

Spec. No.: HL4154-HPI610A

Issued Date: 2023-11-22

# SPECIFICATION

Model Name: Detector

Model NO. : HL4154-HPI610A

Customer No.:

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Customer approved by: \_\_\_\_\_



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# Detector

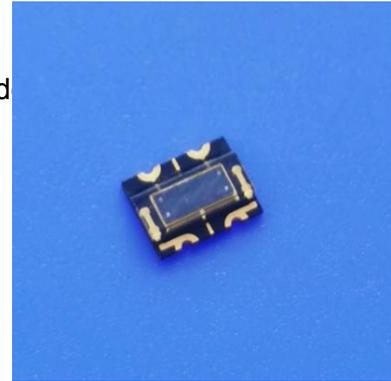
## HL4154-HPI610A

### ■Features

- HL4154-HPI610A is a surface mount type silicon PIN photodiode with two active areas (photodiodes) integrated in one chip.
- Small thin SMD package, 4.1(L)x5.4(W) x1.1(H)mm
- Pb free. reflow soldering available

### ■Applications

- Auto focus. Position sensor



Name	Model No.	Chip Size		Package
Detector	HL4154-HPI610A	1.65mm <sup>2</sup>	3.65mm×1.42mm	4-Pin, clear epoxy molded lead frame

### ★Absolute Maximum Ratings at Ta=25°C

Parameter 参数	symbol 符号	Max.最大值	unit 单位	Note 备注
Operating Temperature	T <sub>opr</sub>	-25~+85	°C	---
Storage Temperature	T <sub>stg</sub>	-40~+100	°C	---
Soldering Temperature	T <sub>s01</sub>	≤260	°C	260°C for 5 Seconds (260度小于等于5秒)

### ■Electrical / Optical Characteristics at TA=25°C

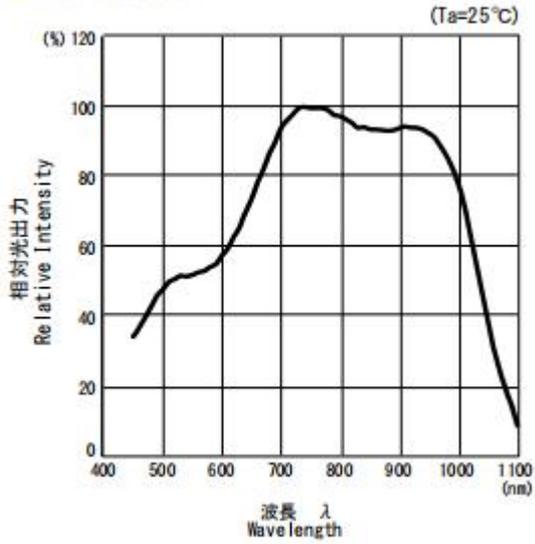
Parameter(参数)	Symbol	Min.	Typ.	Max.	Units	Test Conditions
	符号	最小值	规格值	最大值	单位	测试条件
Forward Voltage	V <sub>F</sub>	0.5	--	1.3	V	IF=10mA, H=0
Reverse Breakdown Voltage	V <sub>BR</sub>	35	--	--	V	IR=100uA, H=0
Dark Current	I <sub>D</sub>	--	--	10	nA	VR=10V
Peak Sensing Wavelength	λ <sub>p</sub>	--	940	--	nm	--
Spectrum sensitivity	Λ <sub>0.5</sub>	430	--	1100	nm	--
Capacitance	C <sub>J</sub>	--	22	--	pF	VR=5V, f=1MHz

