

## Sample Approval Sheet

**Customer Name:** UNI

**Product Name:** 5.1x4.3mm Oval Blue LED

**Model:** OSB5SA5HA3B-NO

**Date:** July.06, 2010

<b>Optosupply</b>			
Prepared by	Checked by	Approved by	Marketing Dept.
Huirong Peng	Kyle Ian	Eddie	Daisy Tsai

<b>CUSTOMER CONFIRMATION</b>		
Confirmed by	Checked by	Approved by

**Hong Kong Office :**

Optosupply Limited

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**Factory:**

Optosupply Electronics (SZ) Limited

Optosupply Industrial Zone, South Dabu, Longhu Road, Longdong Village, Longgang Town, Shenzhen. P.R.C.

Tel: (86) 755-8484 6601 (106 ) Fax: (86) 755-8484 6596

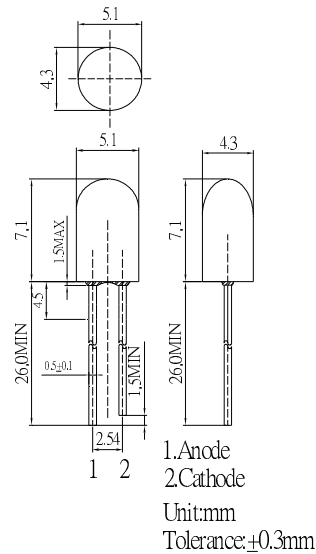
E-mail : [sales-hk@optosupply.com](mailto:sales-hk@optosupply.com) Website: [www.optosupply.com](http://www.optosupply.com)

**■Features**

- High Luminous LEDs
- 5.1x4.3mm Standard Directivity
- Long Lifetime Operation
- Superior Weather-resistance
- UV Resistant Epoxy
- Color Transparent Type

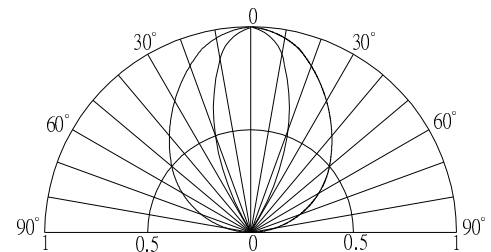
**■Applications**

- Traffic Signal
- Backlighting
- Signal and channel letter
- Other Lighting

**■Outline Dimension**

**■Absolute Maximum Rating**
**(Ta=25°C)**

Item	Symbol	Value	Unit
DC Forward Current	I <sub>F</sub>	30	mA
Pulse Forward Current*	I <sub>FP</sub>	120	mA
Reverse Voltage	V <sub>R</sub>	5	V
Power Dissipation	P <sub>D</sub>	108	mW
Operating Temperature	Topr	-40~ +85	°C
Storage Temperature	Tstg	-40 ~ +100	°C
Lead Soldering Temperature	Tsol	260°C/5sec	-

