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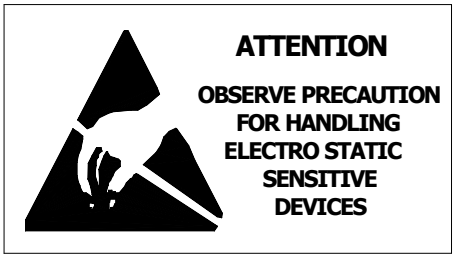
SPECIFICATION

PART NO. : LP3H33-ST-UDN7-S15

1W HIGH POWER LED

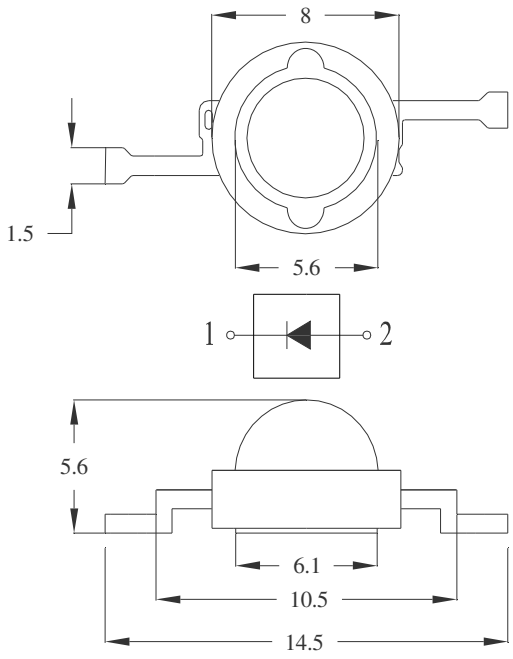


Approved by	Checked by	Prepared by
王方波	蘇智良	陳祥銘

MODIFY RECORD

TAKE EFFECT DATE	MODIFY ISSUES	REMARKS

Package Dimensions



* All dimensions are in mm. *Tolerance：+/-0.6mm.

Notes:

1.All dimensions are in mm.

2.Tolerance is +/-0.6mm unless otherwise noted.

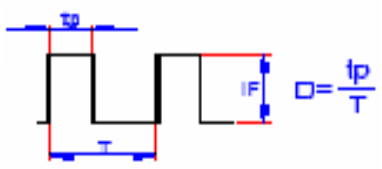
Description

Part NO.	LED Chip		Lens Color
	Material	Color Coordinates	
LP3H33-ST-UDN7-S15	GaAlInP/Si	Yellow	Water Clear

Absolute Maximum Ratings at Ta=25℃ ：

Parameter	Rating	Unit
Power Dissipation	1067	mW
LED Junction Temperature	120	℃
Reverse Voltage	5	V
D.C. Forward Current	350	mA
Pulsed Forward Current；tp≦100μs,Duty cycle=0.005)*1	700	mA
Operating Temperature Range	-40 to +75	℃
Storage Temperature Range	-40 to +100	℃
Soldering Temperature	Reflow Soldering: 260℃ for 10 sec. Hand Soldering: 350℃ for 3 sec.	
Electric Static Discharge Threshold (HBM)	6000	V

Duty Cycle：



Notes:

1、Proper current derating must be observed to maintain junction temperature below the maximum .

2、All products not sensitive to ESD damage(6000 Volts by HBM condition).

3、Be careful with a powered up current limited power supply, because of current spikes during power up and/or connection. Best practice is to connect the LED then turn up the voltage gradually. People building their own power supplies should design for minimum current spikes during power up and connection.

4、For best results the customer needs to provide proper control of the thermal path ,protect against electrical overstress conditions, and ensure that Ledtech emitters are properly attached to the mcpcb/heat sink.

5、It is strongly recommended that the temperature of lead does not exceed 55℃.

6、It is strongly recommended to apply on electrically isolated heat conducting film between the slug and contact surfaces.

Electrical and Optical Characteristics：

Parameter		Symbol	Condition	Values			Units
				Min.	Typ.	Max.	
Luminous Flux	FULL	Φv	IF=350mA	40	48		lm
	Rank L1			40		44	
	Rank L2			44		49	
	Rank L3			49		55	
	Rank L4			55		63	
	Rank L5			63		72	
	Rank L6			72		83	
Forward voltage	Rank V1	VF	IF=350mA	1.8	--	2.05	V
	Rank V2			2.05	--	2.3	
	Rank V3			2.3	--	2.55	
	Rank V4			2.55	--	2.8	
				2.8		3.05	
Dominant Wavelength		λd	IF=350mA	584		586	nm
				586		588	
				588		590	
				590		592	
				592		594	
				594		596	
Reverse Current		I_R		--	--	50	μA
Viewing angle at 50% IV		2θ 1/2		--	120	--	Deg.
Thermal Resistance Junction to Case		$R\theta_{J-C}$		--	15	--	℃/W

