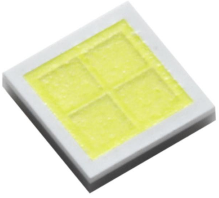
# Part No：<u>H5050Y-606A0401-1204ED</u>



## Applications/应 用：

Portable lighting,etc

移动照明等

## Features/特 征:

| | |
|---|---|
| —Package：AlN Ceramics package | —Chip technology: Flip chip |
| —封装：氮化铝陶瓷封装 | —芯片技术：倒装芯片 |
| —Emitting Color： White | —Viewing Angle:120° |
| —发光颜色：白光 | —发光指向角：120° |
| —Device Outline:5.00×5.00×0.70(mm) | —Typ.color coordinates : (0.317,0.327) |
| —外形特征：5.00×5.00×0.70(mm) | —典型颜色坐标：（0.317,0.327） |
| —HBM ESD:2000V | —MSL:2a |
| —人体抗静电指标：2000V | —湿气敏感性等级：2a |
| —Compliance with RoHS and REACH | —Pb-Free |
| —符合 RoHS 和 REACH 标准 | —无铅 |

## 1、Absolute maximum ratings/极限参数：

| Parameter<br>参数 | Symbol<br>符号 | Value<br>参数 | Unit<br>单位 |
|---|---|---|---|
| Power Dissipation<br>损耗功率 | $P_d$ | 18 | W |
| Forward Current<br>正向工作电流 | $I_{Fm}$ | 5000 | mA |
| Surge Current<br>正向峰值电流<br>(t<=1ms; D=1/10; $T_S$=25 ℃) | $I_{Fs}$ | 6000 | mA |
| Reverse Voltage<br>反向电压<br>($T_S$=25 ℃) | $V_R$ | 5 | V |
| Operating Temperature<br>工作温度范围 | $T_{opr}$ | - 40 ~ +100 | ℃ |
| Storage Temperature<br>储存温度范围 | $T_{str}$ | - 40 ~ +100 | ℃ |
| Junction Temperature<br>结温 | $T_j$ | 150 | ℃ |
| HBM ESD<br>人体抗静电指标 | $V_{ESD}$ | 2 | KV |

## 2、Electrical and optical characteristics/光电参数（$T_S$ = 25℃）：

| Parameter<br>参数 | Symbol<br>符号 | Test Condition<br>测试条件 | Value 参数<br>Min. | <br>Typ. | <br>Max. | Unit<br>单位 |
|---|---|---|---|---|---|---|
| Forward Current<br>正向工作电流 | $I_{Fm}$ | —— | 50 | 3000 | 5000 | mA |
| Forward Voltage<br>正向电压 | VF | IF = 3000mA | 2.8 | 3.0 | 3.2 | V |
| Luminous Flux<br>光通量 | Φ | IF = 3000mA | 1100 | 1200 | 1300 | lm |
| Color<br>色坐标 | $CIE_X$ | IF = 3000mA | —— | 0.317 | —— | —— |
| | $CIE_Y$ | | —— | 0.327 | —— | —— |
| Viewing Angle<br>发光指向角 | 2θ1/2 | IF = 3000mA | —— | 120 | —— | Deg. |
| Thermal Resistance<br>(Junction to Solder) Real<br>热阻 实测<br>(PN 结/焊点) | $R_{th\ JS\ real}$ | IF = 3000mA | —— | 2 | —— | °C/W |

**Notes/备注：**Error/误差： VF：±0.10V， IV：±8%，Other/其它：±5%

## 3、Product Ranks/产品分档范围:

**Brightness Grading / 亮度分档（lm）**

(Ta=25℃; IF=3000mA)

| Rank | Luminous Flux 光通量 (min) | Luminous Flux 光通量 (max) |
|---|---|---|
| | 1100 | 1200 |
| | 1200 | 1300 |

**Notes/备注：**Brightness error/亮度误差：±8%

**Voltage grading / 电压分档（V）**

(Ta=25℃; IF=3000mA)

