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2018.09.01	All	03	新增	刘胡允智

批准：_____

会 签：_____

审核：_____

编写：_____

产 品 规 格 书

◆ 产品特性:

- 低电压，高光输出功率；
- 寿命长，低光衰；
- 均匀性和一致性好；
- 100%测试分选。

◆ 物理参数:

芯片结构	蓝宝石衬底的倒装结构
芯片尺寸	20*20mil (520±10μm)×(520±10μm)
芯片厚度	7mil 180 ±10μm
电极厚度	1.8μm ~ 2.2μm
P 电极尺寸	(164 ±10μm)×(478±10μm)
N 电极尺寸	(160 ±10μm)×(470±10μm)
电极间距	150 ±10μm
P 电极材质	金
N 电极材质	金

◆ 光电特性@Tc=22℃

参数	符号	测试条件	最小值	典型值	最大值	单位
正向电压	Vf1	If =40mA	5	—	8	V
	Vf3	If=10uA	4	—	—	V
反向电流	Ir	Vr =-5V	—	—	1.0	μA
反向电压	Vr	Ir=-10 μA	10	—	—	V
辐射功率	P	If =40mA	PB0	0	—	mw
			PC0	0.5	—	
			PB1	1	—	
			PC1	1.5	—	
			PB2	2	—	
			PC2	2.5	—	
峰值波长	λ p	If=40mA	25C	255	—	nm
			25D	257.5	—	
			26A	260	—	
			—	
			28C	285	—	
			28D	287.5	—	

- 1) 可根据客户要求定制特殊规格芯片；
- 2) 光电特性源自裕田光电测试仪的裸芯测试数据，其中正向电压、峰值波长、辐射功率的测量误差分别为±0.1V、±2nm 和±5%；
- 3) UV LED属于静电敏感产品，请注意在运输和使用过程中的静电防护措施。

◆ 绝对最大额定值

参数	符号	条件	额定值	单位
正向直流电流	If	Ta = 22℃	≤60	mA
反向电压	Vr	Ta=22℃	≤10	V
结温	Tj	—	≤110	℃
储存温度	Tstg	蓝膜芯片	-40 ~ +80	℃
焊接温度/时间	—	—	≤260 (5)	℃ (S)

- 1) 上述最大额定值是在没有封装的金属印刷PCB板上测试得出；
- 2) 超过绝对最大额定值，特别是正向电流和结温可能导致芯片的损坏。

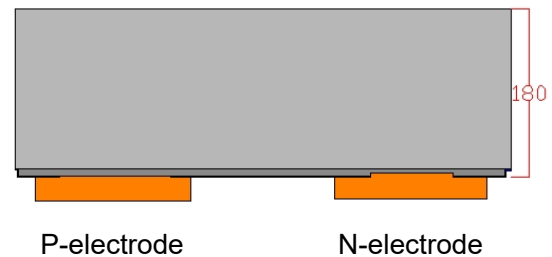
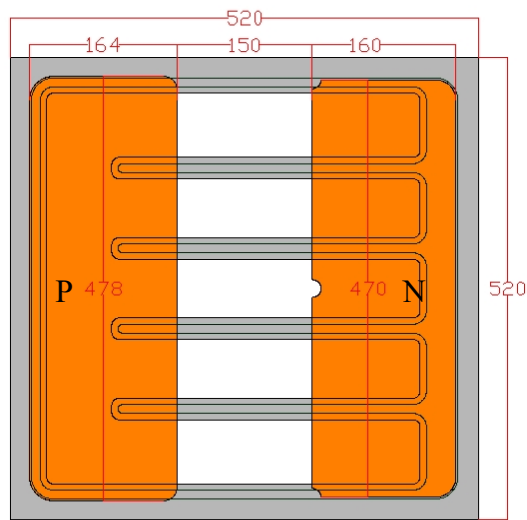
地址：太湖县刘畈乡刘畈村枫树街松本裕田工业区

