

## Sample Approval Sheet

**Customer Name:** ECS

**Product Name:** 5mm Pure Green LED

**Model:** OSG5DA5B6AE-NN

**Date:** Jul.29, 2008

<b>Optosupply</b>			
Prepared by	Checked by	Approved by	Marketing Dept.
Feiyu Liu	KH Chen	Landy Lan	Daisy Tsai

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

**Hong Kong Office :**

Optosupply Limited

Unit 202, 2/F., Wah Yiu Industrial Centre, 30 - 32, Au Pui Wan Street, Fo Tan, N.T., Hong Kong

Tel : 852-2790 5099 Fax : 852-2342 9833

**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
- 5mm Standard Directivity
- Superior Weather-resistance
- UV Resistant Epoxy
- Water Clear Type

**■Applications**

- Automotive Dashboard Lighting
- Back Lighting
- Other Lighting

**■Materials**

ITEM	MATERIALS
Resin(Mold)	Epoxy
Lens Color	Water Clear
Lead Frame	Ag Plating Fe Alloy
Green	GaNN

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

Item	Symbol	Value	Unit
DC Forward Current	$I_F$	30	mA
Pulse Forward Current*	$I_{FP}$	100	mA
Reverse Voltage	$V_R$	5	V
Power Dissipation	$P_D$	108	mW
Operating Temperature	$T_{opr}$	-30 ~ +85	
Storage Temperature	$T_{stg}$	-40 ~ +100	
Lead Soldering Temperature	$T_{sol}$	260 /5sec	-

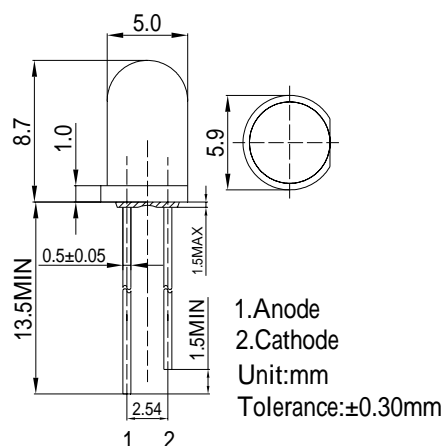
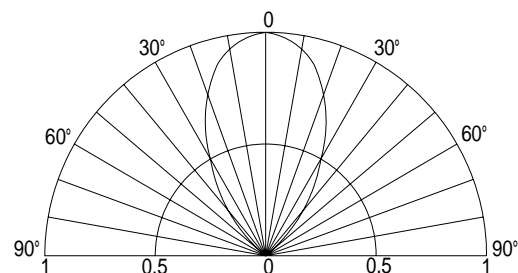
\*Pulse width Max.10ms Duty ratio max 1/10