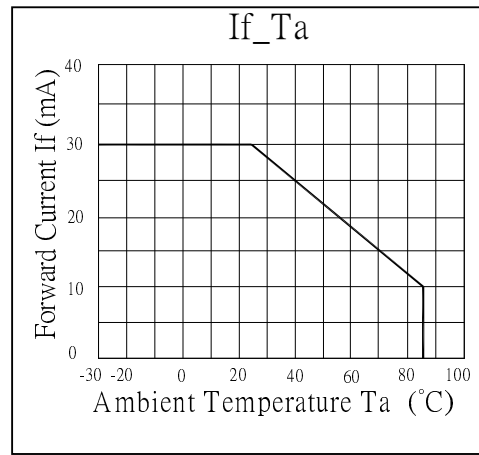
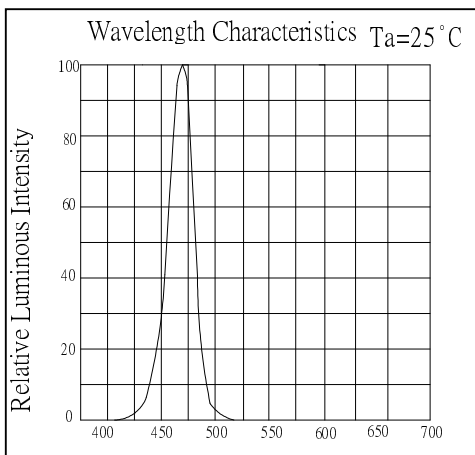
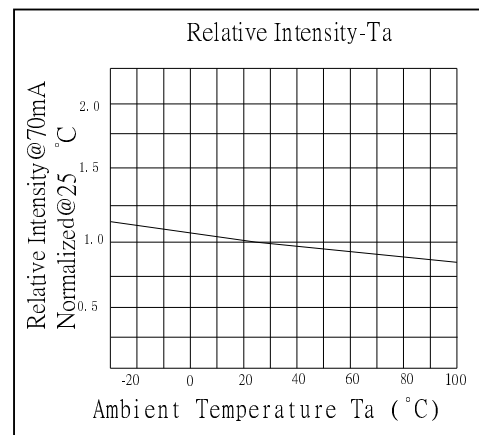
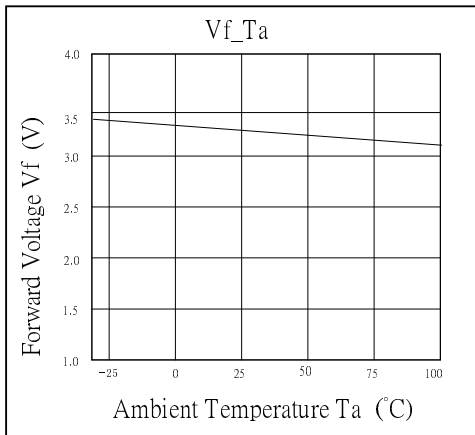
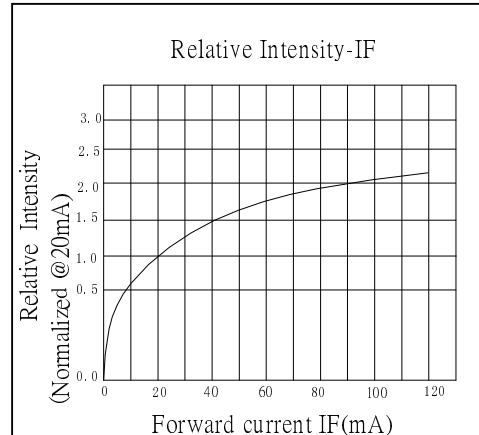
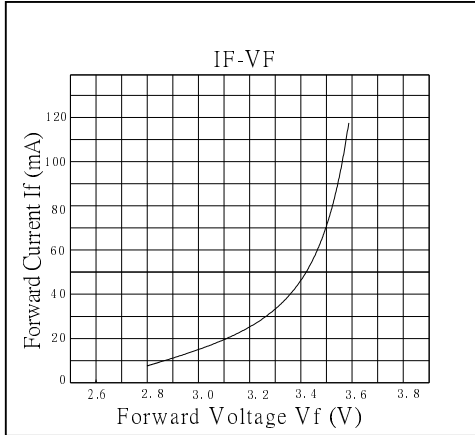
\*Pulse width Max.10ms , Duty ratio max 1/10

**■Directivity**

**■Electrical -Optical Characteristics**
**(Ta=25°C)**

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
DC Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =20mA	2.9	3.1	3.6	V
DC Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	-	-	10	μA
Dom. Wavelength*	λ <sub>D</sub>	I <sub>F</sub> =20mA	465	470	475	nm
Luminous Intensity*	I <sub>v</sub>	I <sub>F</sub> =20mA	2180	3000	4200	mcd
50% Power Angle	2θ <sub>1/2</sub>	I <sub>F</sub> =20mA	-	100/40	-	deg

