Sample Approval Sheet

Customer Name: ECS

Product Name: 3mm High Yellow LED

Model: OSY5HA3D3AE-LL

Date: Jul.23, 2008

Optosupply			
Prepared by	Checked by	Approved by	Marketing Dept.
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CUSTOMER CONFIRMATION		
Confirmed by	Checked by	Approved by

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3mm High Yellow LED
OSY5HA3D3AE-LL

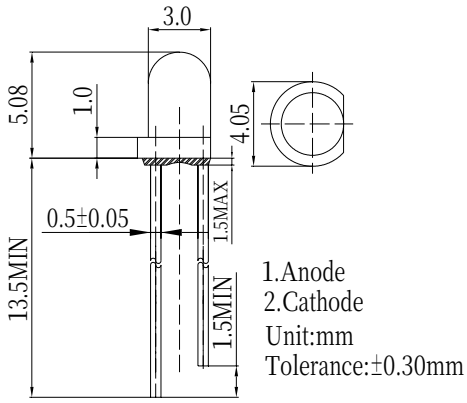
▪Features

- High Luminous LEDs
- 3mm Standard Directivity
- Superior Weather-resistance
- UV Resistant Epoxy
- Water Clear Type

▪Applications

- Automotive Dashboard Lighting
- Back Lighting
- Other Lighting

▪Outline Dimension



▪Materials

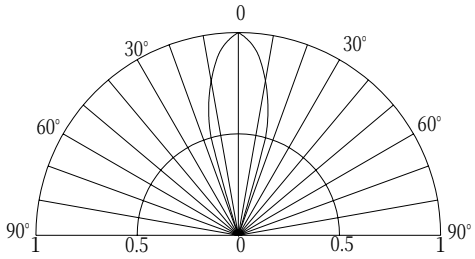
ITEM	MATERIALS
Resin(Mold)	Epoxy
Lens Color	Water Clear
Lead Frame	Ag Plating Fe Alloy
Yellow	AlGaInP

▪Absolute Maximum Rating (Ta=25℃)

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	72	mW
Operating Temperature	Topr	-30 ~ +85	℃
Storage Temperature	Tstg	-40 ~ +100	℃
Lead Soldering Temperature	Tsol	260℃/5sec	-

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

▪Directivity



▪Electrical -Optical Characteristics (Ta=25℃)

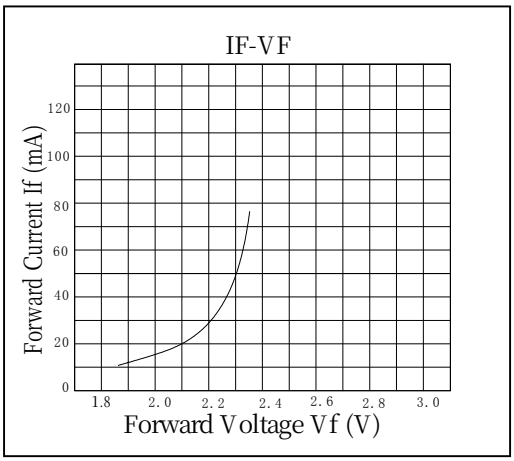
Item	Symbol	Condition	Min.	Typ.	Max.	Unit
DC Forward Voltage	V_F	I_F=20mA	1.8	2.1	2.4	V
DC Reverse Current	I_R	V_R=5V	-	-	10	μA
Domi. Wavelength	λ_D	I_F=20mA	585	590	595	nm
Luminous Intensity	Iv	I_F=20mA	1120	1340	1560	mcd
50% Power Angle	$2\theta_{1/2}$	I_F=20mA	-	30	-	deg

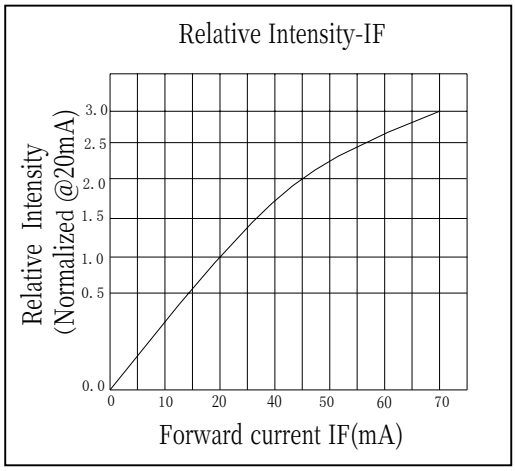
*1 Tolerance of dominant wavelength is ±1nm

