

# SL-T4234PDB120-L375

PHOTO Diode/光敏二极管

DATA SHEET/产品规格书

SPEC. NO./规格书编号: SZ18071602

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REV./版本: B/3

Approved By/核对:

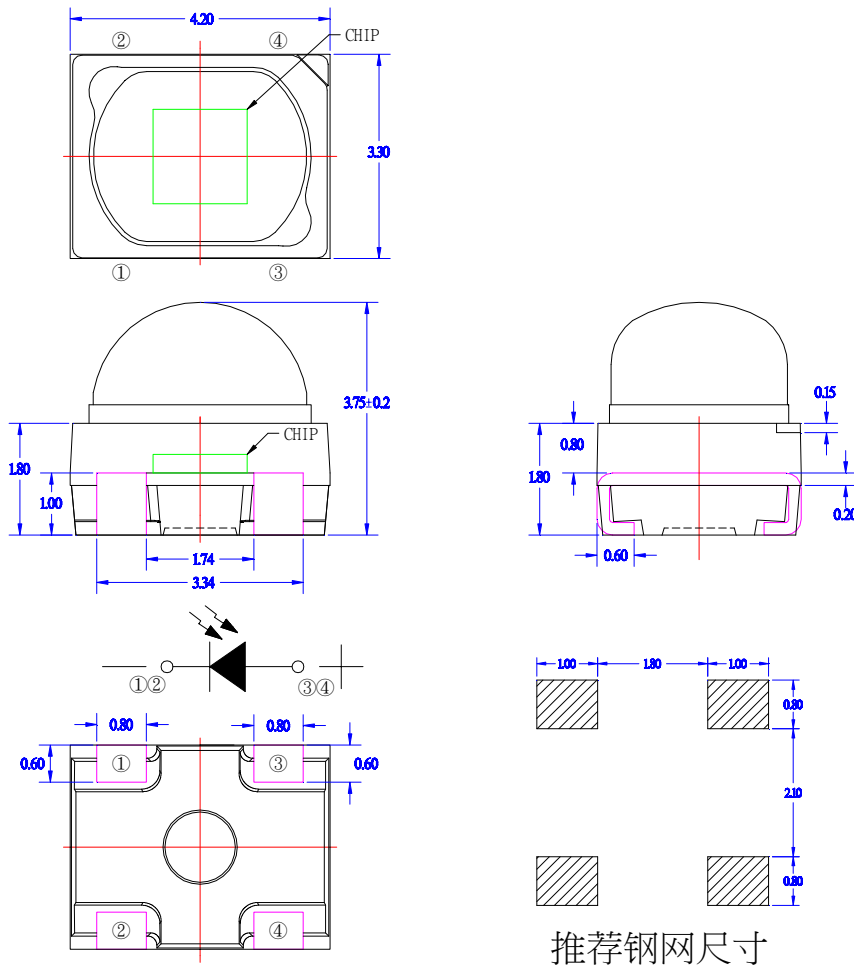
Checked By/审核:

Prepared By/制作:

## Features/产品特性

- ◆ Pb free product—RoHS compliant/无铅产品—符合 RoHS 标准
- ◆ High Photo Sensitivity/高感光灵敏度
- ◆ Reliable and rugged/可靠信号、坚固
- ◆ Long life – solid state reliability/长寿命——固态光源
- ◆ Sensitivity angle: 85°/感光角度：85°

## Package Dimension/产品外形尺寸



Part NO./产品型号	Chip Material/晶片材质	Lens Color/胶体颜色
SL-T4234PDB120-L375	Silicon	Black

### Notes:

1. All dimensions are in millimeters/单位：mm。
2. Tolerance is  $\pm 0.10\text{mm}$  unless otherwise noted/没有标注的公差均为 $\pm 0.10$  毫米。
3. Specifications are subject to change without notice/规格变更不另行通知。

## Absolute Maximum Ratings at Ta=25°C/极性参数 (Ta=25°C)

Parameter/参数	Max./最大值	Unit/单位
Power Dissipation/功耗	150	mW
Reverse Voltage/反向电压	30	V
Electrostatic Discharge (HBM) <sup>*2</sup> /静电放电(人体模式)	8000	V
Moisture Sensitivity Level <sup>*1</sup> /潮敏等级	5a	
Operating Temperature/工作温度	-40°C ~+85°C	
Storage Temperature Range/储存温度	-40°C ~+100°C	
IR Reflow Condition/回流焊接条件	260°C for 10 Seconds MAX.	

