OptoSupply
Light It Up

5.0x5.4x1.0mm Top 1 Power White LED

OSW35054C1H-350mA-RA92

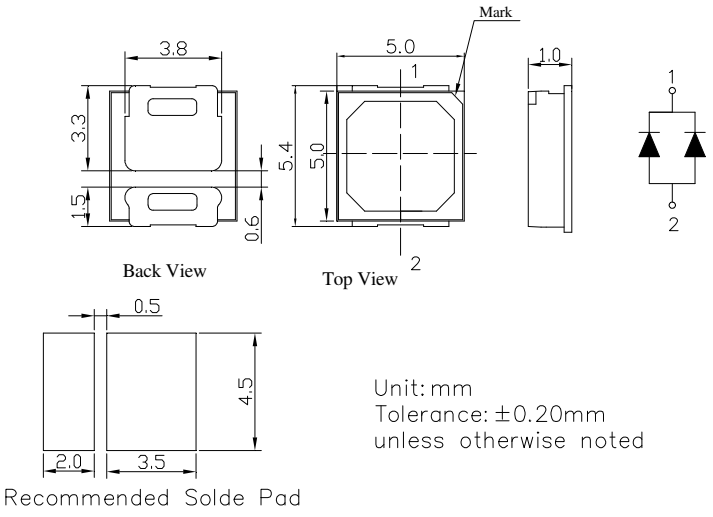
▪Features

- High luminous flux
- Super energy efficiency
- Long lifetime operation
- Superior UV Resistance

▪Applications

- Read lights (car, bus, aircraft)
- Portable (flashlight, bicycle)
- Bollards / Security / Garden
- Traffic signaling / Beacons
- Indoor / Outdoor Commercial lights
- Others

▪Outline Dimension

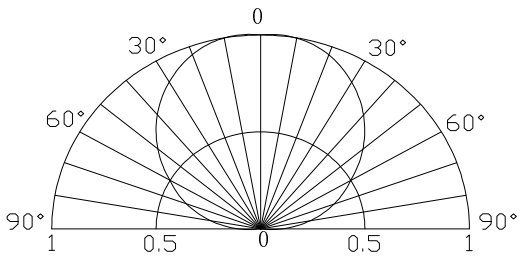


▪Absolute Maximum Rating (Ta=25℃)

Item	Symbol	Value	Unit
DC Forward Current	I_F	350	mA
Pulse Forward Current#	I_{FP}	500	mA
Reverse Voltage	V_R	10	V
Power Dissipation	P_D	1260	mW
Operating Temperature	Topr	-30 ~ +85	℃
Storage Temperature	Tstg	-40 ~ +100	℃
Lead Soldering Temperature	Tsol	260℃/10sec	-

#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*1	V_F	I_F=350mA	-	3.3	3.6	V
DC Reverse Current	I_R	V_R=5V	-	-	10	μA
Luminous Flux*2	Φv	I_F=350mA	100	-	120	lm
Color Rendering Index	Ra	I_F=350mA	92	-	-	
Color Temperature*3	CCT	I_F=350mA	4500	5100	6000	K
Chromaticity Coordinates*4	x	I_F=350mA	-	0.344	-	
	y	I_F=350mA	-	0.355	-	
50% Power Angle	$2\theta_{1/2}$	I_F=350mA	-	120	-	deg

*1 Tolerance of measurements of forward voltage is±0.1V
*2 Tolerance of measurements of luminous flux is ±15%
*3 Tolerance of measurements of color temperature is ±10%
*4 Tolerance of measurements of chromaticity coordinate is ±10%