| Rank | Voltage 电压 (min) | Voltage 电压 (max) |
|---|---|---|
| | 2.8 | 3.2 |

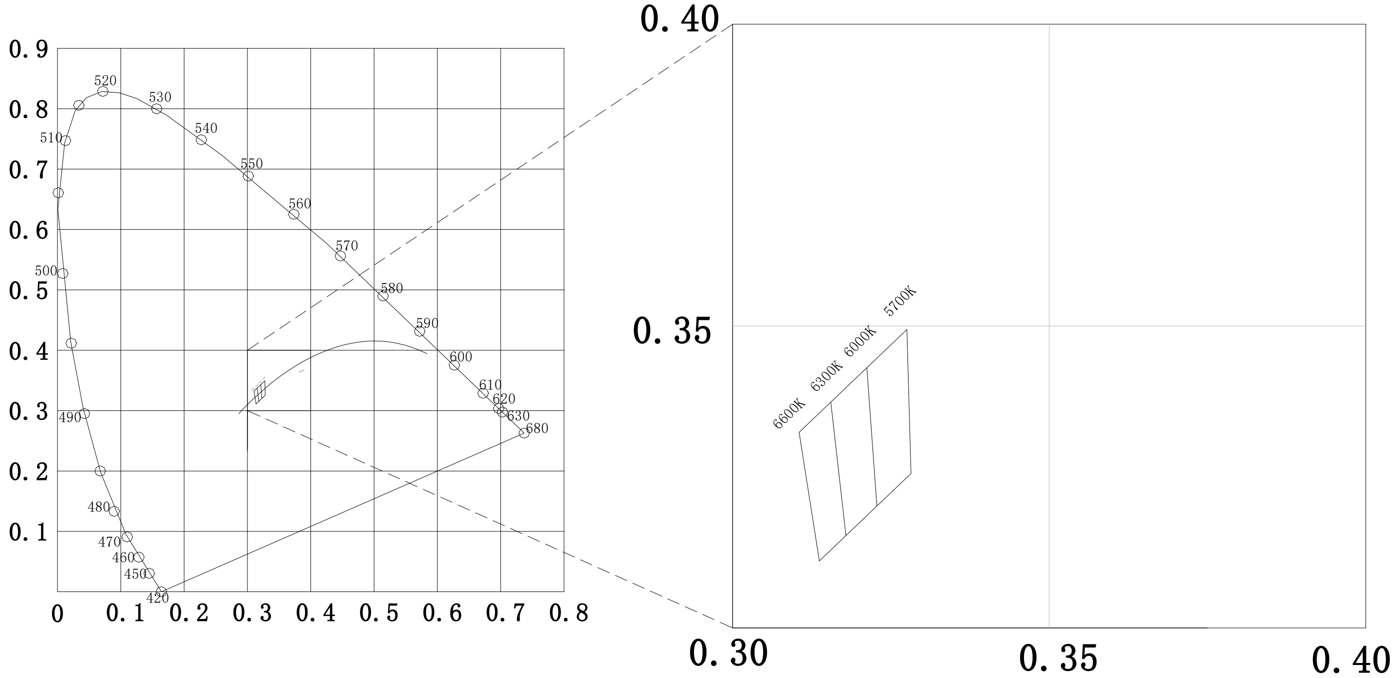
**Notes/备注：**Voltage error/电压误差：±0.10V

**Cool White Color Bin Coordinates** /白光色坐标分 Bin 图表：

| Color Bin<br>色坐标档位 | CIE X | CIE Y | Color Bin<br>色坐标档位 | CIE X | CIE Y |
|---|---|---|---|---|---|
| 5700-6000K | 0.3275 | 0.3494 | 6000-6300K | 0.3212 | 0.3431 |
| | 0.3282 | 0.3256 | | 0.3228 | 0.3202 |
| | 0.3228 | 0.3202 | | 0.3179 | 0.3153 |
| | 0.3212 | 0.3431 | | 0.3155 | 0.3374 |
| 6300-6600K | 0.3155 | 0.3374 | | | |
| | 0.3179 | 0.3153 | | | |
| | 0.3137 | 0.3111 | | | |
| | 0.3105 | 0.3324 | | | |