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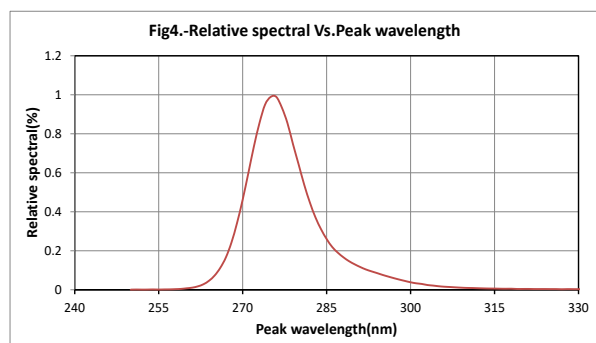
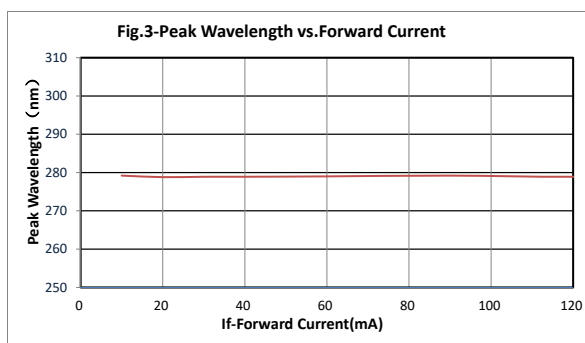
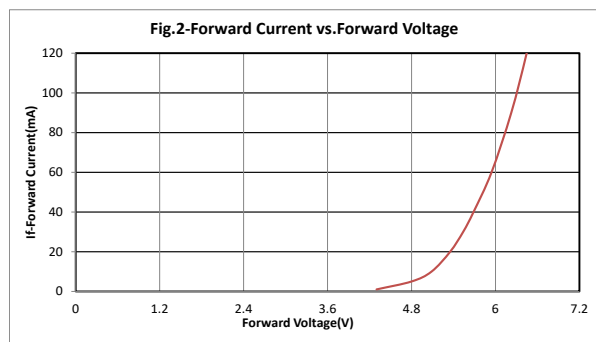
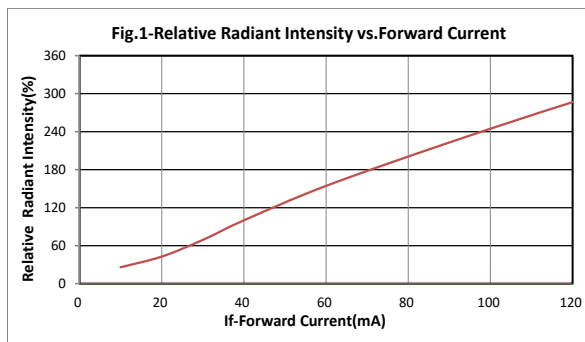
◆ 芯片尺寸和包装:



- 1) 芯片被排列且背面被粘贴在蓝膜的中心位置，芯片的焊线电极朝上且覆盖有离型纸保护；
- 2) 芯片的规格型号、光电参数、数量等信息将被打印成标签并贴在蓝膜的右下角；
- 3) 可以遵照客户要求而提供不同的包装方式或标签信息；

◆ 典型特征曲线:

以下测试数据源自裕田光电的UVC LED产品，视正向电压、峰值波长等参数抽样情况的不同，实际曲线将会呈现不同差异。



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Product Specifications

◆ Features:

- Low Voltage, and High Output Power
- Long Operation Life, Low fading;
- Good Uniformity and Consistency
- 100% Probing Test and Sorting

◆ Physical Characteristics:

Structure	Flip Chip on Sapphire substrate
Chip size	20*20mil, (520±10μm)×(520±10μm)
Chip thickness	7mil, 180 ±10μm
Pad thickness	1.8μm ~ 2.2μm
P bonding pad diameter	(164 ±10μm)×(478±10μm)
N bonding pad diameter	(160 ±10μm)×(470±10μm)
Bonding pad distance	150 ±10μm
Topside P electrode	Au alloy
Topside N electrode	Au alloy

◆ Electro-optical Characteristics@Tc=22℃

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	Vf1	If =40mA	5	—	8	V
	Vf3	If=10uA	4	—	—	V
Reverse Current	Ir	Vr =-5V	—	—	1.0	μ A
Reverse Voltage	Vr	Ir=-10 μ A	10	—	—	V
Radiant Flux	P	PB0	0	—	0.5	mw
		PC0	0.5	—	1	
		PB1	1	—	1.5	
		PC1	1.5	—	2	
		PB2	2	—	2.5	
		PC2	2.5	—	3	
Peak Wavelength	λ p	25C	255	—	257.5	nm
		25D	257.5	—	260	
		26A	260	—	262.5	
		—	...	
		28C	285	—	287.5	
		28D	287.5	—	290	

- 1) Custom-made special requirements are welcome;
- 2) Electro-optical Characteristics are measured by Rootin' s equipment on bare chips. The measured tolerances of Forward Voltage, Peak Wavelength, Radiant Flux are ±0.1V, ±2nm, ±5% respectively;
- 3) UV LED is Electrostatic Sensitive Device, Electrostatic protection should be paid attention to during transportation and use.

