

S-0202CWOA产品规格书

1. 产品特征 Product Features

MIP封装

Micro LED in package type

超小尺寸和超薄封装设计

Ultra small size & thin package design

包装：蓝膜形式

Package: Blue tapes

固晶作业

Die Bonding Operation

符合RoHS

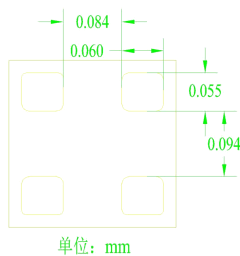
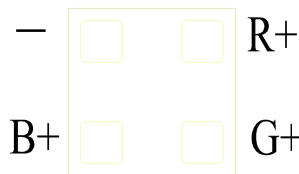
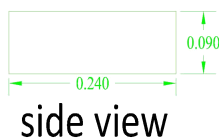
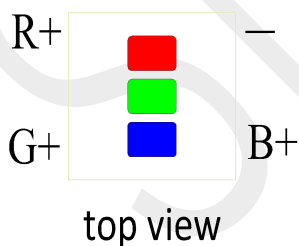
RoHS Compliant

室内显示应用

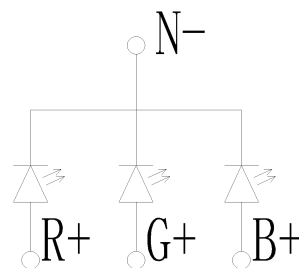
Indoor Display

2. 产品尺寸及材料 Package Dimensions & Material Structure

Description	Dimensions
产品尺寸 Package Size	9.6 mil×9.6 mil (240±30) μm ×(240±30) μm
产品厚度 Package Thickness	3.6 mil (90±20) μm
电极尺寸 N/P-Pad Size	2.4 mil×2.2 mil (60±10) μm × (55±10) μm
电极材质 N/P-Pad Metal	Au Alloy



bottom view

dimension figure
unit: mm

3. 电性参数 Electro Characteristics

极限参数 Absolute Maximum Ratings (Temperature=25℃)

参数 Parameter	符号 Symbol	极限 Absolute Maximum Ratings	单位 Unit
正向电流 Forward Current	If	3	mA
反向电压 Reverse Voltage	Vr	5	V
工作温度 Operating Temperature	To	-10~60	℃
贮存温度 Storage Temperature	Ts	5~40	℃

光电参数 Electro-Optical Characteristics (Temperature=25℃)