\*1 Tolerance of dominant wavelength is ±1nm

\*2 Tolerance of luminous intensity is ±15%

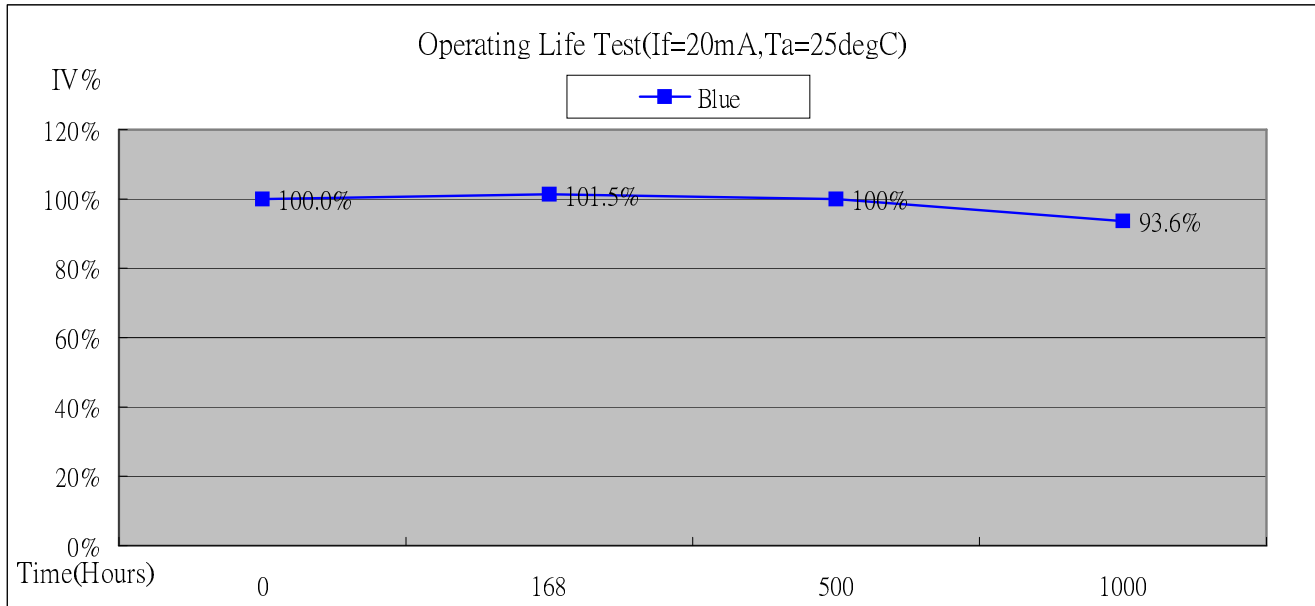
**InGaN LED**
**TYPICAL ELECTRICAL/OPTICAL CHARACTERISTIC CURVES**


### RELIABILITY TEST REPORT

CLASSIFICATION	TEST TIME	TEST CONDITON
ENDURANCE TEST	OPERATION LIFE	If: 20mA Ta:25±5 TEST TIME=1000HRS(-24HRS,+72HRS)
	HIGH TEMPERTURE HIGH HUMIDITY STORAGE	R.H:90~95% Ta:65±5°C TEST TIME=240HRS(+2HRS)
	HIGH TEMPERTURE STORAGE	Ta:105±5°C TEST TIME=500HRS(-24HRS,+48HRS)
	LOW TEMPERTURE STORAGE	Ta:-55±5°C TEST TIME=500HRS(-24HRS,+48HRS)
ENVIRONMENTAL TEST	TEMPERTURE CYCLING	105°C~25°C~~55°C~25°C 60min 10min 60min 10min 20cycles
	THERMAL SHOCK	105°C~~55°C 10min 10min 10cycles
	SOLDER RESISTANCE	Ta:260±5°C TEST TIME=10±1sec
	SOLDERABILITY	Ta:230±5°C TEST TIME=5±1sec

### JUDGMENT CRITERIA OF FAILURE FOR THE RELIABILITY

MEASURING ITME	SYMBOL	CONDITIONS	FAILURE
LUMINOUS INTENSITY	IV	IF=20mA	IV<0.5*INITIAL VALUE
FORWARD VOLTAGE	VF	IF=20mA	VF>1.2*INITIAL VALUE
REVERSE CURRENT	IR	Vr=5V	IR>2*SPEC

**OPERATION LIFE TEST LUMINANCE RATE CURVE**


\*Burn-in condition: 20mA

\*Projection of Statistical Average Light Output Degradation Performance for LED Technology  
 Extrapolated from OptoSupply QA Dept. Test Data.