# Detector

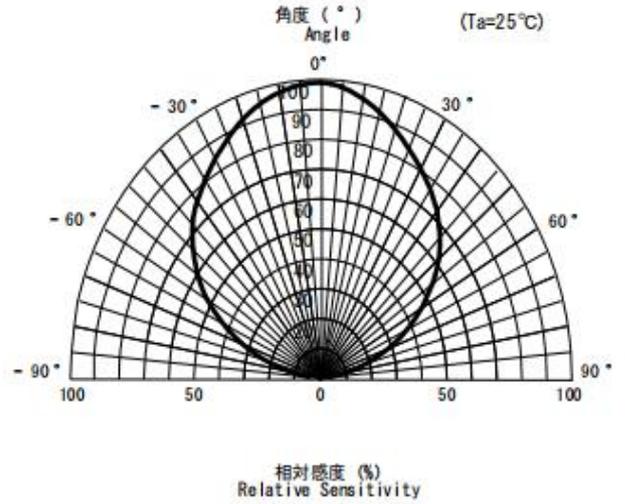
## HL4154-HPI610A

### ■ Typical Characteristic Curve

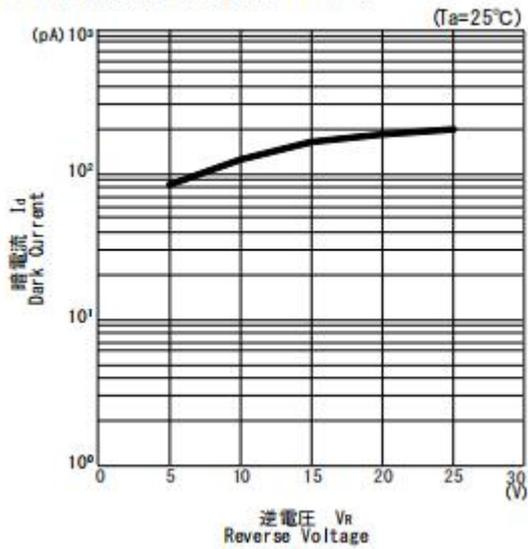
■ 分光感度特性



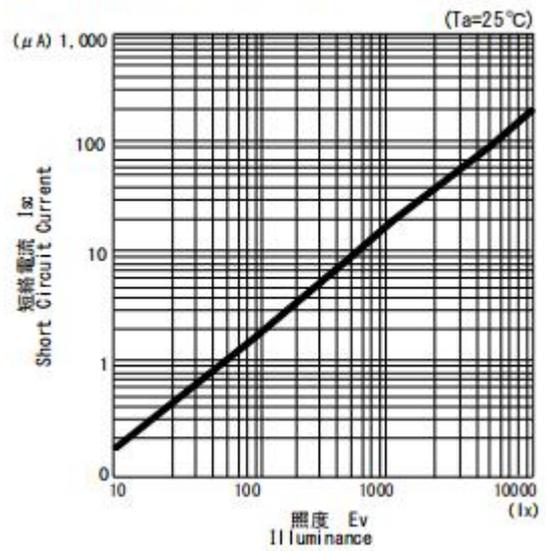
■ 指向性



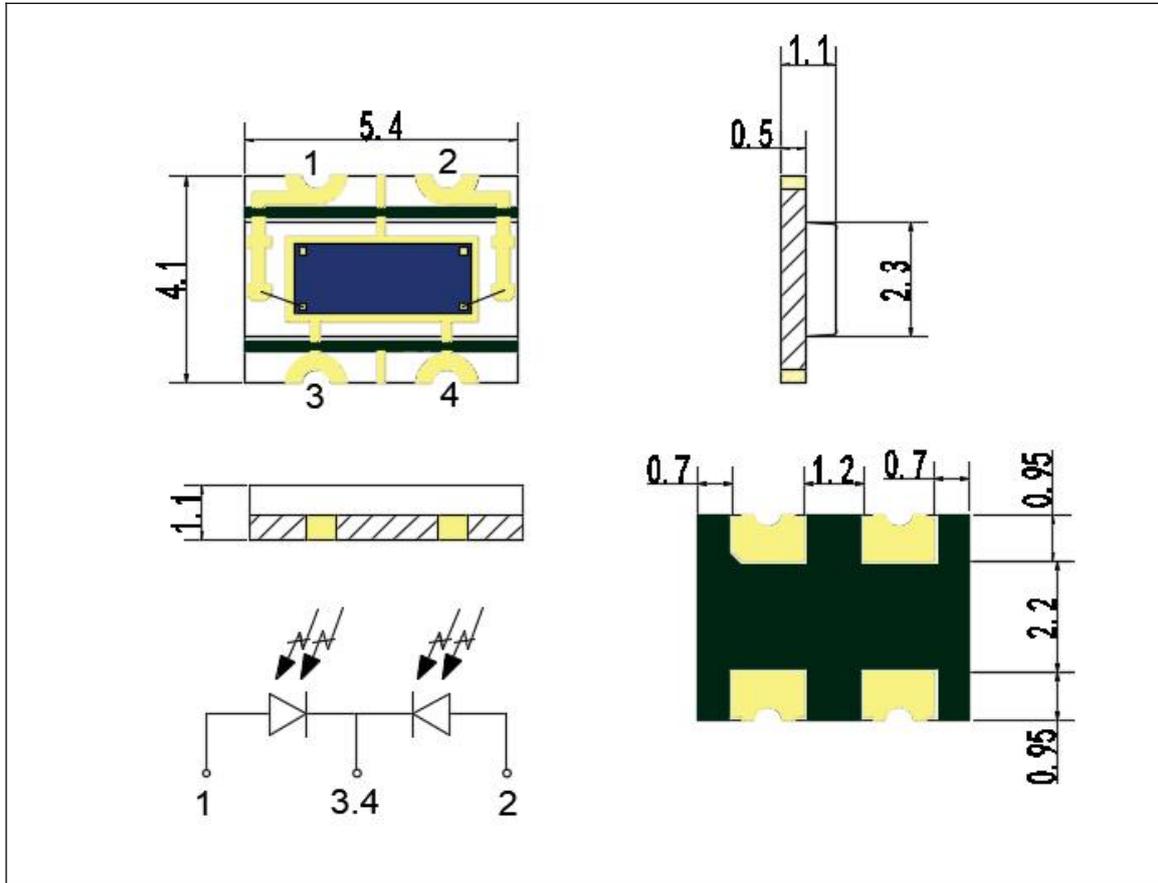
■ 暗電流/逆電圧特性  $I_d/V_R$



■ 短絡電流/照度特性  $I_{sc}/E_v$



## ■ Dimension:



- Notes:** 1.All dimensions are in millimeters  
2.Tolerances unless dimensions  $\pm 0.1\text{mm}$