LED & Application Technologies

ISO 9001: 2008

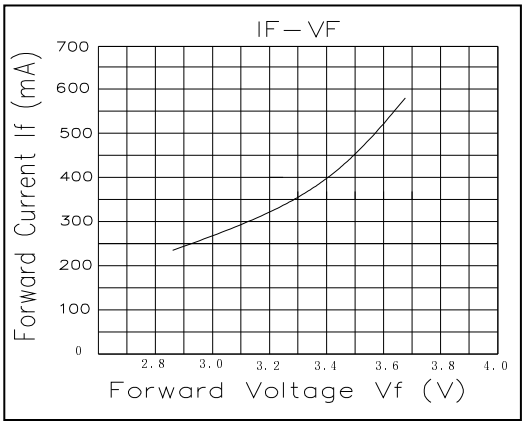
RoHS Compliant EU 2002/95/EC

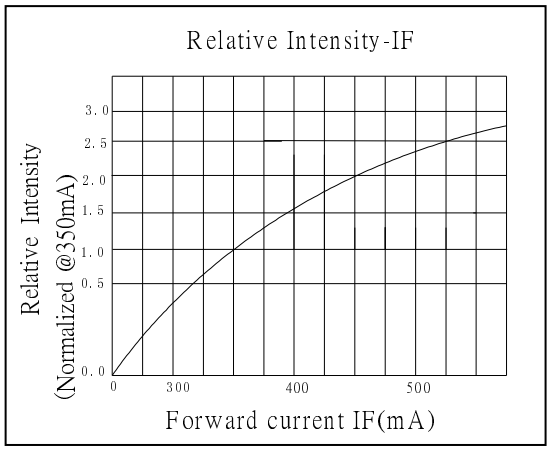
REACH The new EU chemicals legislation

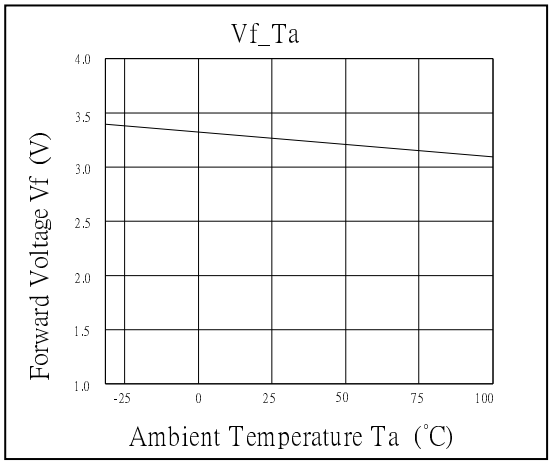
ATTENTION
OBSERVE PRECAUTIONS
ELECTROSTATIC
SENSITIVE DEVICES

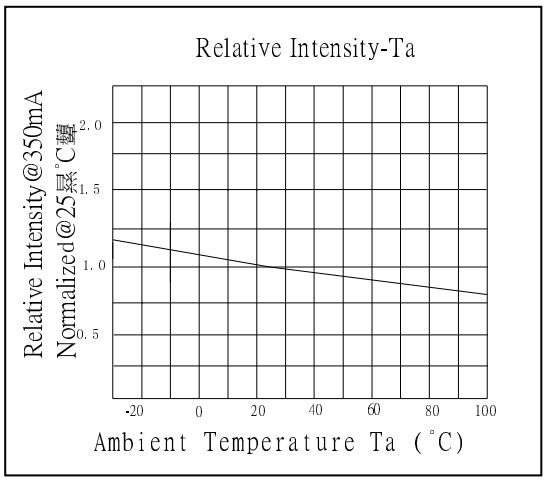
InGaN LED

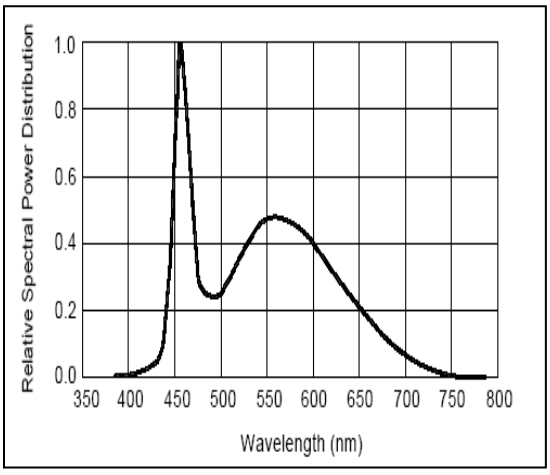
TYPICAL ELECTRICAL/OPTICAL CHARACTERISTIC CURVES

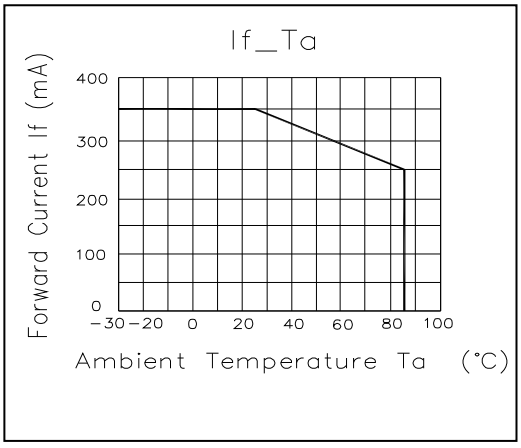












RELIABILITY TEST REPORT

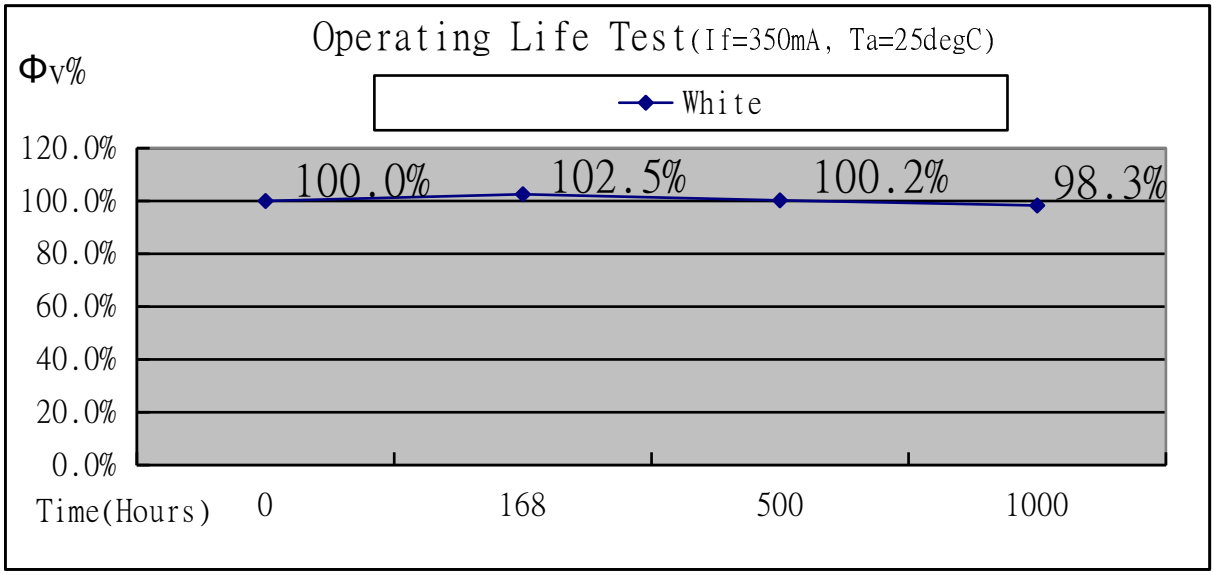
CLASSIFICATION	TEST ITEM	TEST CONDTION
ENDURANCE TEST	ROOM TEMPERATURE OPERATION LIFE	If: 350mA Ta:25±5 ℃ TEST TIME=1000HRS