### 1. Storage:

- (1). Storage requirements before vacuum bag opened: Temperature<30°C, Humidity<65%RH;  
未拆封前储存条件未拆封前储存条件: 温度<30°C, 湿度<65%RH;
- (2). Check air leakage and vacuum bag damage before opened. If there is any issue found, check the humidity indicator card immediately after bag opened:  
袋子开封前, 检查是否有漏气或破损, 如有漏气或破损, 开袋后请立即检查湿度卡:
  - a. If color changes on “10% circle” of the humidity indicator card only and not the circles of 20% and above, components can be used without additional handling;  
湿度卡 10%变色, 其它档不变色, 可以正常使用;
  - b. If color changes on both 10% and 20% circles but not the circles of 30% and above, components must be dehumidified according to the conditions of bullet (5);  
湿度卡 10%、20%变色, 其它档不变色, 需要按照第(5)条进行低温除湿;
  - c. If color changes on 10%, 20%, and 30% circle or above, the product should be returned to the supplier for high temperature dehumidification;  
湿度卡 10%、20%、30%及以上档变色, 需要退回供应商高温除湿;
- (3). After bag opened, manual soldering or reflow process must follow the following requirements:  
袋子开封后, 元件进行回流焊或手工焊, 必须:
  - a. Complete soldering / reflow within 24 hours;  
24 小时内完成焊接工作;
  - b. Requirements of working environment: Temperature<30°C, Humidity<60%RH;  
储存条件: 温度<30°C, 湿度<60%RH;
- (4). If the working condition is outside (3)a or (3)b requirement, the components must be dehumidified according to the conditions of bullet (5);  
假如不符合(3)a 或(3)b 的条件, 则必须需按照第(5)条进行低温除湿;
- (5). Low temperature dehumidification: temperature 60±5°C, 24 hours;  
低温除湿条件: 温度 60±5°C, 24 小时;
- (6). Shelf life: 30 days. If it's over 30 days from the production date on the package label, the components must be

dehumidified according to the condition of bullet (5). If customer is unable to dehumidify, return components to LIGHT for dehumidification.

真空包装有效期：30 天，超出有效期按照第(5)条执行。若打件厂无法除湿，需退回莱特除湿。

## 2. Caution in ESD:

Static Electricity and surge damages the LED. It is recommend to use a wrist band or anti-electrostatic glove when handling the LED. All devices, equipment and machinery must be properly grounded.