Notes：

1. The datas tested by IS tester.
2. Customer's special requirements are also welcome.

Typical Electrical/Optical Characteristic Curves

(25℃ Ambient Temperature Unless Otherwise Noted)

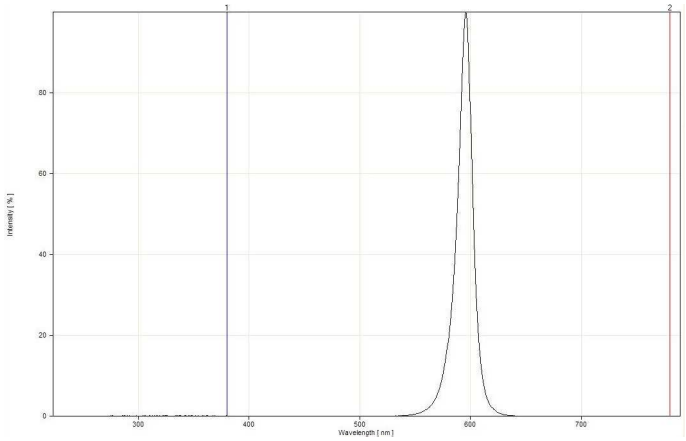
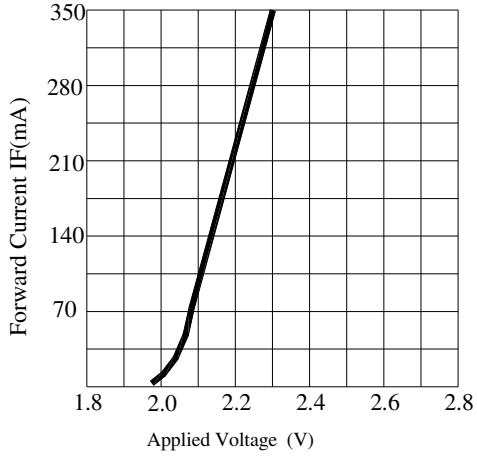
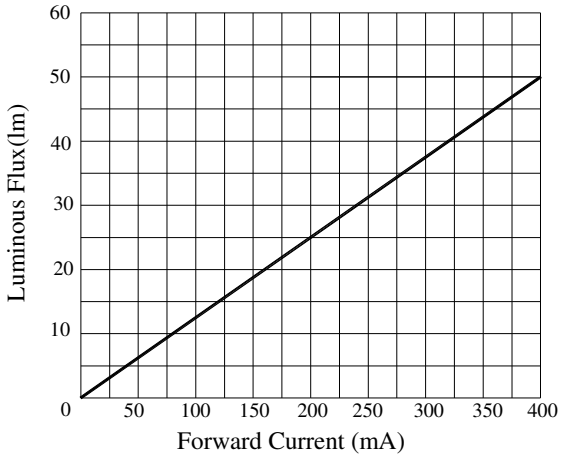


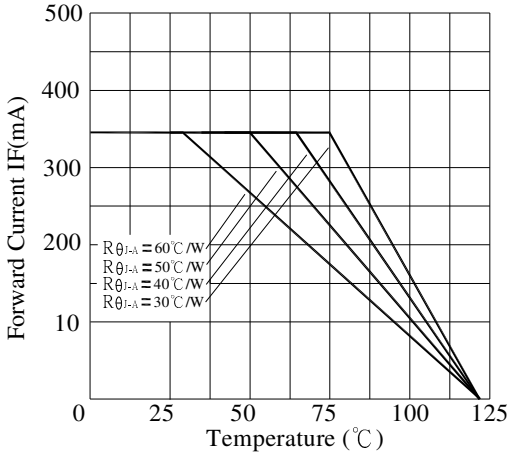
Fig.1 WHITE LED Spectrum VS. WAVELENGTH



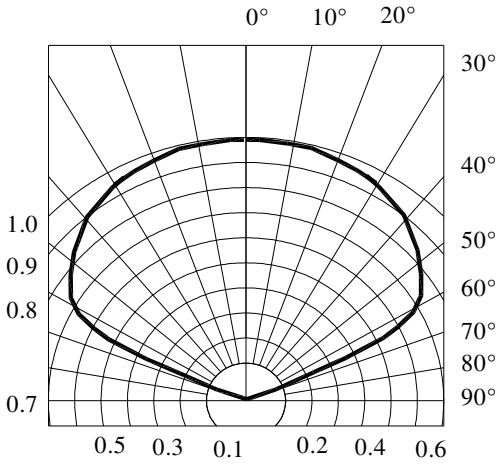
Forward Current VS. Applied Voltage



Forward Current VS. Luminous Flux



Ambient Temperature VS. Forward Current



Radiation Diagram

PRECAUTION IN USE

Storage

Recommended storage environment

Temperature: 5°C ~ 30°C (41°F ~ 86°F)

Humidity: 60% RH Max.