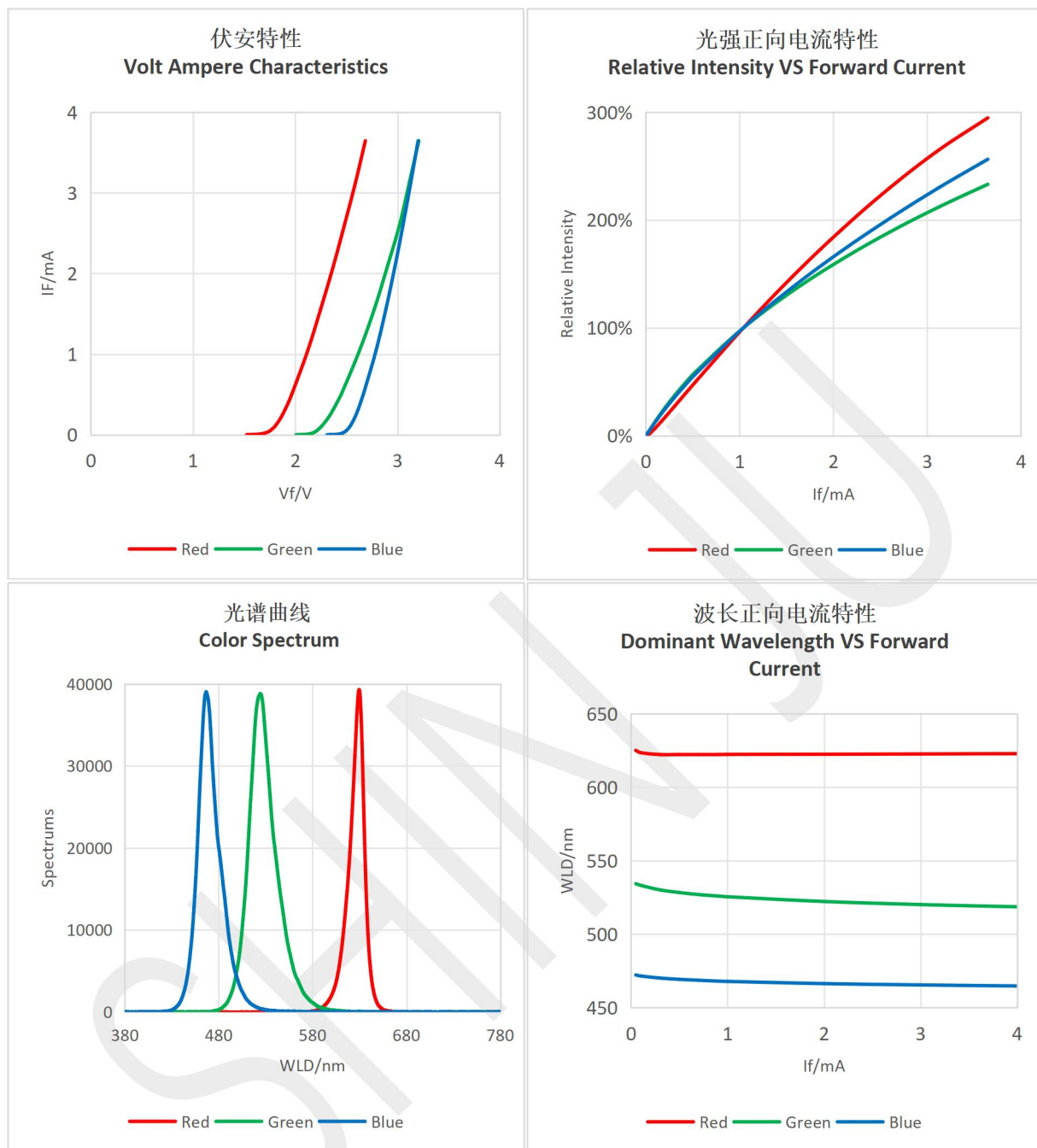
参数 Parameter	符号 Symbol	测试条件 Condition	颜色 Color	参数 Value			单位 Unit
				最小值 Min	典型值 Type	最大值 Max	
正向电压 Forward Voltage	Vf	If=1.2mA	R	1.8	/	2.3	V
		If=1mA	G	2.4	/	3	
		If=1mA	B	2.6	/	3.2	
主波长 Dominant Wavelength	WLD	If=1.2mA	R	618	/	626	nm
		If=1mA	G	520	/	540	
		If=1mA	B	460	/	475	
发光强度 Luminous Intensity	Iv	If=1.2mA	R	10	/	20	mcd
		If=1mA	G	30	/	55	
		If=1mA	B	7	/	20	
半波宽 Full Width Half Maximum	FWHM	If=1.2mA	R	/	16	/	nm
		If=1mA	G	/	28	/	
		If=1mA	B	/	20	/	
反向漏电流 Reverse Current	Ir	Vr=-5V	R	/	/	0.2	μA
		Vr=-5V	G	/	/	0.2	
		Vr=-5V	B	/	/	0.2	