**Notes/备注：**Color coordinate error/色坐标误差：±0.005

Diagram



## 4、Characteristics Graph/特性曲线：

Fig.1　Relative spectral curve

相对光谱曲线

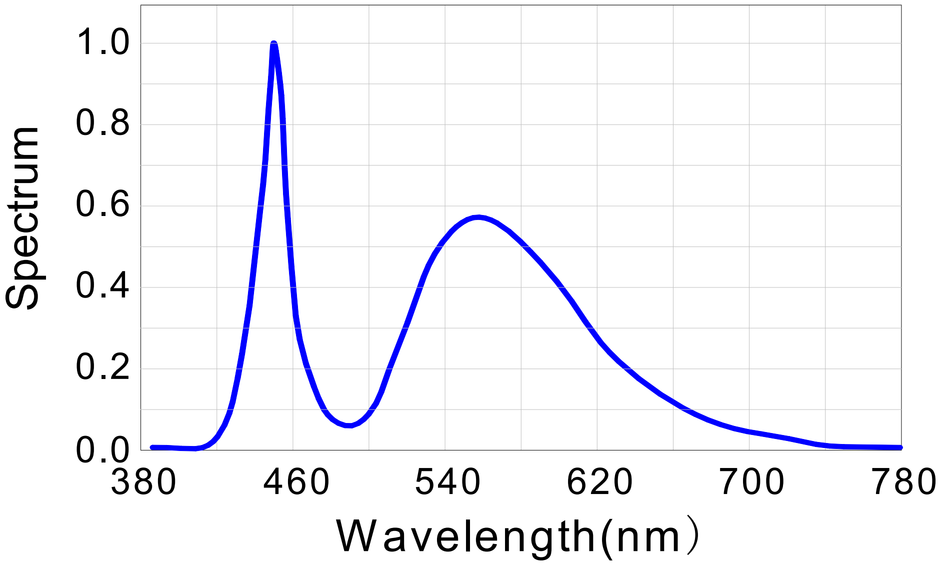


Fig.2　Radiation Characteristic

辐射特性

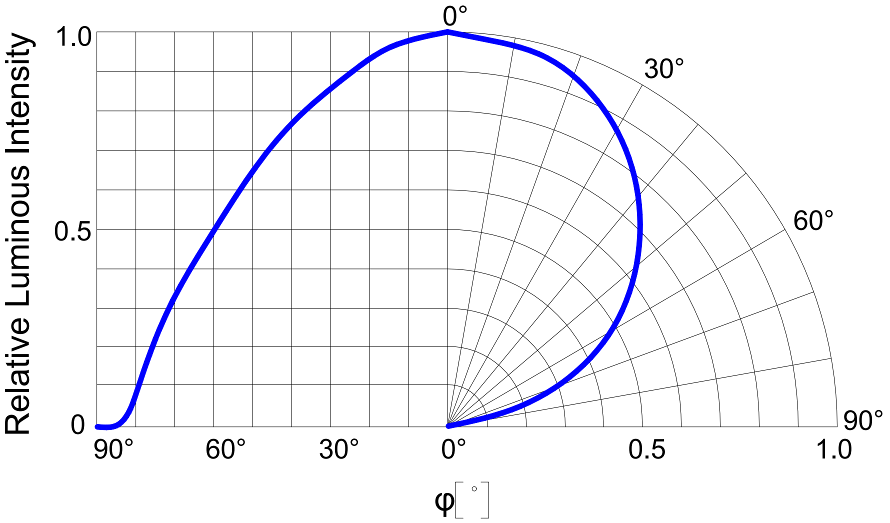


**Fig.3　Forward Current vs. Forward Voltage**

正向电流 Vs. 正向电压

**$I_F$=f($V_F$); $T_S$=25°C**

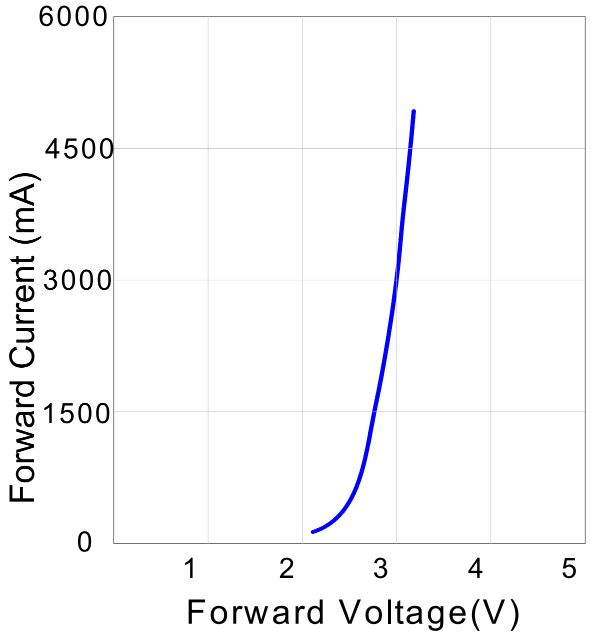


**Fig.4　Relative Luminous Intensity vs. Forward Current**

相对发光强度 Vs. 正向电流