静电放电或电压浪涌将损害 LED。使用 LED 时建议佩戴静电环或静电手套。所有装置，包括检测仪器和生产设备必须正确接地。

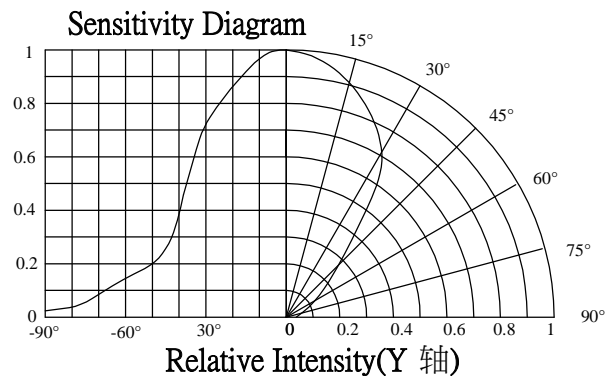
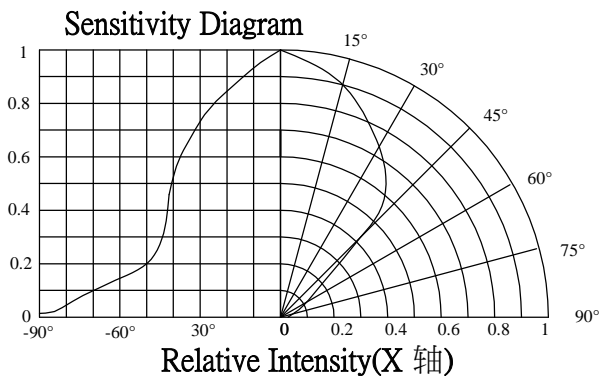
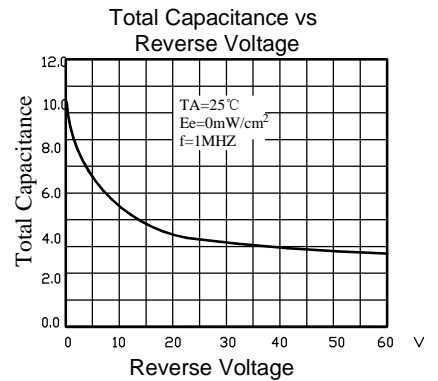
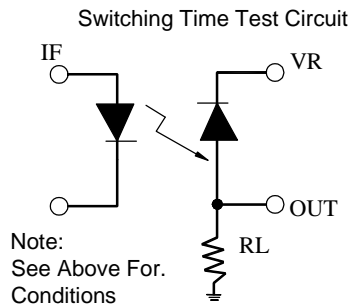
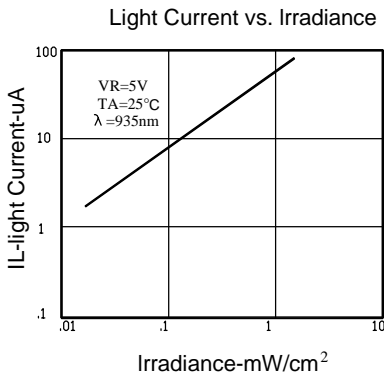
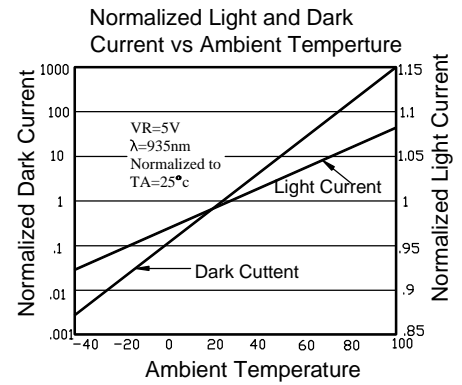
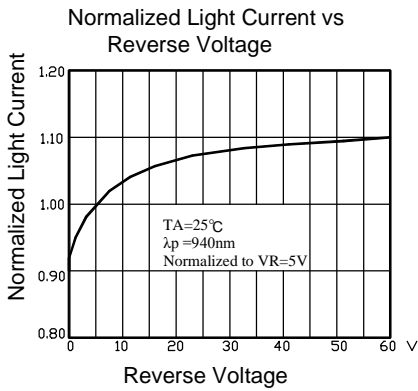
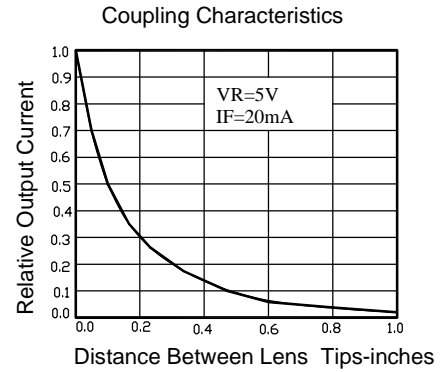
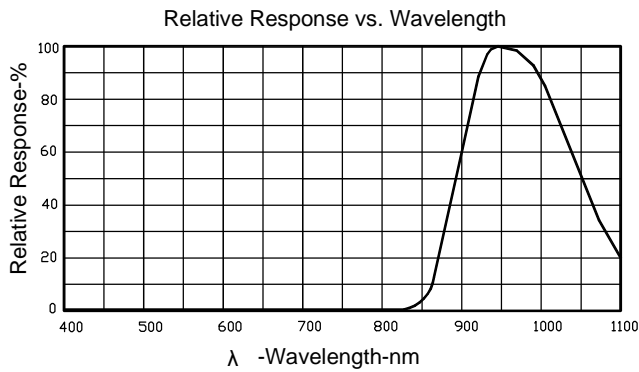
### Electrical Optical Characteristics at Ta=25°C / 产品光电特性 (Ta=25°C)

Parameter 参数	Symbol 符号	Min. 最小值	Typ. 典型值	Max. 最大值	Unit 单位	Test Condition 测试条件
Reverse Light Current 光电流	$I_L$	26	37	---	$\mu A$	$V_R=5V$ $E_e=1mW/cm^2$ $\lambda_p=940nm$
Reverse Dark Current 暗电流	$I_D$	---	---	30	nA	$V_R=10V$ $E_e=0mW/cm^2$
Reverse Voltage 反向电压	$V_{(R)}$	30	---	---	V	$I_R=100\mu A$
Forward Voltage 正向电压	$V_F$	---	---	1.5	V	$I_F=20mA$
Viewing Angle(X) 发光角度 (X 轴)	$2\theta_{1/2}$	---	85	---	Deg.	(Note 1)
Viewing Angle(Y) 发光角度 (Y 轴)	$2\theta_{1/2}$	---	75	---	Deg.	
Rise Time/ Fall Time 上升时间/下降时间	tr/tf	---	50	---	ns	$V_R=10V$ $R_L=1k\Omega$
Total Capacitance 总电容	$C_T$	---	9	---	pF	$V_R=5V$ $E_e=0mW/cm^2$ $f=1.0MHz$

