

# CHIP LED LAMPS GENERAL INFORMATION

## 1. Soldering

- Manual Of Soldering

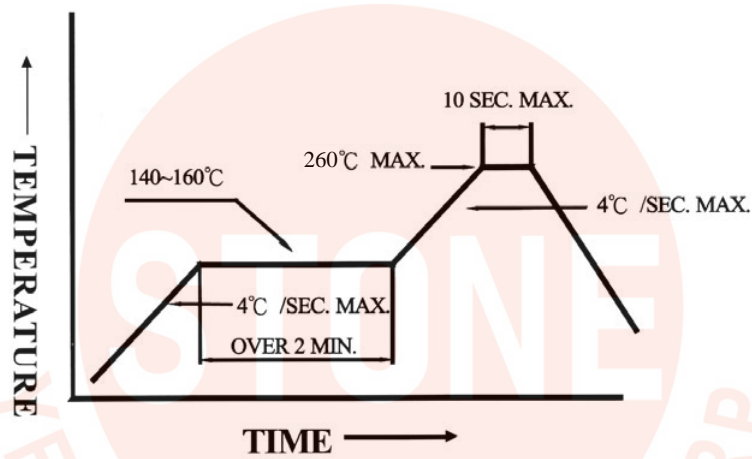
The temperature of the iron tip should not be higher than  $300^{\circ}\text{C}$  ( $572^{\circ}\text{F}$ ) and Soldering within 3 seconds per solder-land is to be observed.

- Reflow Soldering

Preheating:  $140^{\circ}\text{C} \sim 160^{\circ}\text{C} \pm 5^{\circ}\text{C}$ , within 2 minutes.

Operatin heating:  $260^{\circ}\text{C}$  (MAX.) within 10 seconds. (Max)

Gradual Cooling (Avoid quenching).

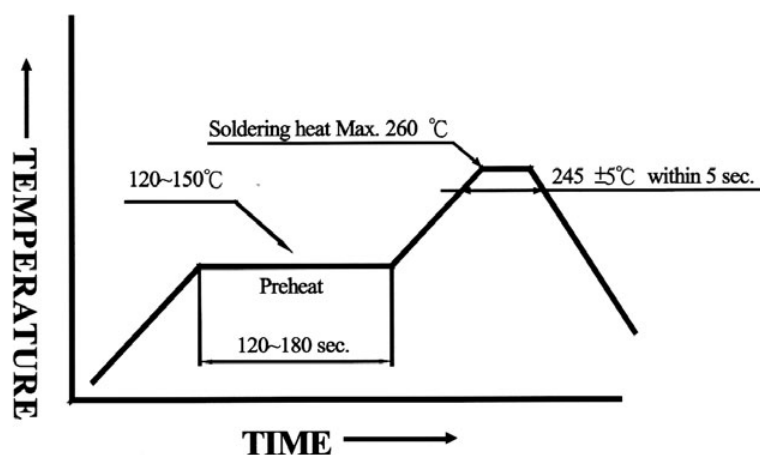


- DIP soldering (Wave Soldering)

Preheating :  $120^{\circ}\text{C} \sim 150^{\circ}\text{C}$ , within 120~180 sec.

Operation heating :  $245^{\circ}\text{C} \pm 5^{\circ}\text{C}$  within 5 sec.  $260^{\circ}\text{C}$  (Max)

Gradual Cooling (Avoid quenching).



## 2. Handling

Care must be taken not to cause to the epoxy resin portion of LEDs while it is exposed to high temperature.

Care must be taken not rub the epoxy resin portion of LEDs with hard or sharp article such as the sand blast and the metal hook.

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## 3. Notes for designing :

Care must be taken to provide the current limiting resistor in the circuit so as to drive the LEDs within the rated figures. Also, caution should be taken not to overload LEDs with instantaneous voltage at the turning ON and OFF of the circuit. When using the pulse drive care must be taken to keep the average current within the rated figures. Also, the circuit should be designed so as to be subjected to reverse voltage when turning off the LEDs.