**Φ/Φ(3000mA)=f(IF);$T_S$=25°C**

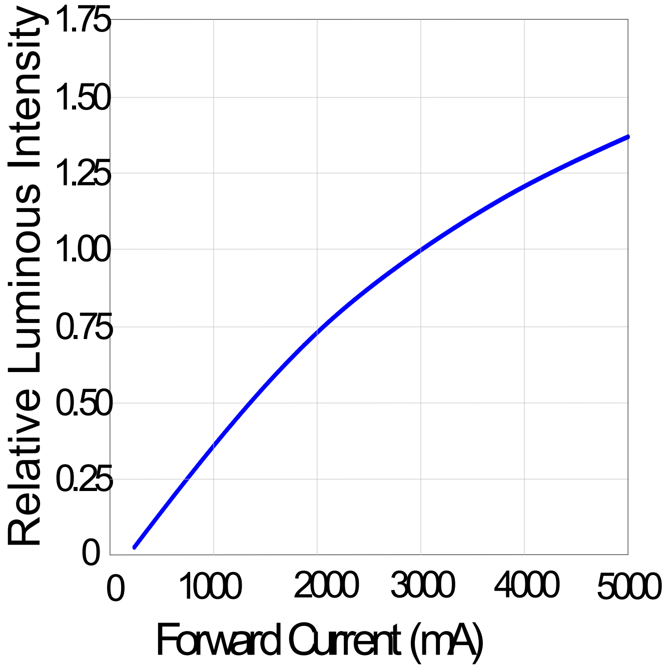


**Fig.5 Chromaticity Coordinates Shift vs. Forward Current**

色坐标偏移 Vs. 正向电流

**ΔCx, ΔCy = f($I_F$);$T_S$=25°C**

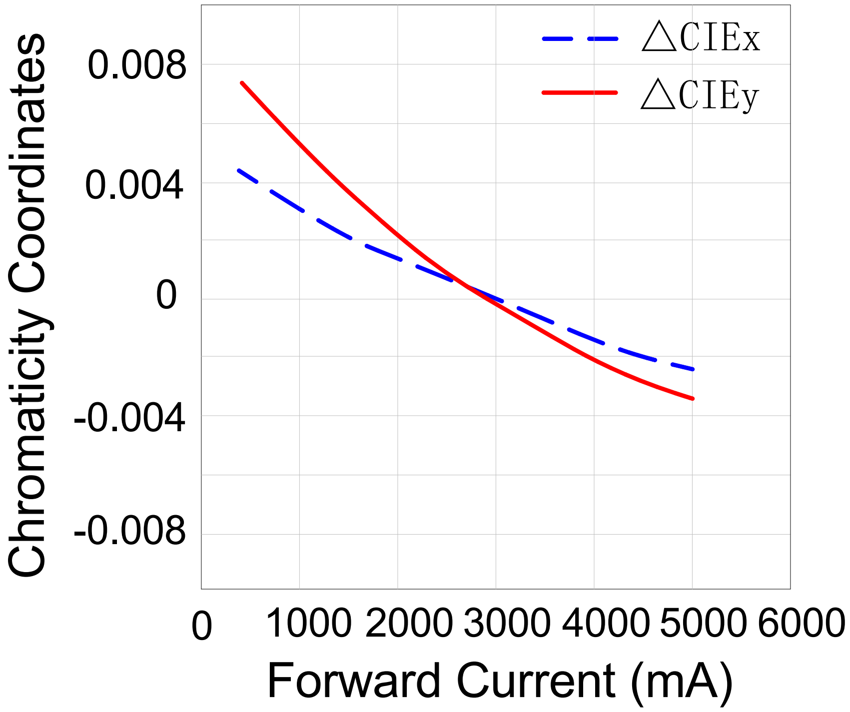


**Fig.6 Max. Permissible Forward Current**

允许最大正向电流

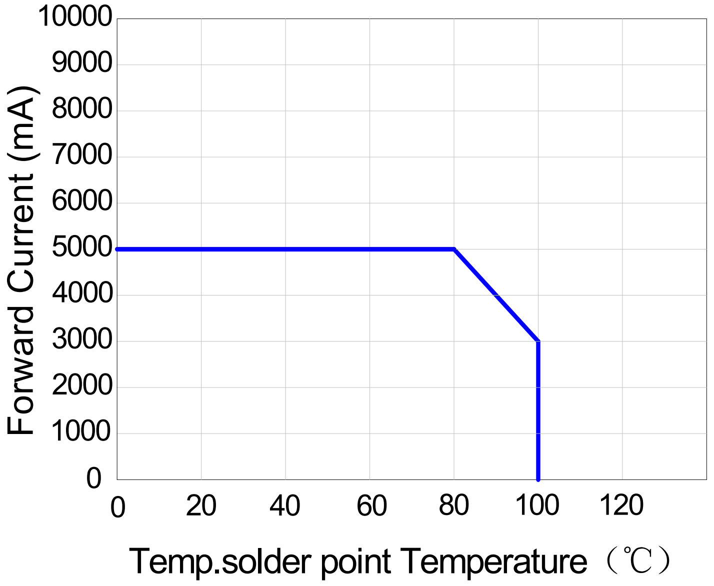


**Fig.7 Relative Luminous Intensity vs. Temp.solder point Temperature**

**相对发光强度 Vs.