**Note:**

- $\theta_{1/2}$  is the off-axis angle at which the Reverse Light Current is half the axial Reverse Light Current/半功率角度是光电流为轴向光电流 50%位置的夹角。
- The  $I_L$  guarantee should be added  $\pm 15\%$  tolerance/光电流测试公差为  $\pm 15\%$ 。

**Typical Electrical / Optical Characteristics Curves/典型光电特性曲线**  
**(25°C Ambient Temperature Unless Otherwise Noted)/无特别说明均为室温 25°C测试**



### Infrared Photo Diode Specification/光敏二极管分 BIN 规格

●Commodity: Infrared Photo diode

●Reverse Light Current Bin Limits

BIN CODE	Min.( $\mu$ A)	Max.( $\mu$ A)
1	26	31
2	31	37
3	37	44
4	44	53

**NOTE:** The  $I_L$  guarantee should be added  $\pm 15\%$  tolerance.

## Label Explanation/标签规格

### LIGHT Universal Label

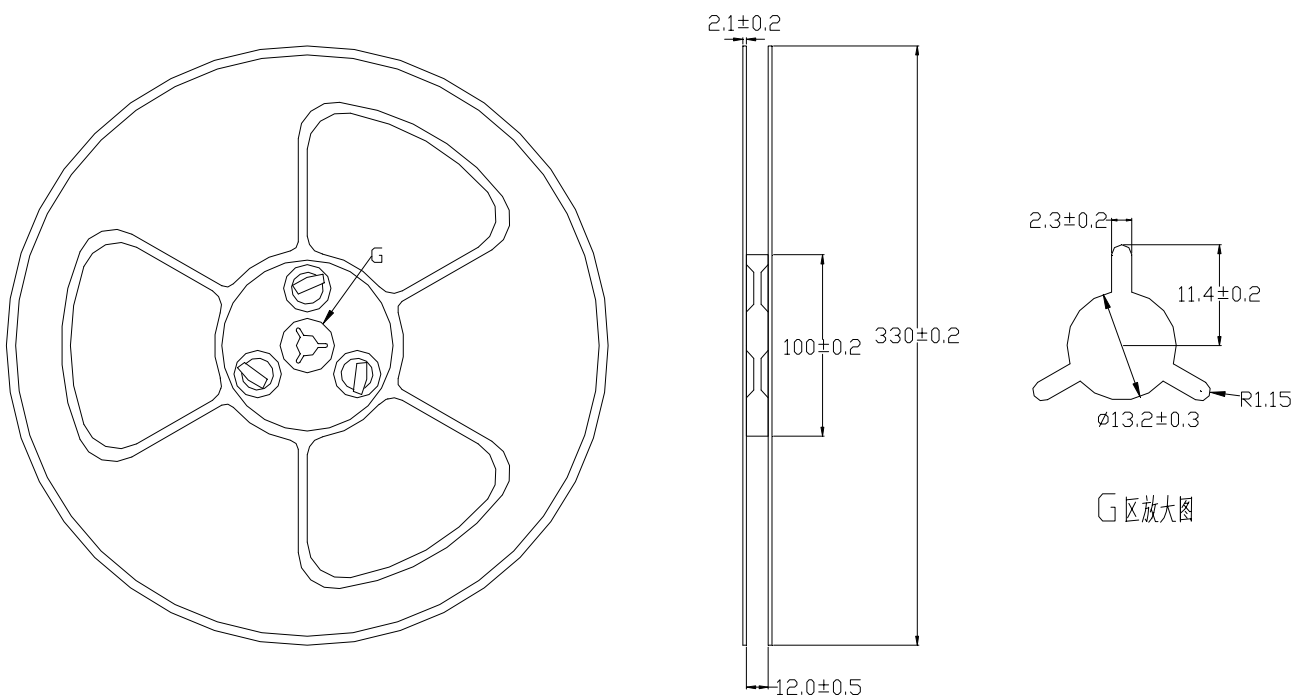
<b>LIGHT</b> 深圳莱特光电股份有限公司  Light Electronics CO., LTD.	
产品型号 MODEL NAME:	 LOT NO.:
数量 QUANTITY:	
等级 BIN:	
包装日期 PACKING DATE:	
备注 REMARKS:	