	HIGH TEMPERTURE HIGH HUMIDITY STORAGE	R.H:90~95% Ta:65±5℃ TEST TIME=240HRS(+2HRS)
	HIGH TEMPERTURE STORAGE	Ta:100℃ TEST TIME=500HRS(-24HRS,+48HRS)
	LOW TEMPERTURE STORAGE	Ta:-40℃ TEST TIME=500HRS(-24HRS,+48HRS)
ENVIRONMENTAL TEST	TEMPERTURE CYCLING	-40℃~25℃~100℃~25℃ 30min 5min 30min 5min 20cycles
	RESISTANCE TO SOLDERING HEAT	Ta:260±5℃ TEST TIME=10±1sec
	SOLDERABILITY	Ta:245±5℃ TEST TIME=5±1sec

JUDGMENT CRITERIA OF FAILURE FOR THE RELIABILITY

MEASURING ITME	SYMBOL	CONDITIONS	FAILURE CRITERIA
LUMINOUS INTENSITY	IV	IF=350mA	IV<0.5*L.S.L
FORWARD VOLTAGE	VF	IF=350mA	VF>1.2*U.S.L
REVERSE CURRENT	IR	Vr=5V	IR>2*U.S.L
SOLDERABILITY	-	-	LESS THAN 95% SOLDER COVERAGE