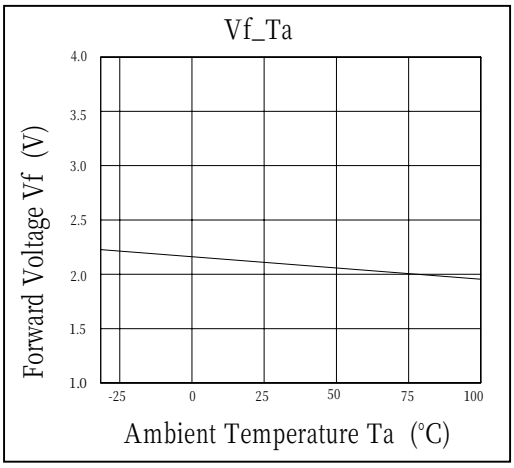
*2 Tolerance of luminous intensity is ±15%

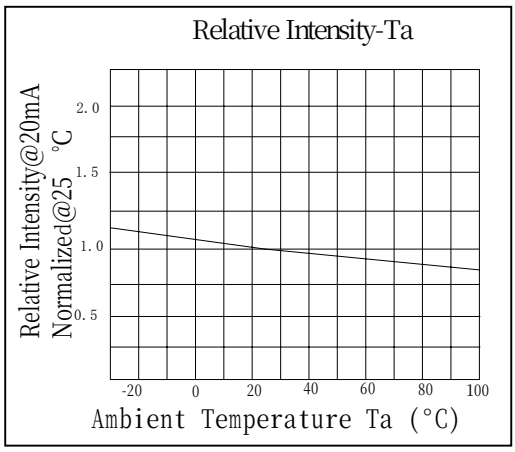
InGaAlP LED

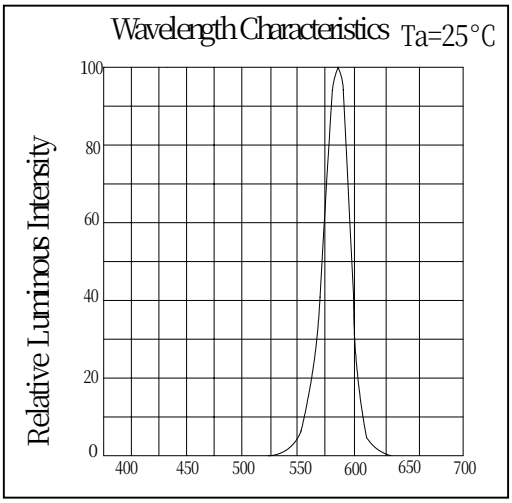
TYPICAL ELECTRICAL/OPTICAL CHARACTERISTIC CURVES

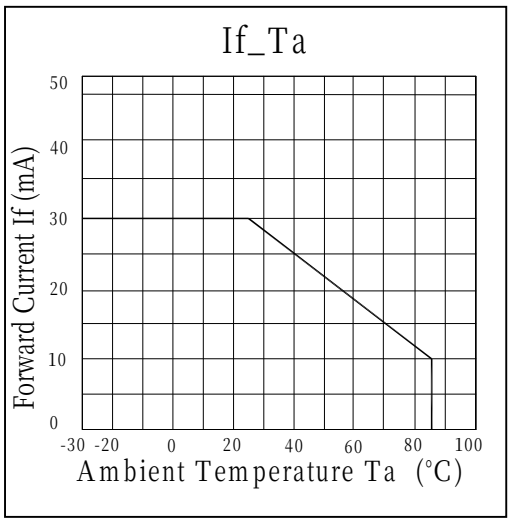












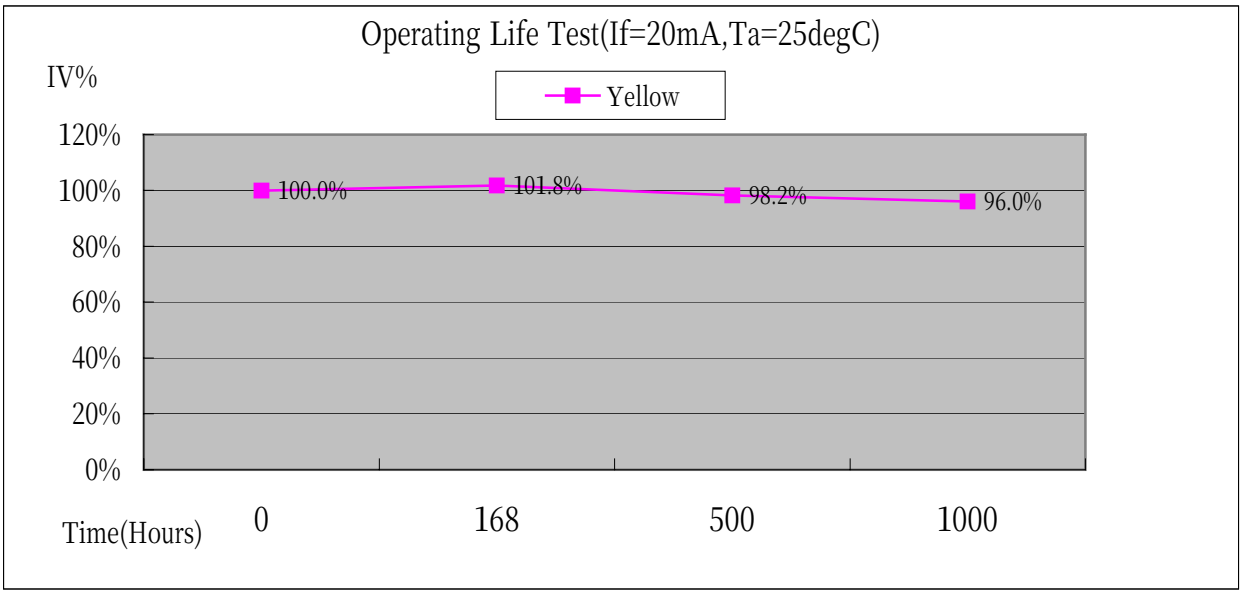
RELIABILITY TEST REPORT

CLASSIFICATION	TEST TIME	TEST CONDTION
ENDURANCE TEST	OPERATION LIFE	If:20mA Ta:25±5 TEST ITME=1000HRS(-24HRS,+72HRS)