### Customer Defined Label

<b>LIGHT</b> 深圳莱特光电股份有限公司  Light Electronics CO., LTD.	
产品型号 MODEL NAME:	 LOT NO.:
数量 QUANTITY:	
等级 BIN:	
包装日期 PACKING DATE:	
客户料号 CUSTOMER P/N:	

MODEL NAME/产品型号	QUANTITY/包装数量
BIN./分光等级	PACKING DATE/包装日期
CUSTOMER P/N/客户料号	LOT NO./生产批号
REMARKS/备注	/

## Reel Dimensions/卷盘尺寸

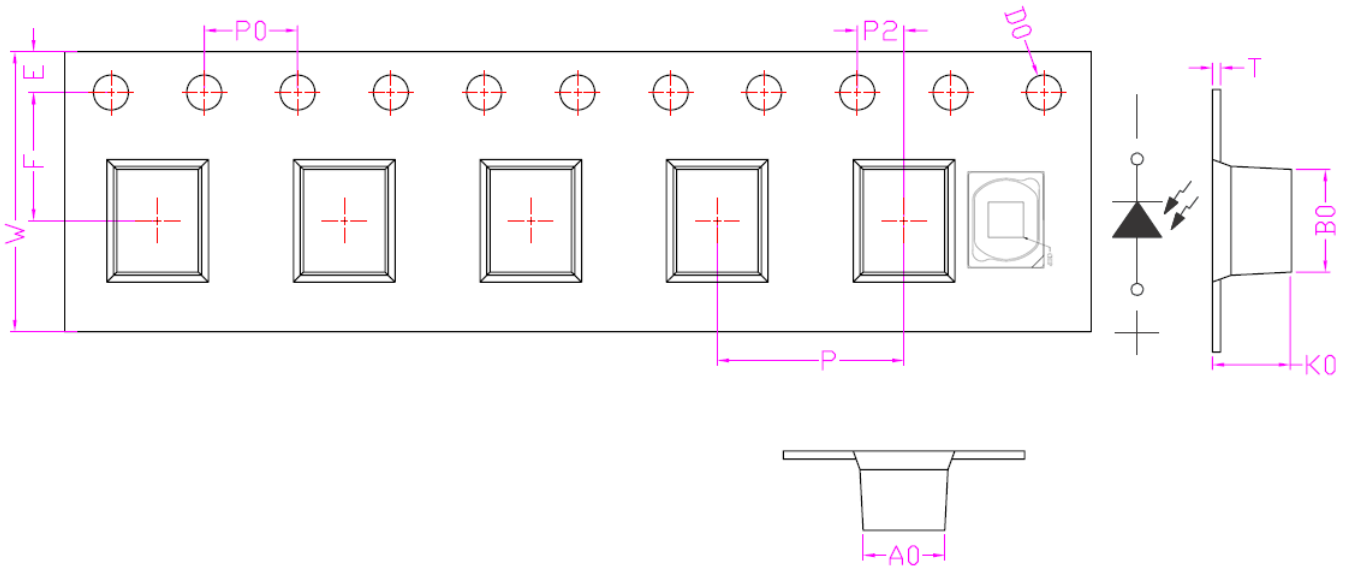


**Note:** Tolerance unless mentioned is  $\pm 0.2$ mm; Unit = mm



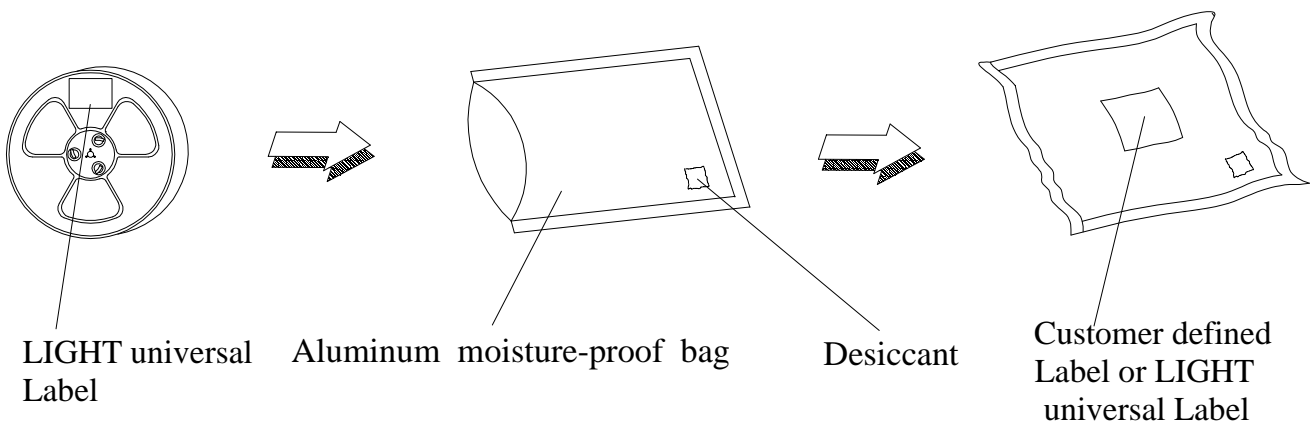
### Carrier Tape Specifications (Loaded Quantity: 2200pcs/reel)/载带规格, 每卷盘 2200PCS

ITEM	W	A0	B0	K0	E	F	D0	P	P0	P2	T
DIM	12.00	3.50	4.40	3.90	1.75	5.50	1.50	8.00	4.00	2.00	0.35