焊点温度**

**$\Phi/\Phi(25°C)=f(T_S);I_F=3000mA$**

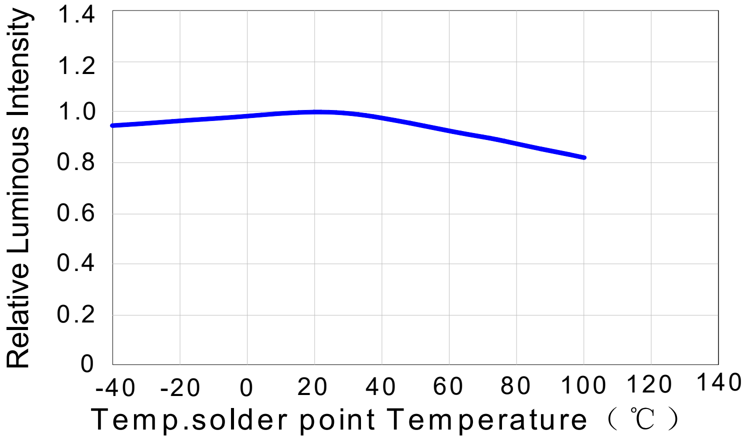


**Fig.8 Relative Forward Voltage vs. Temp.solder point Temperature**

相对电压 Vs. 焊点温度

**$\Delta V_F = V_F\text{-}V_F(25°C) = f(T_S);I_F=3000mA$**

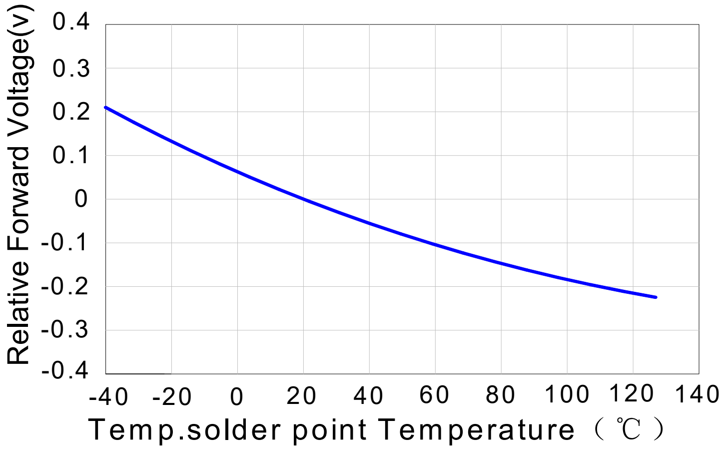
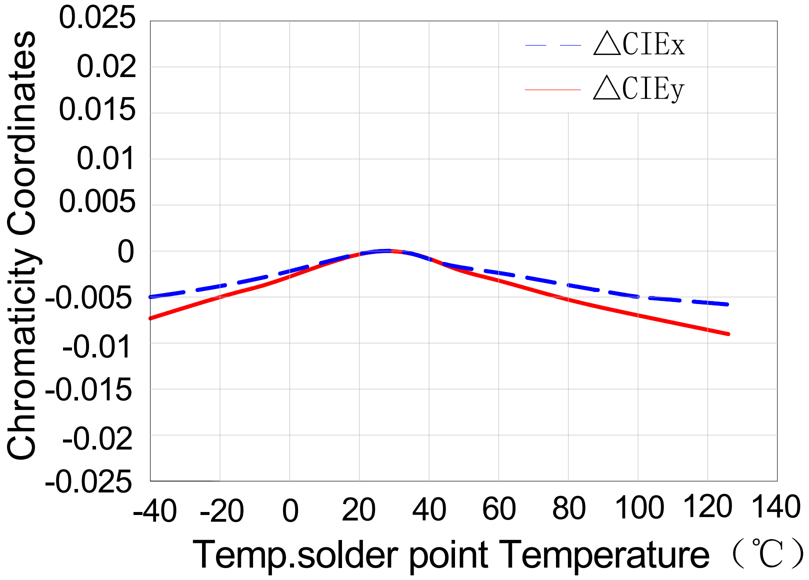


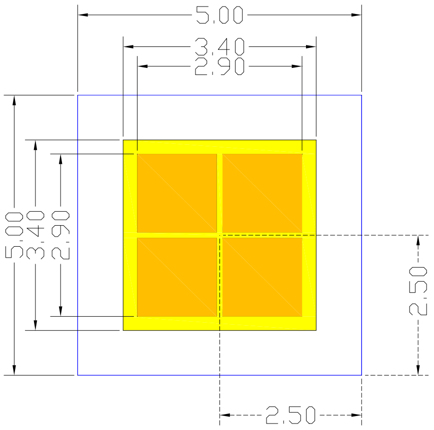
**Fig.9 Chromaticity Coordinates Shift vs. Temp.solder point Temperature**