U.S.L ： Upper Specification Limit L.S.L ： Lower Specification Limit

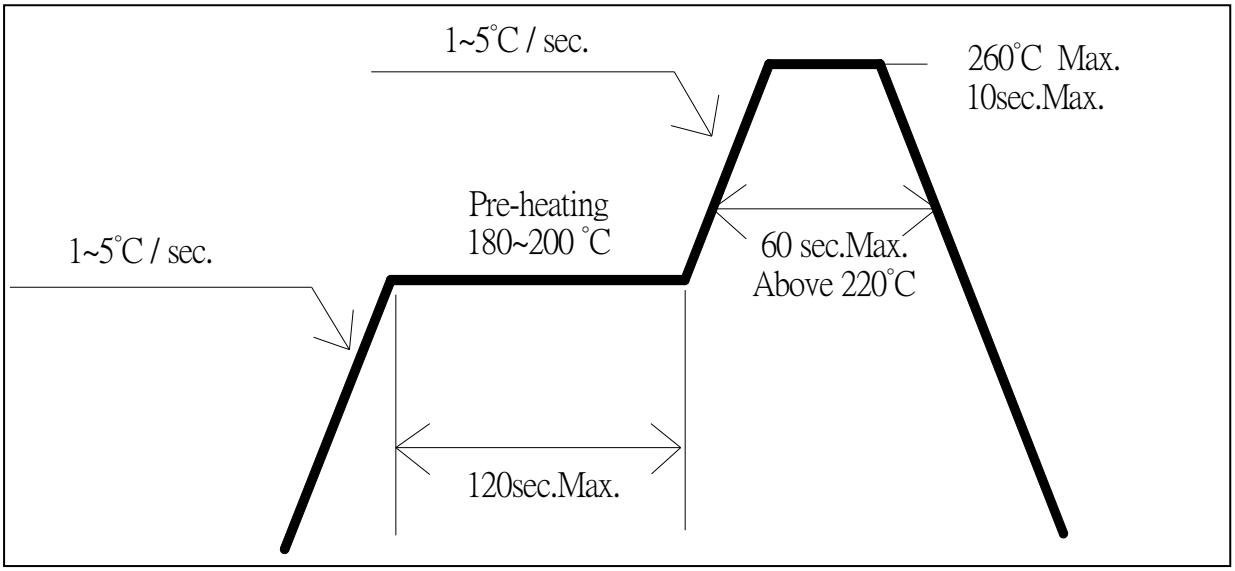
OPERATION LIFE TEST LUMINANCE RATE CURVE



■ **Soldering Conditions**

Reflow Soldering		Hand Soldering	
Pre-Heat	180 ~ 200°C	Temperature Soldering time	350°C Max. 3 sec. Max. (one time only)
Pre-Heat Time	120 sec. Max.		
Peak temperature	260°C Max.		
Dipping Time	**10 sec. Max.**		
Condition	Refer to Temperature-profile		

• Reflow Soldering Condition(Lead-free Solder)



*Recommended soldering conditions vary according to the type of LED

*Although the recommended soldering conditions are specified in the above table, reflow, or hand soldering at the lowest possible temperature is desirable for the LEDs.

*A rapid-rate process is not recommended for cooling the LEDs down from the peak temperature.

•All SMD LED products are pb-free soldering available.

• Occasionally there is a brightness decrease caused by the influence of heat or ambient atmosphere during air reflow. It is recommended that the User use the nitrogen reflow method.

