

Spec. No.: HL5060-2P135W-FNNN

Issued Date: 2022-12-8

SPECIFICATION

Model Name: Multi Emitters

Model NO. : HL5060-2P135W-F

Customer No.:

Prepared by: Tangsifan

Approved by: Xie Zong Wu

Customer approved by: _____



7F, Bldg B, JinKe Industrial Park WuHe Road 310, LongHua District,
Shenzhen, Guangdong Prov., China PostCode: 518110

Tel: 86-0755-28147404

Fax: 86-0755-28149249

E-mail: xwjma@163.com

<http://www.szwhaley.com/>

Multi Emitters

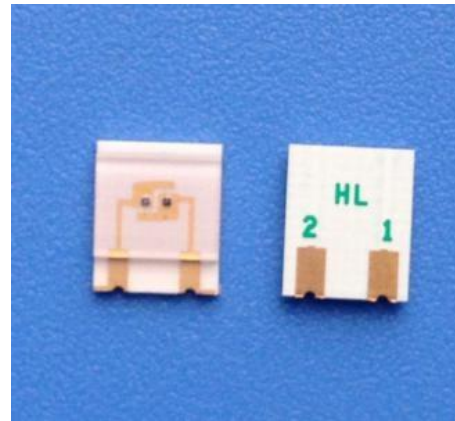
HL5060-2P135W-F

■Features

- Lead frame molded packages
- Two and three or four leads designs
- Bi-wavelengths or triple wavelengths LEDs
- Matching detector response

■Applications

- SPO2
- Blood analysis
- Medical instrumentation
- Radiometric instruments



Name	Model	RED	IR	Package
Multi Emitters	HL5060-2P135W-F	660 nm	905 nm	2-Pin, COB

■Absolute Maximum Ratings

(Ta= 25°C)

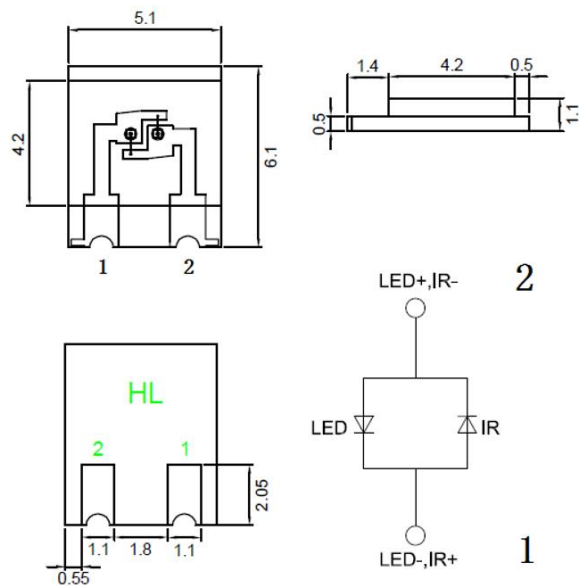
Parameter	Symbol	Max.	Unit	Note
Power Dissipation	P _d	60	mW	---
Forward Current	I _F	20	mA	---
Peak Forward Current	IFP	100	mA	1/10 Duty cycle, 0.1ms pulse width
Reverse Voltage	V _R	5	V	---
Operating Temperature	T _{opr}	-25~+85	°C	---
Storage Temperature	T _{Stg}	-40~+100	°C	---
• Soldering Temperature	T _{S01}	260	°C	260°C for 3 Seconds

■Electrical/Optical Characteristics

(Ta= 25°C)

Parameter	Symbol	Min.		Typ.		Max.		Units	Test Conditions
		IRED	RED	IRED	RED	IRED	RED		
Forward Voltage	V _F	--	--	1.40	1.80	1.50	2.4	V	I _F =20mA
Reverse Current	I _R	--	--	--	--	10	10	uA	V _R =5V
Radiant Power	P _o	--	--	3.5	3.5	4.5	4.5	mW	I _F =20mA
Peak Wavelength	λ _p	895	657	905	660	915	665	nm	I _F =20mA
Spectral Line Half-width	Δλ	--	--	48	25	--	--	nm	I _F =20mA

Dimension:



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

潮敏等级: LEVEL 2a

防潮等级	包装拆封后车间寿命	
	时间	条件
LEVEL1	无限制	$\leq 30^{\circ}\text{C}/85\%\text{RH}$
LEVEL2	1年	$\leq 30^{\circ}\text{C}/60\%\text{RH}$
LEVEL2a	4周	$\leq 30^{\circ}\text{C}/60\%\text{RH}$
LEVEL3	168小时	$\leq 30^{\circ}\text{C}/60\%\text{RH}$
LEVEL4	72小时	$\leq 30^{\circ}\text{C}/60\%\text{RH}$
LEVEL5	48小时	$\leq 30^{\circ}\text{C}/60\%\text{RH}$
LEVEL5a	24小时	$\leq 30^{\circ}\text{C}/60\%\text{RH}$
LEVEL6	取出即用	$\leq 30^{\circ}\text{C}/60\%\text{RH}$