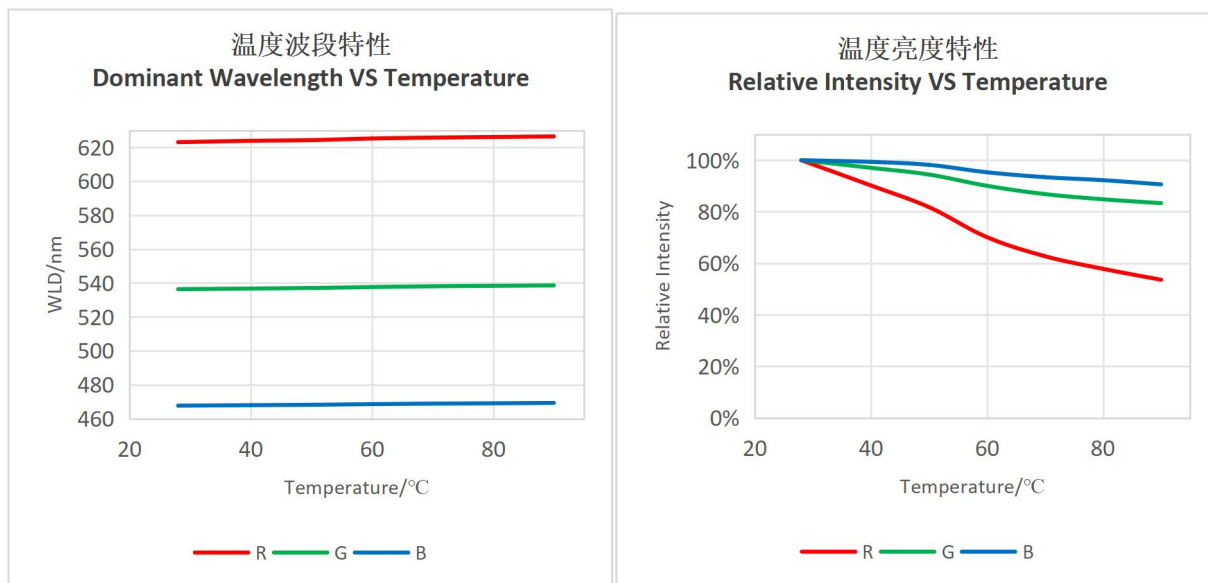
说明：1. 以上数据基于芯聚半导体测试机上测试。

2. 光强测量误差±10%。

3. 主波长测量误差±0.5nm。

4. 典型特性曲线 Typical Characteristics Curves





5. 可靠性测试 Reliability Test

实验项目 Item	实验条件 Test Condition	时间/次数 Time/cycle	数量 Quantity	允收标准 LTPD
冷热冲击 Temperature Shock	-40°C (15min)~ 100°C (15min)	100cycles	100	0/100
高温高湿 High Temp. and High Humidity Operation	85°C & 85%RH	1000hrs	100	0/100
回流焊 Reflow	Tsol=230°C 60s	3cycles	100	0/100
高温贮存 High Temp Store	100°C	1000hrs	100	0/100
低温贮存 Low Temp. Store	-40°C	1000hrs	100	0/100
常温脉冲工作 Room Temp.	25°C If=1mA	1000hrs	20	0/100

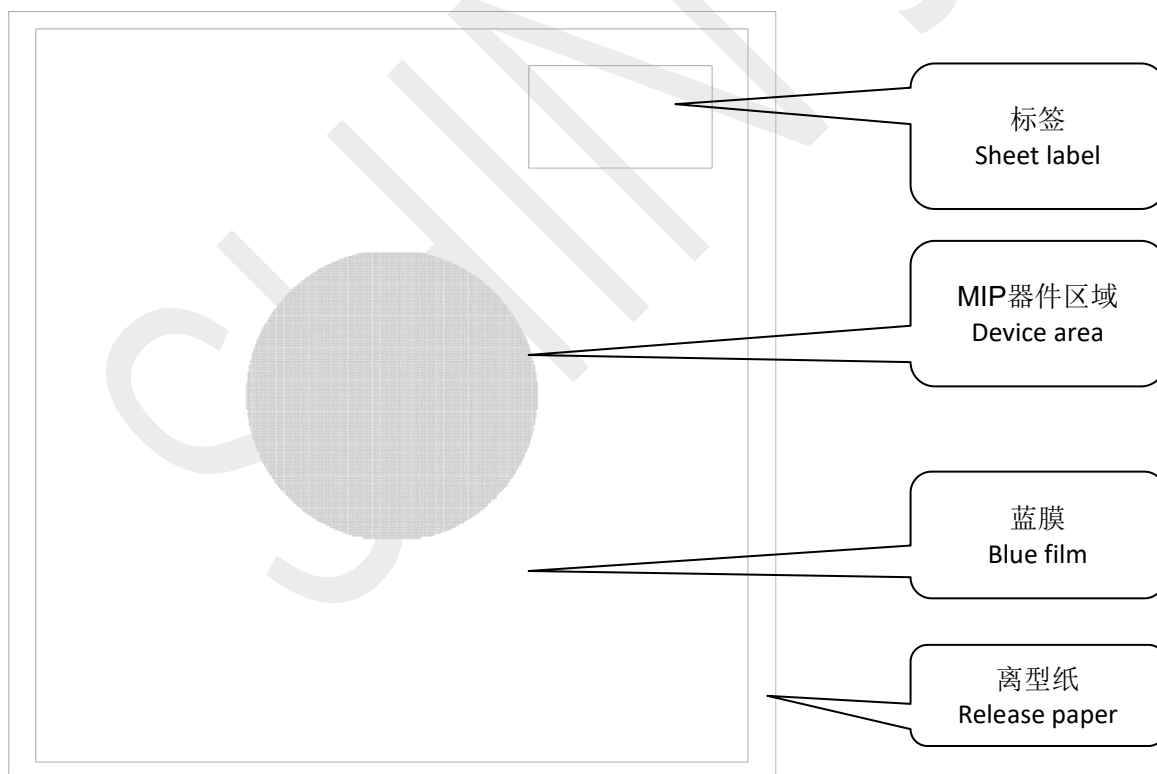
Operation	Duty=10%			
高温脉冲工作	55℃			
Room Temp.	If=1mA	1000hrs	20	0/100
Operation	Duty=10%			