## 4. Storage :

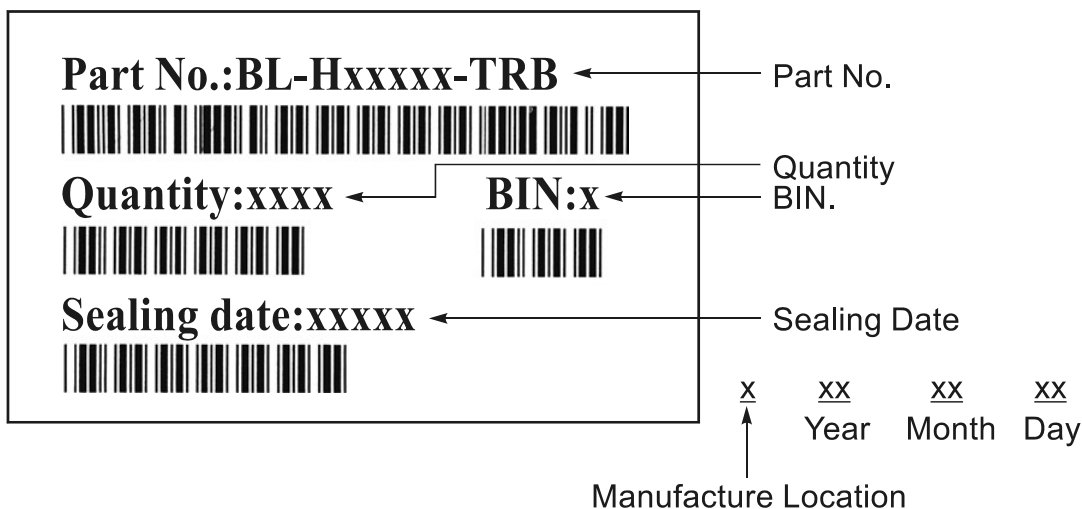
In order to avoid the absorption of moisture, it is recommended to solder LEDs as soon as possible after unpacking the sealed envelope.

If the envelope is still packed, to store it in the environment as following:

- (1) Temperature : 5°C-30°C (41°F) Humidity : RH 60% Max.
- (2) After this bag is opened, devices that will be applied to infrared reflow, vapor-phase reflow, or equivalent soldering process must be:
  - a. Completed within 168 hours.
  - b. Stored at less than 30% RH.
- (3) Devices require baking before mounting, if:
  - (2) a or (2) b is not met.
- (4) If baking is required, devices must be baked under below conditions:  
48 hours at 60°C± 3°C

## 5. Package of Products :

- (1) Products are packed in one bag of 3000 pcs (one taping reel) and a label is attached on each bag.
- (2) Label:



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## ABSOLUTE MAXIMUM RATINGS

### 1. Test Condition For Each Parameter:

Parameter	Symbol	Unit	Test Condition
Reverse Voltage	$V_R$	V	$I_R = 100\mu A$
Reverse Current	$I_R$	$\mu A$	$V_R = 5V$
Forward Voltage	$V_F$	V	$I_F = 20mA$
Luminous Intensity	$I_V$	mcd	$I_F = 20mA$
Viewing Angle	$2\theta_{1/2}$	Degree	$I_F = 20mA$
Spectral Line Half-Width	$\Delta\lambda$	nm	$I_F = 20mA$
Power Dissipation	$P_D$	mw	$I_F = 20mA$
Peak Forward Current	$I_{FP}$	mA	Duty 1/10, Pulse width = 0.1ms

### 2. Absolute Maximum Ratings :

Reverse Voltage	5.0 Volt
Reverse Current ( $V_R = 5V$ )	$\leq 100\mu A$
Operating Temperature Range	$-40^\circ C \sim +85^\circ C$
Storage Temperature Range	$-40^\circ C \sim +85^\circ C$

## TYPICAL ELECTIEICAL-OPTICAL CHARACTERISTICS CURVES

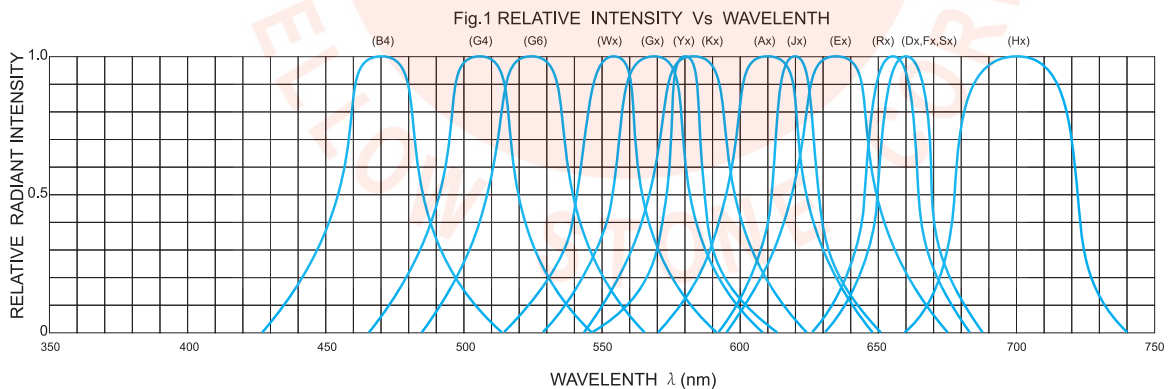


Fig.2 FORWARD CURRENT DERATING CURVE