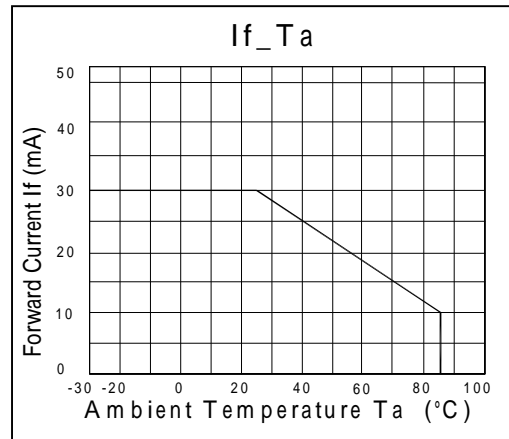
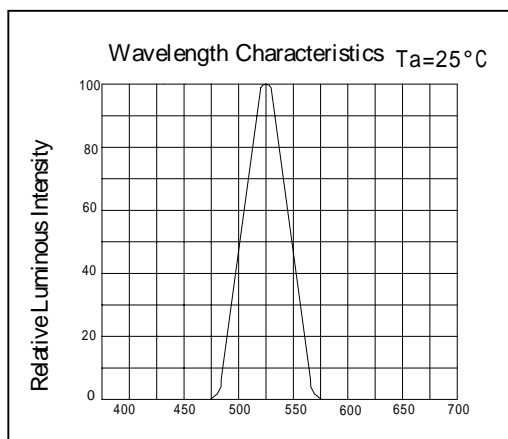
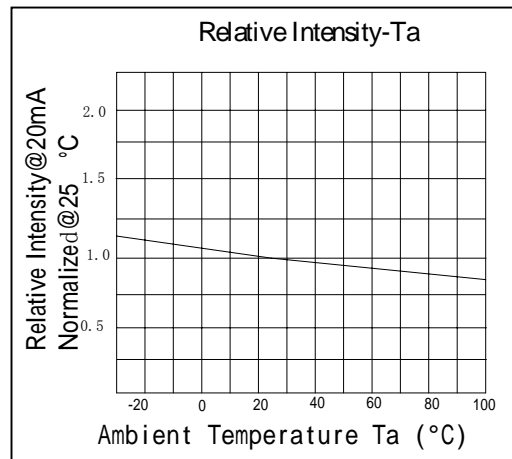
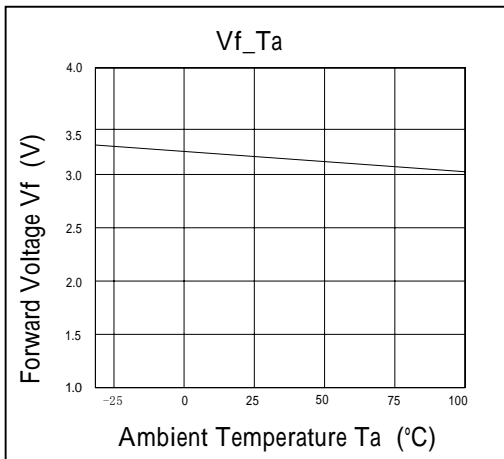
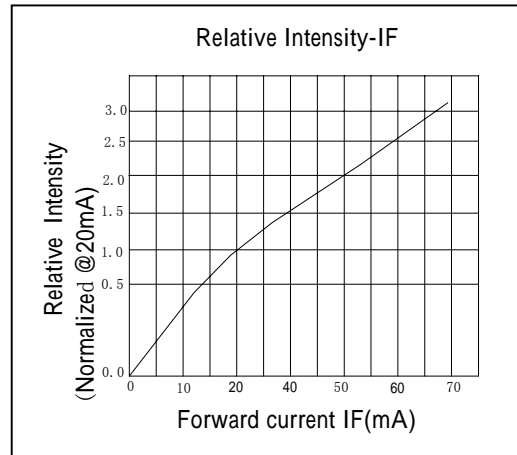
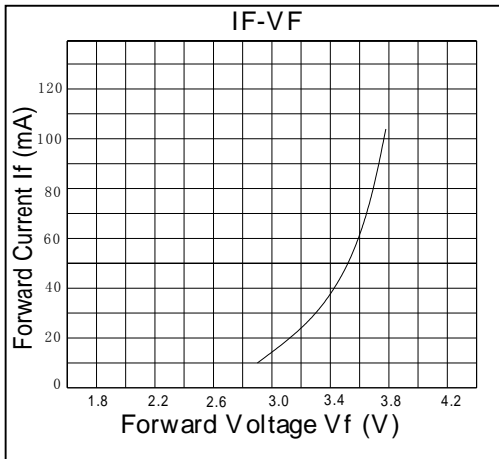
**■Electrical -Optical Characteristics (Ta=25 °C)**

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
DC Forward Voltage	$V_F$	$I_F=20mA$	2.9	3.1	3.6	V
DC Reverse Current	$I_R$	$V_R=5V$	-	-	10	$\mu A$
Domi. Wavelength	$\lambda_D$	$I_F=20mA$	520	525	530	nm
Luminous Intensity	$I_v$	$I_F=20mA$	2180	2600	3000	mcd
50% Power Angle	$2\theta_{1/2}$	$I_F=20mA$	-	60	-	deg