**色坐标偏移 Vs. 焊点温度**

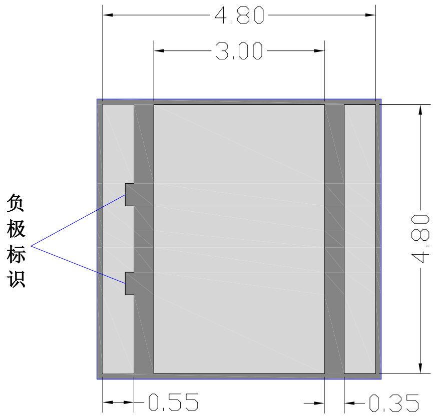
**ΔCx, ΔCy=f($T_S$);IF=3000mA**



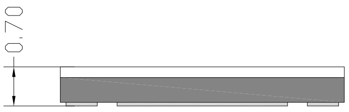
## 5、Outline Dimensions/产品外形尺寸：



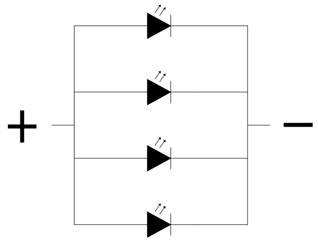
正面
Vertical view



背面（透视）
Bottom view
(perspective)



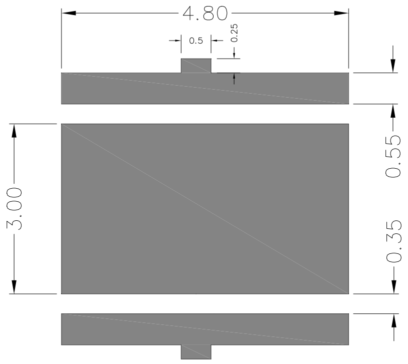
侧面
Side view



电路图
Circuit diagram

**Notes/备注**：Tolerance is ±0.1mm(公差±0.1mm)

## 6、Reference Pad size/参考焊盘尺寸：



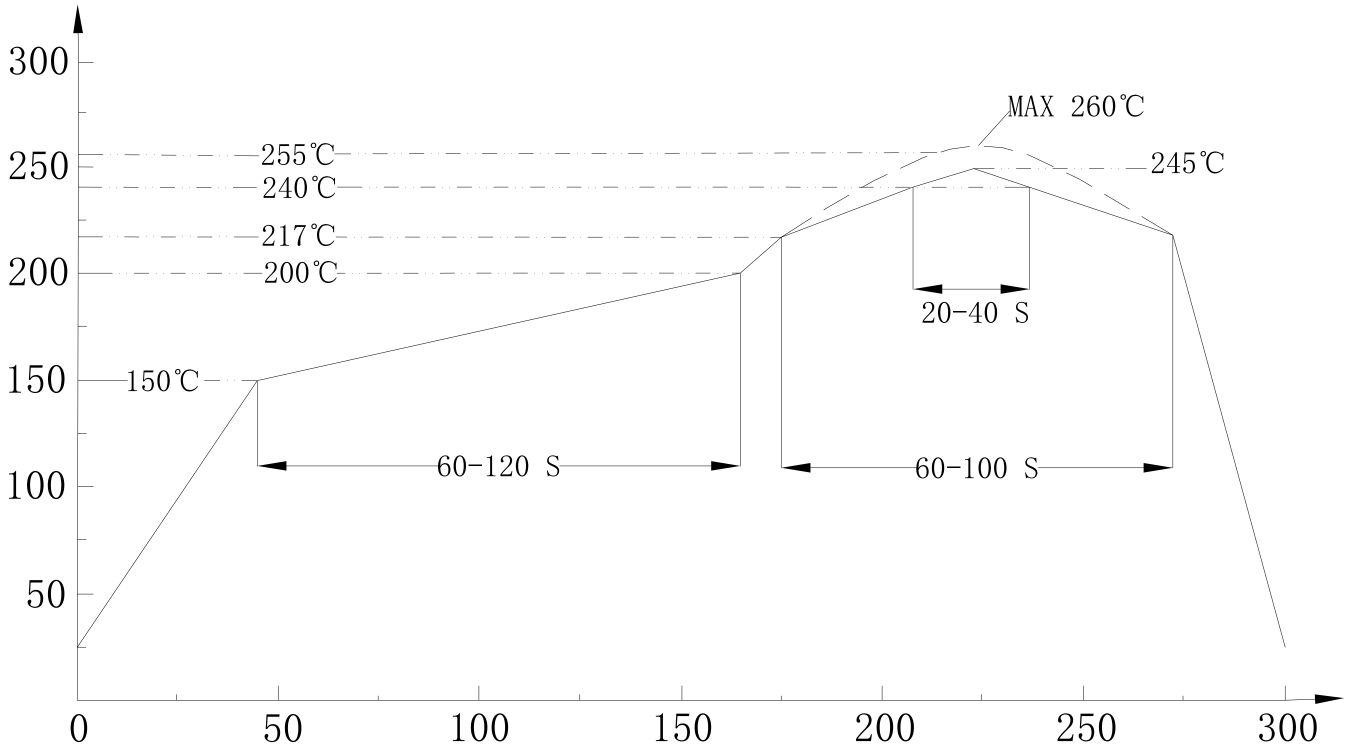
**Notes/备注：**

1、Tolerance is ±0.1mm(公差±0.1mm)