Use within 7 days after opening of sealed vapor/ESD barrier bags.

If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions.

Baking treatment : 60±5℃ for 24 hours.

Fold the opened bag firmly and keep in dry environment.

Soldering

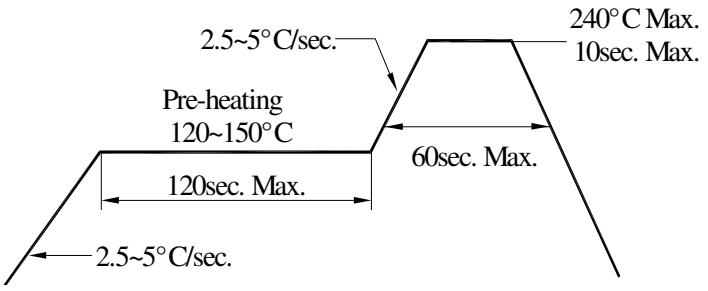
Reflow Soldering			Hand Soldering	
	Lead Solder	Lead – free Solder		
Pre-heat	120~150℃	180~200℃	Temperature	350℃ Max.
Pre-heat time	120sec. Max.	120sec. Max.	Soldering time	3sec. Max. (one time only)
Peak temperature	240℃ Max.	260℃ Max.		
Soldering time	10sec. Max.	10sec. Max.		
Condition	refer to Temperature-profile 1	refer to Temperature-profile 2		

***After reflow soldering rapid cooling should be avoided.**

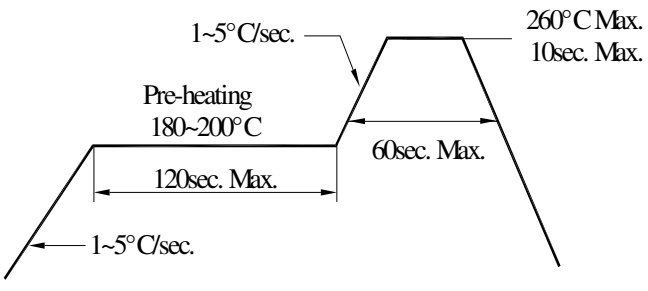
[Temperature-profile (Surface of circuit board)]

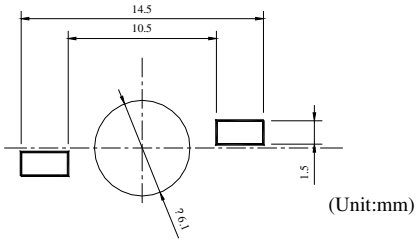
Use the conditions shown to the under figure.

＜1 : Lead Solder＞



＜2 : Lead-free Solder＞





(Unit:mm)

Handling of Silicone Resin LEDs

Handling Indications

During processing, mechanical stress on the surface should be minimized as much as possible. Sharp objects of all types should not be used to pierce the sealing compound

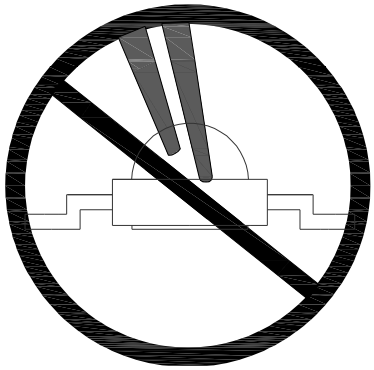


Figure 1

In general, LEDs should only be handled from the side. By the way, this also applies to LEDs without a silicone sealant, since the surface can also become scratched.

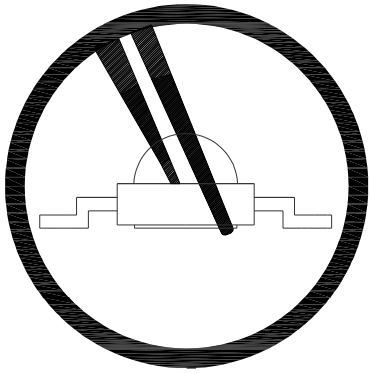


Figure 2

When populating boards in SMT production, there are basically no restrictions regarding the form of the pick and place nozzle, except that mechanical pressure on the surface of the resin must be prevented.
This is assured by choosing a pick and place nozzle which is larger than the LED's reflector area.