## ■ Storage and Soldering Condition

Please read the following notes before using the product: 使用本产品前请阅读以下说明:

### 1. Over-current-proof 过电流保护

Customer must apply resistors for protection; otherwise slight voltage shift will cause big current change (Burn out will happen).

客户必须用电阻器保护；否则微小的电压变化会引起较大的电流变化（将会发生烧坏）。

### 2. Storage 储存

2.1 Do not open moisture proofs bag before the products are ready to use.

2.2 在产品准备使用前不要打开防潮袋

2.3 Before opening the package, the LEDs should be kept at  $30^{\circ}\text{C}$  or less and 85% RH or less. 打开包装前，LED 应保持在  $30^{\circ}\text{C}$  以下或小于 85%湿度

2.4 The LEDs should be used within a year. 未拆包的 LED 应在一年内使用。

2.5 After opening the package, the LEDs should be kept at  $30^{\circ}\text{C}$  or less and 65% RH or less. 打开包

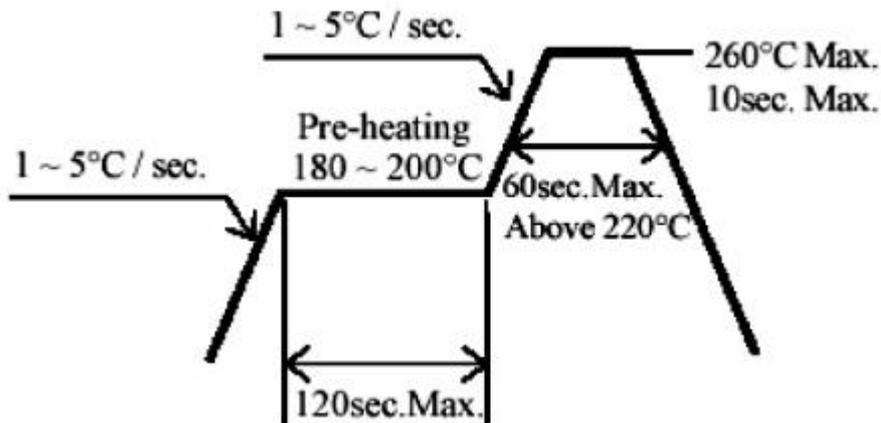
装后, LED 应保持在温度 30°C 以下或湿度小于等于 65%。

The LEDs should be used within 4 weeks after opening the package. 打开包装后,LED 应在 4 周内使用。If the moisture adsorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions. 如果干燥剂挥发完或 LED 已经超过存储时间, 应采用下列条件进行烘烤处理。

Baking treatment: 65±5°C for 24 hours. 烘烤处理 65±5°C 24 小时

### 3. Soldering Condition 焊接条件

#### 3.1 Pb-free solder temperature profile 无铅焊料温度分布



3.2 When soldering, do not put stress on the LEDs during heating. 焊接时, 加热期间不要对接压 LED.

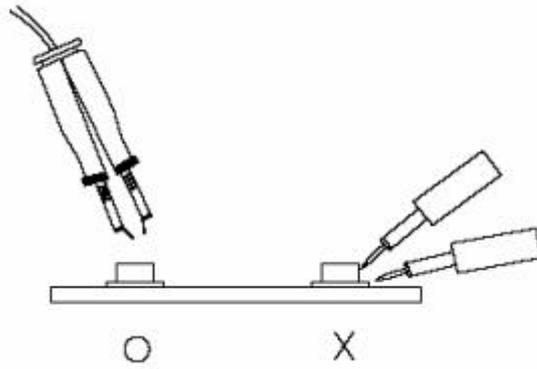
3.3 After soldering, do not warp the circuit board. 焊接后, 不要扭曲电路板

### 4. Soldering Iron 烙铁焊接

Each terminal is to go to the tip of soldering iron temperature less than 310°C for 2 seconds. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder. 烙铁温度小于 310°C, 焊接时间少于 2 秒, 留出两秒以上的间隔, 对每个端子进行焊接。请小心焊接, 因为产品的损坏通常在手焊时开始。

### 5. Repairing 返工

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 the LEDs will or will not be damaged by repairing. LED 已焊接完成后不应返工。当必须要返工时, 应使用双头烙铁(如下图)。应事先确认 LED 的特性是否会因修复而损坏或不会被损坏。



### 修订记录

项次	日期	内 容	版本号
1	2023-11-22	新发行	Ver.01