2、For superior solder joint connectivity results we recommend soldering under standard nitrogen atmosphere. Package not suitable for ultra sonic cleaning./ 为了获得更佳的焊点连接效果，我们建议在标准氮气环境下进行焊接。 产品不适合超声波清洁。

## 7、Reflow curve /回流焊曲线

Product complies to MSL Level 2a. to JEDEC J-STD-020E
产品符合 MSL 等级 2a 根据 JEDEC J-STD-020E



| Curvilinear feature 曲线特征 | Lead-free combination/无铅组合 | Unit/单位 |
|---|---|---|
| | Recommended criteria/建议标准 | |
| Average preheating heating rate 25 °C to 700 °C<br>预热平均升温速率 25℃至 700℃ | 2 | ℃/sec |
| Warm-up time<br>预热时间 | 60-120 | secs |
| Reflux temperature<br>回流温度 | 217 | ℃ |
| Reflux time<br>回流时间 | 60-100 | secs |
| Peak temperature(max)<br>峰值温度（最大） | 260 | ℃ |
| The time when the actual peak temperature is within 5 °C<br>实际峰值温度在 5℃以内的时间 | 20-40 | secs |
| Cooling rate<br>降温速度 | 4 | ℃/sec |

**Notes/备注：**Hand Soldering（Not Recommended）/手工焊接（不推荐）

## 8、Specification of Packing /包装规格

### 8.1 Label Form Specification/标签格式规范

升谱光电 SUNPU

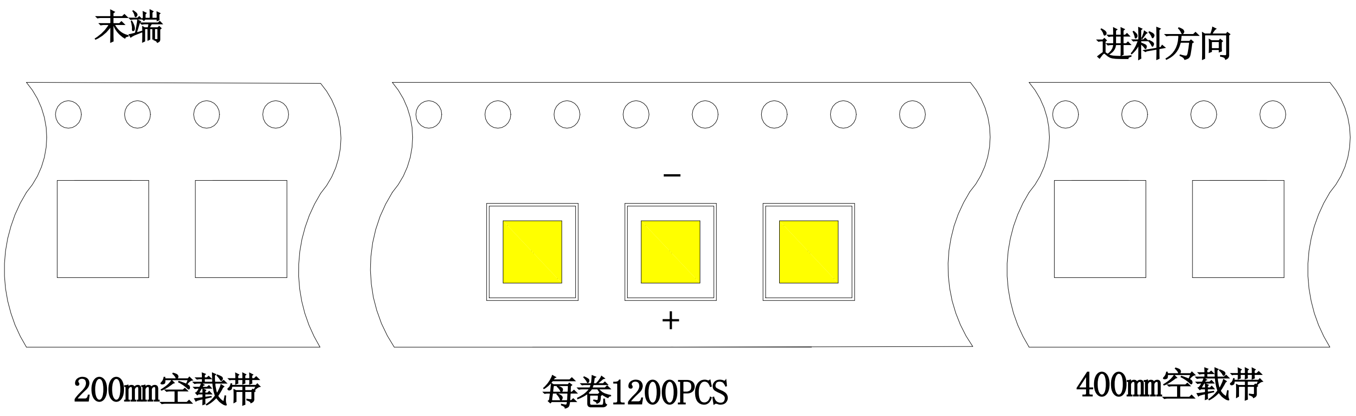
RoHS

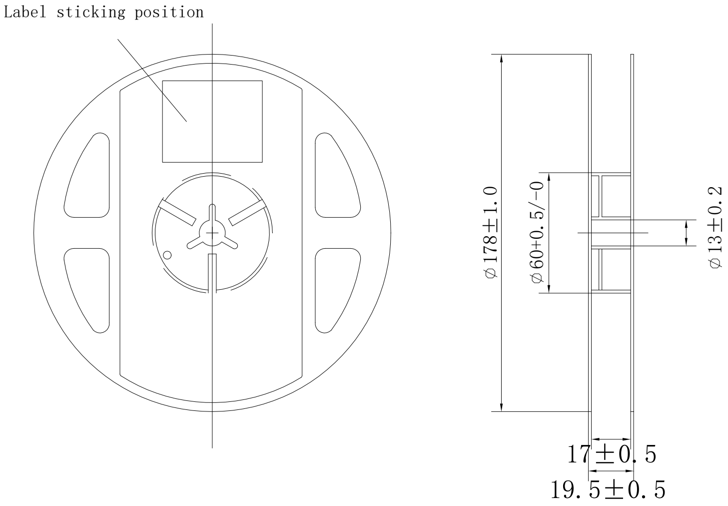
No：
P/N：H5050Y-606A0401-1204ED
IV code：
VF code：
Λ/Tc code：
IF：3000mA
Lot No：
Cus No：