◆ Absolute Maximum Ratings

Parameter	Symbol	Condition	Rating	Unit
Forward DC Current	If	Ta = 22℃	≤60	mA
Reverse Voltage	Vr	Ta=22℃	≤10	V
Junction Temperature	Tj	—	≤110	℃
Storage Temperature	Tstg	—	-40 ~ +80	℃
Soldering temperature	—	—	≤260 (5)	℃ (S)

1) Maximum ratings are package dependent;

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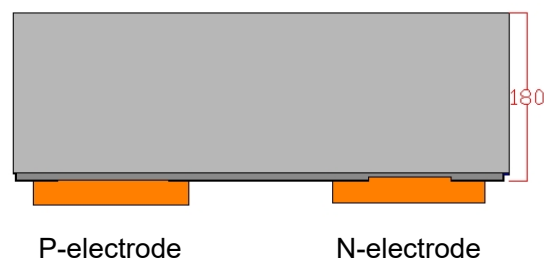
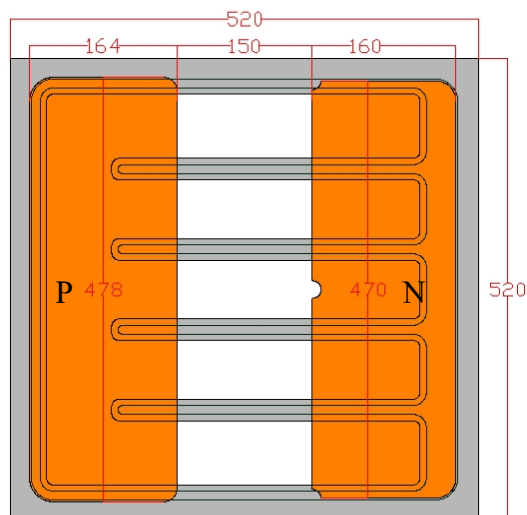
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- 2) The above maximum ratings were determined using a Metal Core Printed Circuit Board without encapsulation;
- 3) Stresses in excess of the absolute maximum ratings such as forward current and junction temperature may cause damage to the LED.

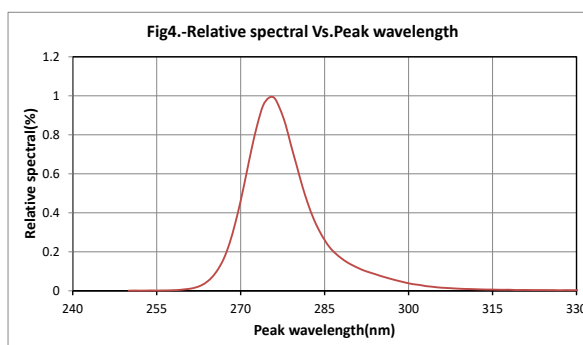
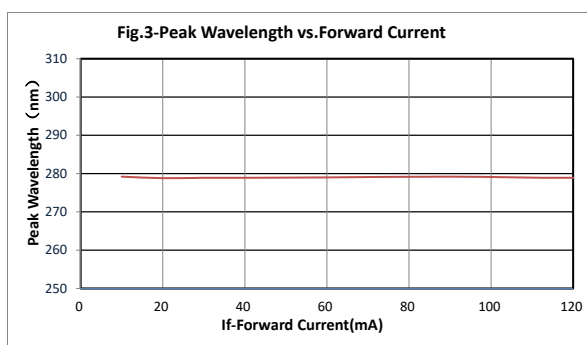
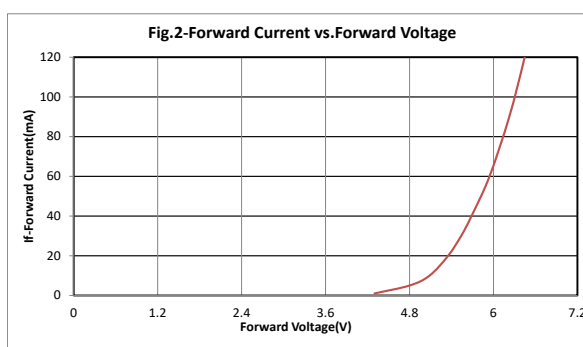
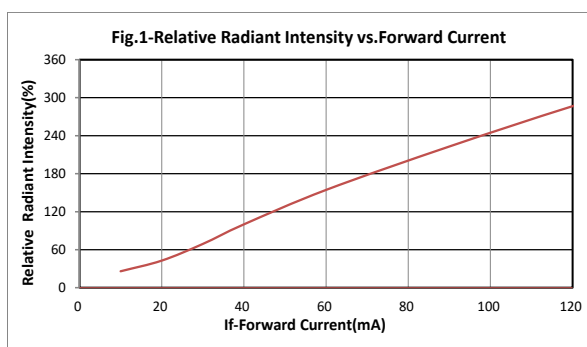
◆ Chip Diagram and Packing:



- 1) The chips are located at the center of the adhesion paper, the bonding pad should face toward the cover glossy paper ;
- 2) The model name , E-O value and quantity is labeled and at the right corner of the adhesion paper;
- 3) Packaging can be changed according to customer's needs.

◆ Typical Characteristic Curves:

These are representative measurements for the ROOTIN UV LED product. Actual curves will vary slightly for the various radiant flux and Peak wavelength bins.



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