	HIGH TEMPERTURE HIGH HUMIDITY STORAGE	R.H:90~95% Ta:65±5°C TEST ITME=240HRS(+2HRS)
	HIGH TEMPERTURE STORAGE	Ta:105±5°C TEST ITME=500HRS(-24HRS,+48HRS)
	LOW TEMPERTURE STORAGE	Ta:-55±5°C TEST ITME=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 ITME=10±1sec
	SOLDERABILITY	Ta:230±5°C TEST ITME=5±1sec

JUDGMENT CRITERIA OF FALURE 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.

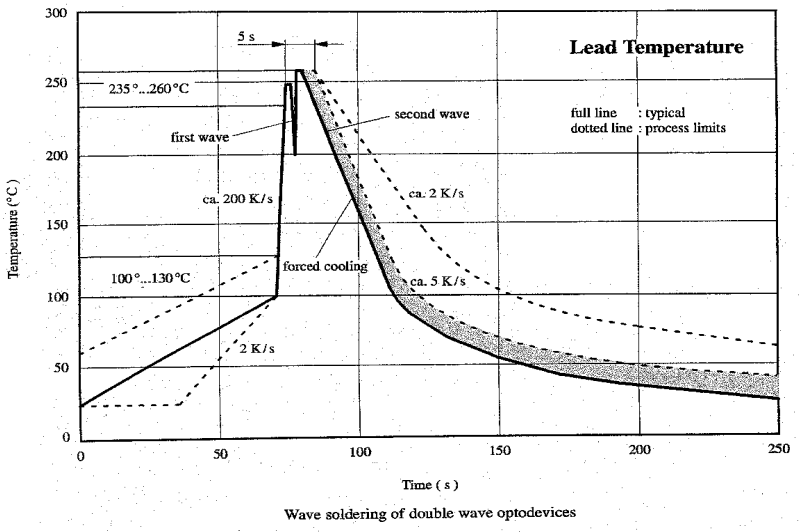
(2.2) When soldering, do not put stress on the LEDs during heating.