IV：1200-1300lm
VF：2.8-3.2V
Λ/Tc ：1100-1200K
Q' ty：1200PCS QC
Date：

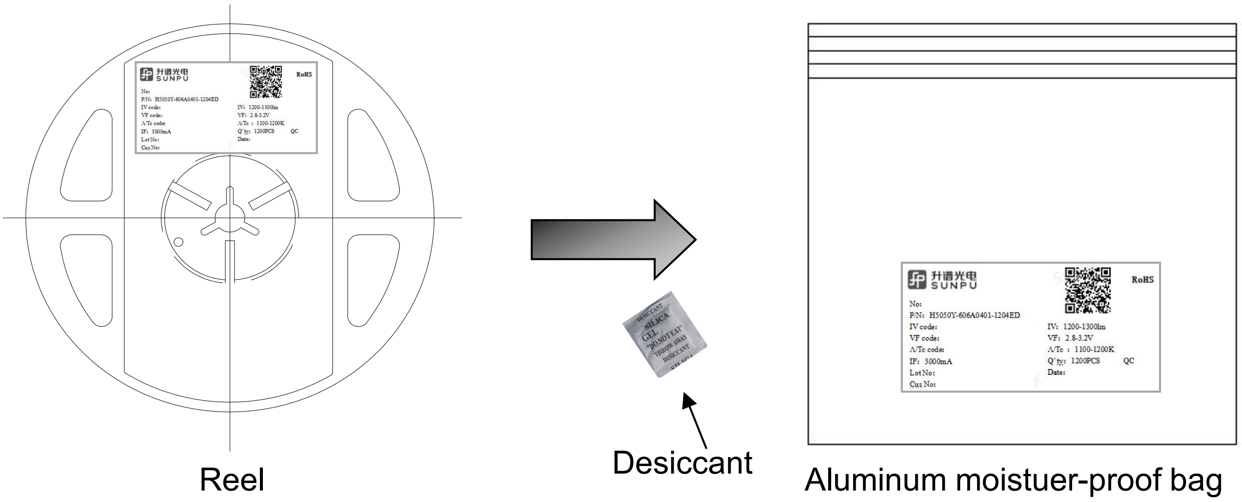
| | |
|---|---|
| No：产品品号 | IV: 光通量/发光强度 |
| P/N：产品品名 | VF: 电压 |
| IV code：光通量/发光强度代码 | λ/Tc: 波长/色系档位 |
| VF code：电压代码 | Q'ty：包装数量 |
| λ/Tc code：波长代码/色温 | Date：标签打印日期 |
| IF: 测试电流 | QC：检验合格章 |
| Lot No：生产批号 | |
| Cus No：客户料号 | |

### 8.2 Taping and Orientation/编带和方向(Reel packing/卷盘包装：1200PCS)





8.3 Specification of Packing/包装规格



**Notes/备注：**

- ◆ Reel packing/卷盘包装：1200PCS
- ◆ humidity sensitive products packed in aluminum foil bags, containing desiccant.湿敏产品包装在铝箔袋中，内含干燥剂。

## 9、Notes/注意

9.1Please note that the Light Board in the test, not live plug-in operation, to avoid the instant high current LED breakdown

请注意灯板在测试时 ，不可带电插拔作业 ，避免 LED 受到瞬间大电流击穿

9.2 To ensure the quality of our LEDs, So please do not put pressure on the LEDs. Do not fold, bend or squeeze LED devices

为确保 LED 的可靠性，在操作过程中不可施加压力在 LED 器件胶体表面。不可折叠、弯曲、挤压 LED 器件.

9.3 in order to ensure the reliability of LED, sealed packaging is recommended for semi-finished products or module components that have been pasted during circulation, transportation and storage.

为确保 LED 的可靠性, 已贴片好的半成品或模组组件，在流转、运输、储存过程中建议密封包装。

9.4 To ensure the reliability of LED, please complete one time welding, not too many reflow soldering, otherwise on the bead will have a destructive impact.Repair should not be done after the LEDs have been soldered.

为确保 LED 的可靠性, 请一次焊接完成, 不可过多次回流焊, 否则对灯珠会有破坏性影响。

## 附 1、Revision History /修订历史

| Rev<br>版本号 | Revision time<br>修订时间 | Revisions<br>修订内容 |
|---|---|---|
| A0 | 2023/10/27 | |