TOLE	+0.30 -0.30	+0.10 -0.10	+0.10 -0.10	+0.10 -0.10	+0.10 -0.10	+0.10 -0.10	+0.15 -0.15	+0.10 -0.10	+0.10 -0.10	+0.10 -0.10	+0.05 -0.05

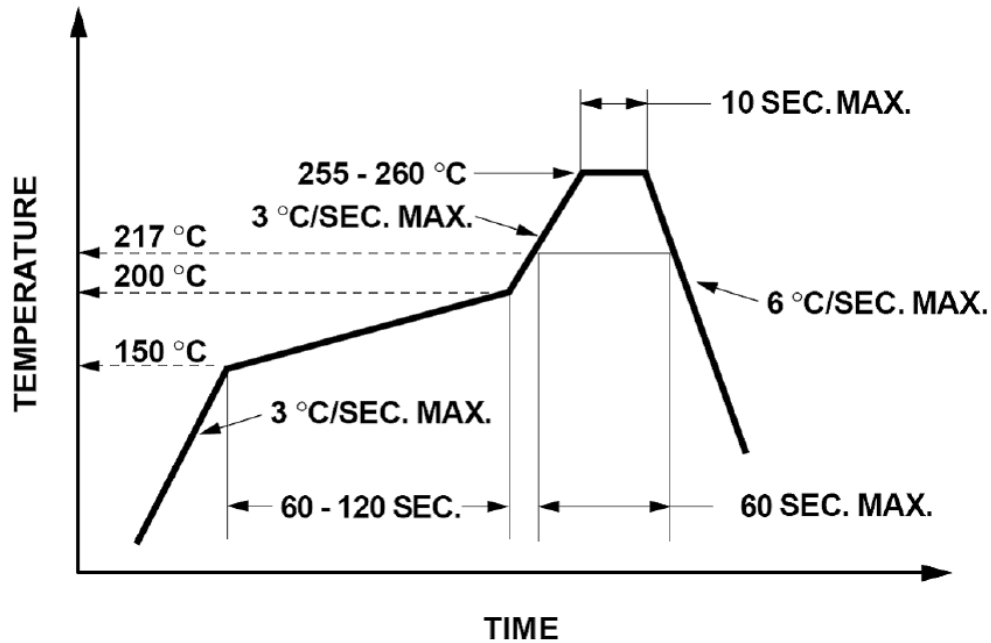


**Note:** Tolerance unless mentioned is  $\pm 0.1$ mm; Unit = mm

### Moisture Resistant Packaging/防潮包装



## Suggest IR Reflow Condition For Lead Free/建议无铅回流焊条件



1. Reflow soldering should not be done more than two times.
2. When soldering, do not put stress on the LEDs during heating.

## Soldering iron/烙铁焊接

1. When hand soldering, the temperature of the iron must less than 300°C for 3 seconds.
2. The hand solder should be done only once.

## Repairing/维修

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of LEDs will or will not be damaged by repairing.

