 sec Max.
		Distance	2mm Min

14. Cleaning

1. Do not clean LEDs with water, Alcohol are recommended solvents for cleaning. When using other solvents, it should be confirmed beforehand whether the solvents will dissolve the resin or not.
2. LEDs may be damaged by ultrasonic-washed. Before cleaning, a pre-test should be done to confirm whether any damage to the LEDs will occur.

15. Storage

1. Environmental temperature: -40°C---100°C, Recommended: -20°C---50°C
2. Environmental humidity: 30%---70%, Recommended: 40%---60%

16. Static Electricity

1. Static Electricity or power surge will damage the LED.

It is recommended that a wrist band or an anti-electrostatic glove be used when handling the LEDs.

2. All production machinery and test instruments must be electrically grounded.

Part No.: **SOL-5090XWC-O**

3. Maintain a humidity level of 50% or higher in production areas.

4. Use anti-static packaging for transport and storage.

17. Notes

1. This datasheet will be update regularly, if there comes out any changes, pls confirmed by the latest datasheet.

2. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. SUNPU assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.