■Reliability Test

1. 测试项目和结果:

类别	试验项目	参考标准	试验条件	持续时间	取样数	损坏数量
环境试验	温度循环	JEITA ED-4701 100 105	-40℃→25℃→100℃→25℃ 30 分钟 5 分钟 30 分钟 5 分钟	循环 100 回合	100	0/100
	冷热冲击	MIL-STD-202G	-40℃←→100℃ 15 分钟 15 分钟	循环 300 回合	100	0/100
	高湿热循环	JEITA ED-4701 200 203	30℃←→65℃ RH=90% 24 小时/1 回合	循环 50 回合	100	0/100
	高温储存	JEITA ED-4701 200 201	Ta=100℃	1000 小时	100	0/100
	低温储存	JEITA ED-4701 200 202	Ta=-40℃	1000 小时	100	0/100
	高温高湿储存	JEITA ED-4701 100 103	Ta=60℃ RH=90%	1000 小时	100	0/100
寿命试验	常温寿命试验	--	Ta=25℃ IF=20mA(R)	1000 小时	100	0/100
	高温高湿寿命试验	--	Ta=60℃ RH=90% IF=20mA(R)	1000 小时	100	0/100
	低温寿命试验	--	Ta=-30℃ IF=20mA(R)	1000 小时	100	0/100
破坏性试验	耐焊性	JEITA ED-4701 300 302	Tsld=260±5℃,10 秒离胶体 3mm 距离	焊接一次	20	0/20
	可焊性	JEITA ED-4701 300 303	Tsld=235±5℃,5 秒 使用助焊剂	焊接一次	20	0/20
静电	静电放电试验	JEITA ED-4701 300 304	人体放电模式 1000V	正反向各 3 次	10	0/10
机械试验	振动试验	JEITA ED-4701 400 403	20G 20-2000HZ 4 分钟 X,Y,Z 三个方向	每个方向循环 4 次	10	0/10
	跌落试验	--	75 厘米	3 次	10	0/10

■ 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°C or less and 85% RH or less.

打开包装前，LED应保持在30°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.

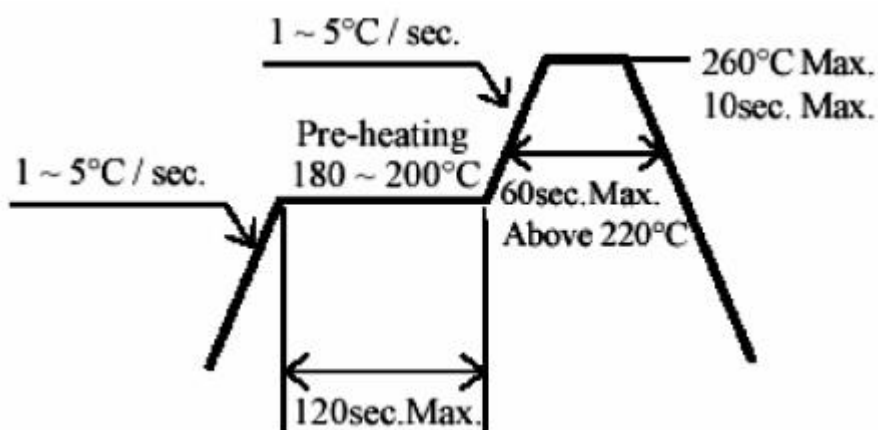
2.5 After opening the package, the LEDs should be kept at 30°C or less and 65% RH or less. 打开包装后，LED应保持在温度30°C以下或湿度小于等于65%。

2.6 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 fabled 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，加热期间不要对按压LED.

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

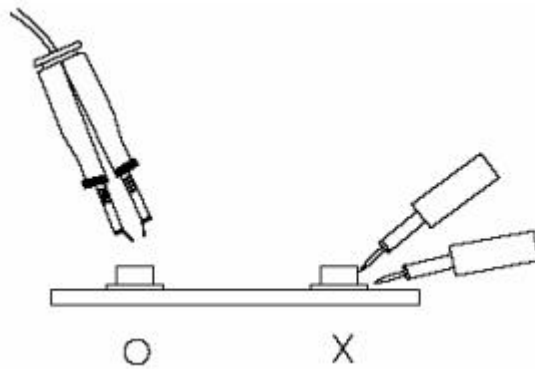
4. Soldering Iron 烙铁焊接

Each terminal is to go to the tip of soldering iron temperature less than 310℃ 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℃，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	2022-12-08	新发行	Ver.01