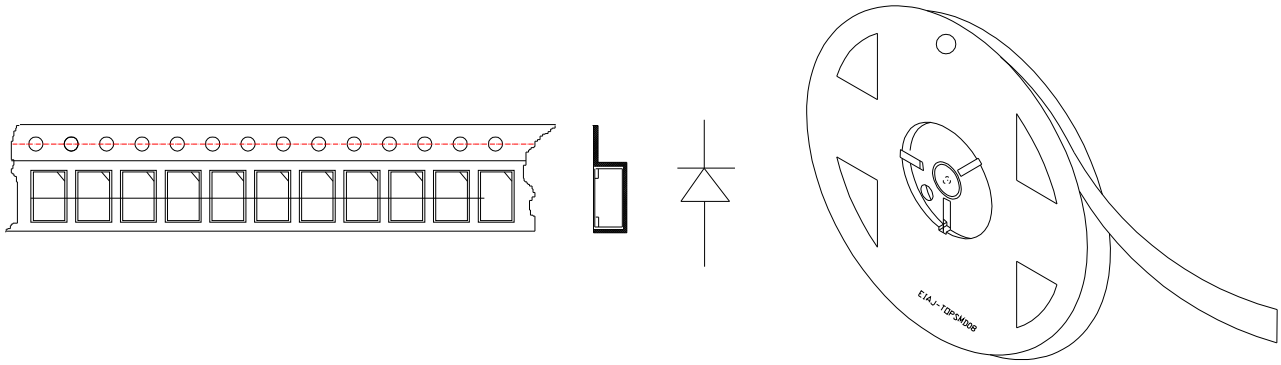
• Repairing should not be done after the LEDs have been soldered. When repairing is unavoidable a double-head soldering iron should be used. It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.

• Reflow soldering should not be done more than two times.

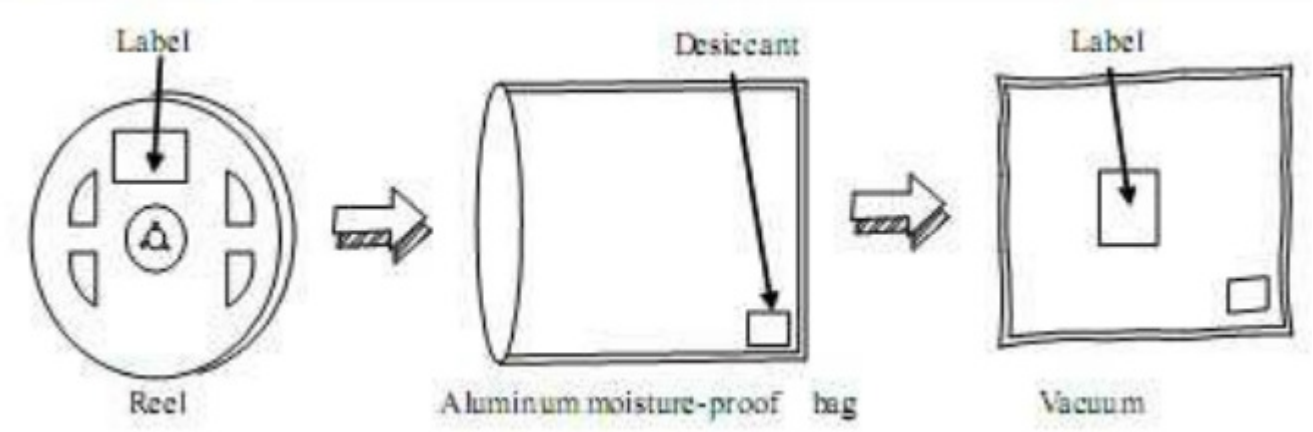
• When soldering, do not put stress on the LEDs during heating.

• After soldering, do not warp the circuit board.

1、Tape leader and reel



2、Packing



Notes:
1. Unit: mm
2. 1000pcs/Reel

Precautions in Use for Surface Mount Diode

■ Storage

· Storage Conditions

Before opening the package:

The LEDs should be kept at 30°C or less and 60%RH or less. The LEDs should be used within a year. When storing the LEDs, moisture proof packaging with absorbent material (silica gel) is recommended.

· After opening the package:

Soldering should be done right after opening the package (within 24hrs).

Keeping of a fraction, sealing and Temperature: 5~30℃ Humidity: Less than 30%.

If the package has been opened more than24 Hours, components should be dried for 12hrs, at 60±5℃.

· Optosupply LED electrode sections are comprised of a silver plated copper alloy. The silver surface may be affected by environments which contain corrosive gases and so on. Please avoid conditions which may cause the LED to corrode, tarnish or discolor. This corrosion or discoloration may cause difficulty during soldering operations. It is recommended that the User use the LEDs as soon as possible.

· Please avoid rapid transitions in ambient temperature, especially in high humidity environments where condensation can occur.