\*According to OptoSupply outgoing Packaged Products Specification

\*MTBF:100,000hrs, 90% Confidence (A Failure is Any LED Which is Open, shorted or fails to Emit Light)

\*The Projected Data is Base on The Feature of LED Itself Under Normal Operation Conditions.

\*Any Improper Circuit Design or External Factors Might Cause a Different Result.

## LAMP APPLICATION (PB FREE SOLDERJING)

Apply to LAMP (DIP) SERIES.

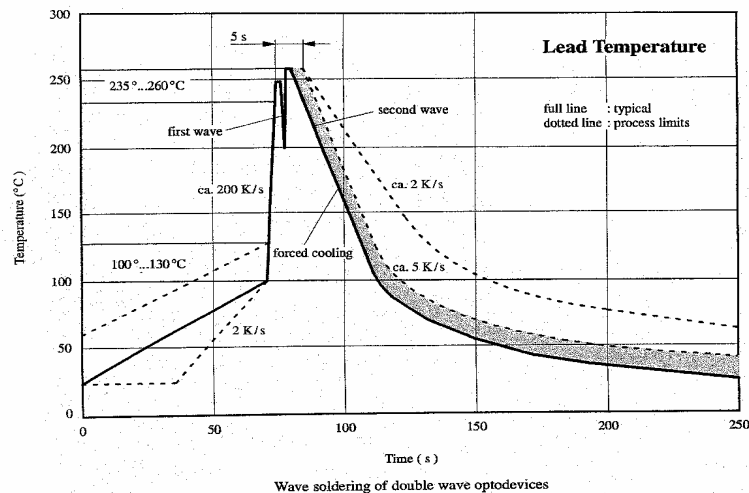
### Description:

#### (1) Manual soldering (Solder Iron)

- (1.1) Temperature at tip of the iron: 300°C Max.
- (1.2) It's banned to load any stress on the resin during soldering.
- (1.3) Soldering time: 3sec. Max. (one time only.)
- (1.4) Leave 3mm of minimum distance from the base of the epoxy.

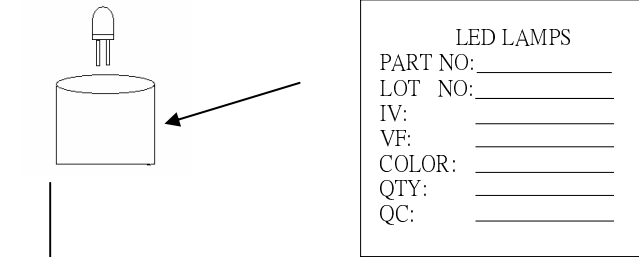
#### (2) Dip Soldering (Wave Soldering-Solder Bath)

- (2.1) Leave 3mm of minimum distance from the base of the epoxy.  
Soldering beyond the base of the tie bar (stand off) is recommended.
- (2.2) When soldering, do not put stress on the LEDs during heating.
- (2.3) Cutting the lead frames at high temperatures may cause LED failure.
- (2.4) Never take next process until the component is cooled down to room temperature after reflow.
- (2.5) After soldering, do not warp the circuit board.
- (2.6) The recommended dip soldering profile is the following.



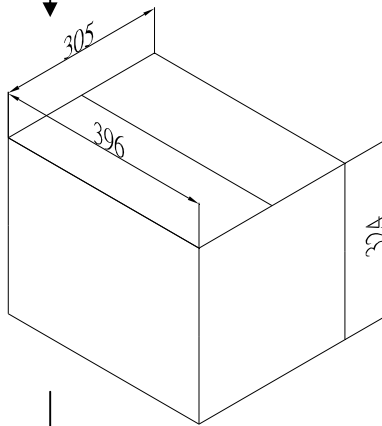
## LAMP PACKING

500pcs/Bag



### BOX

Dimension (mm)  
**396\*305\*324**  
 40Bags/Box



### Carton

Dimension (mm)  
**675\*410\*320**  
 2Boxes/Carton