\*1 Tolerance of dominant wavelength is  $\pm 1nm$

\*2 Tolerance of luminous intensity is  $\pm 15\%$

**■Outline Dimension**

**■Directivity**


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


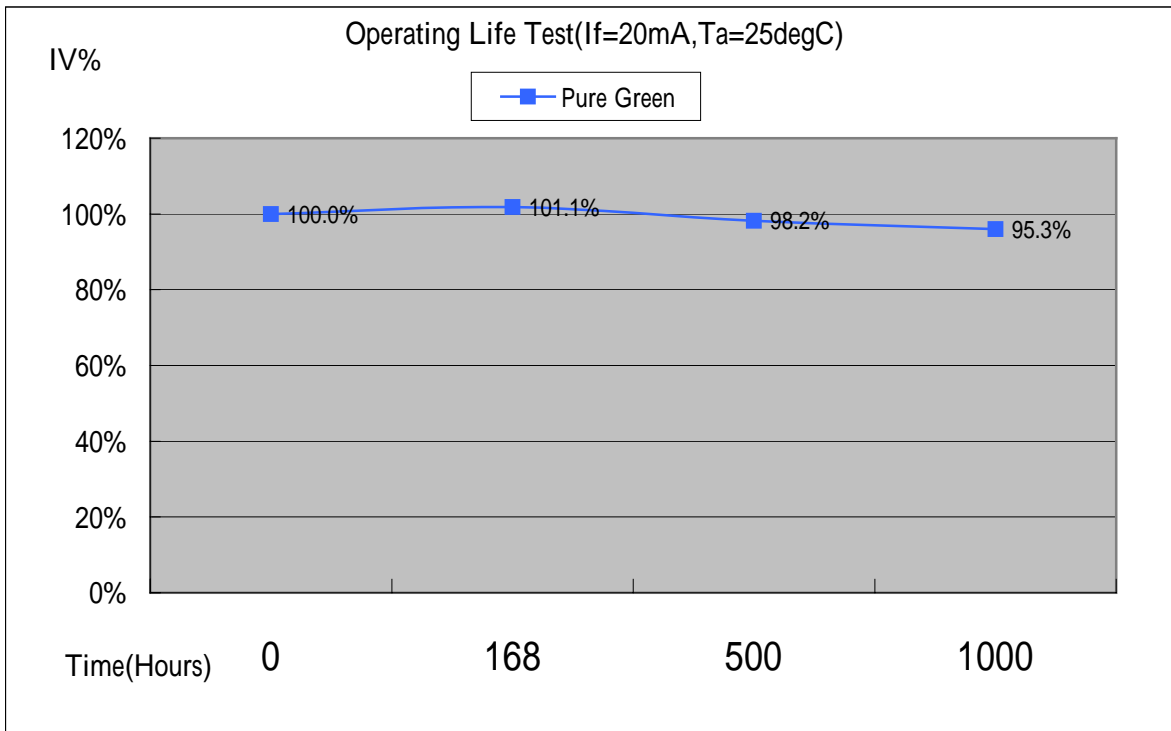
### RELIABILITY TEST REPORT

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

### JUDGMENT CRITERIA OF FAILURE FOR THE RELIABILITY

MEASURING ITME	SYMBOL	CONDITIONS	FAILUER
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.

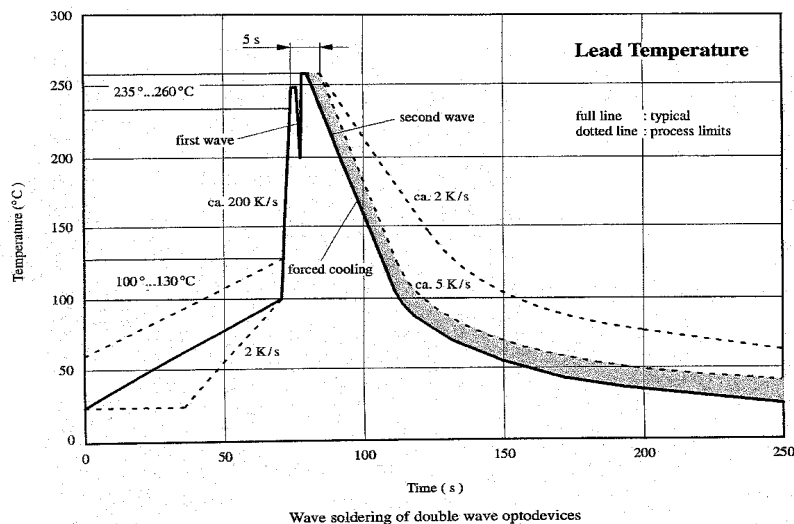
### Description:

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

- (1.1) Temperature at tip of the iron: 300 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