(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.

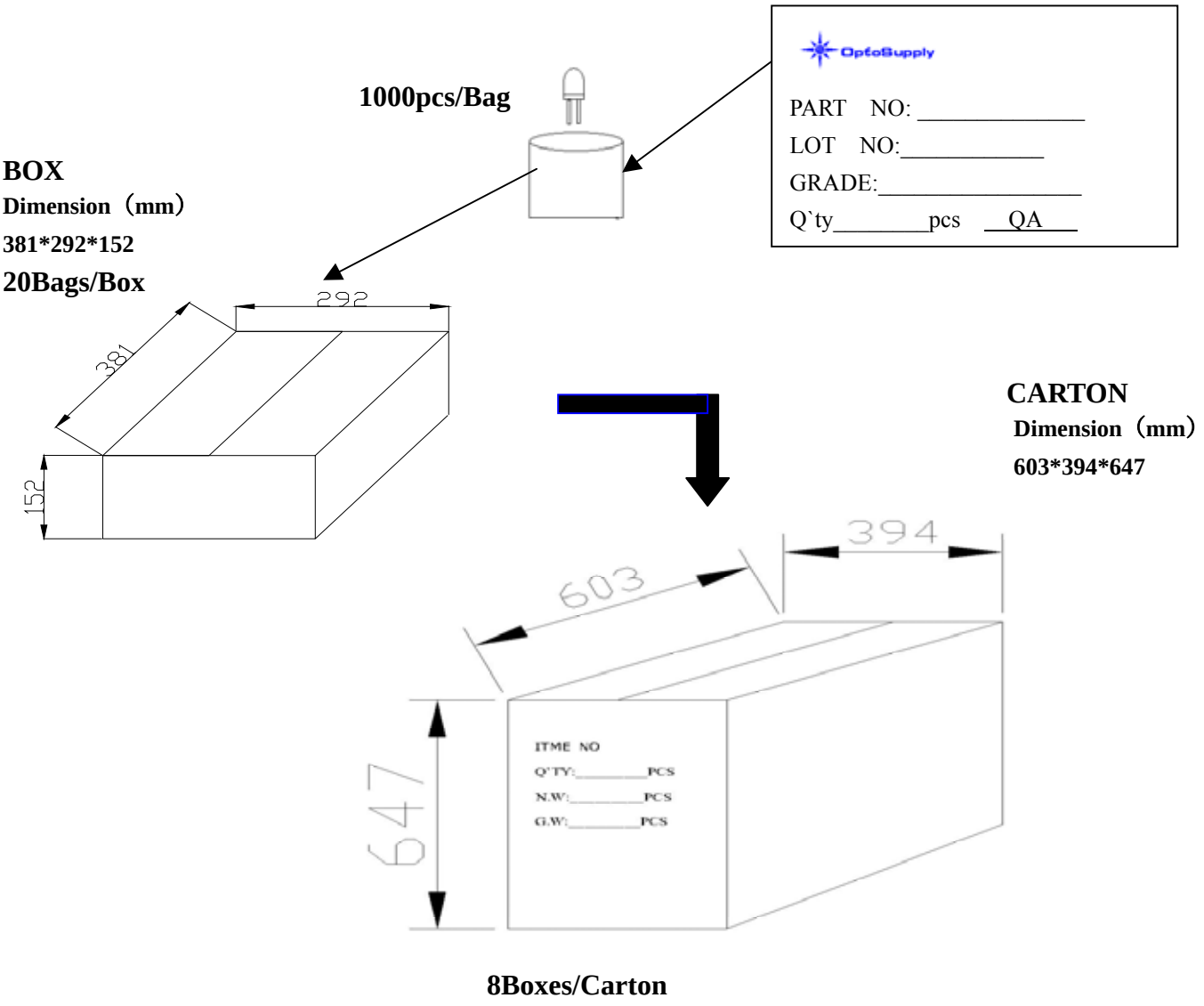
(2.5) After soldering, do not warp the circuit board.

(2.6) The recommended dip soldering profile is the following.



Wave soldering of double wave optodevices

LAMP PACKING



8Boxes/Carton