寿命试验合格判断标准 Criteria For Passing Qualification Of Lifespan Test

测试项目	符号	测试条件	判断标准
Test Items	Symbol	Test Condition	Criteria for Judgment
正向电压	Vf	1mA	初始值±10%
反向漏电流	Ir	Vr=-5V	<1μA
光功率	LOP	1mA	平均LOP衰减≤30%

6. 包装Packaging

蓝膜方式：Blue film。



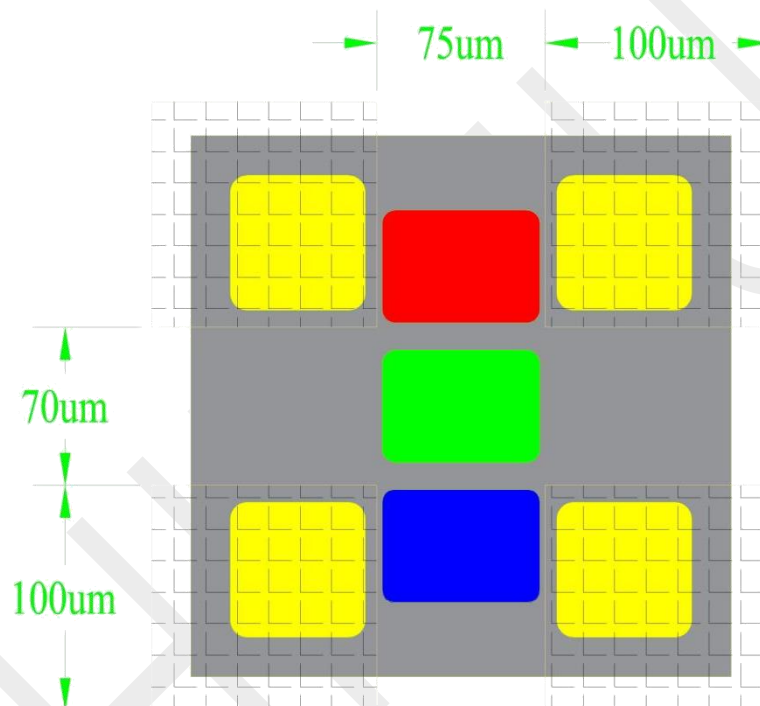
说明：MIP器件排布在蓝膜中央，电极贴在蓝膜上，蓝宝石面接触离型纸。

The MIP devices are placed on the center of the blue film, and the PADs are faced to the blue film,sapphire substrates are attached to release paper.

7. 焊接指导 Reflow Soldering Characteristics

焊盘设计建议 Pad design suggestions.

焊盘建议尺寸如下图。The recommended pad sizes are shown in the figure below.



回流条件建议 Suggestions for reflow conditions.

推荐使用无铅锡膏焊接，例如SAC305锡膏。

回流焊接最多只能进行两次。

在焊接完成后，待产品温度下降到室温之后，再进行其他处理。

Use the Pb-Free reflow soldering,such as SAC305 solder paste.

Reflow soldering should not be done more than two times.

After soldering, do not deal with the product before its temperature cooling down to room temperature.

8. 使用注意事项 Precautions for Use

静电防护 ESD protection

静电和电涌会导致产品特性发生改变，如果情况严重甚至会损毁产品。在使用时必须采取有效的防静电措施。

所有相关的设备和机器都应该正确接地，同时必须采取其他防止静电和电涌的措施。使用防静电手环，防静电垫子，防静电工作服、工作鞋、手套，防静电容器，都是有效的防止静电和电涌的措施。

Static electricity and power surges can cause changes in product characteristics and even damage the product in severe cases. Therefore, effective anti-static measures must be taken when using.

All relevant equipment and machinery should be properly grounded, and other measures must be taken to prevent static electricity and power surges. The use of anti-static wristbands, anti-static MATS, anti-static clothes, work shoes, gloves, anti-static containers, are effective measures to prevent static electricity and power surges.

贮存条件 Storage conditions

建议储存温度控制在 $20\pm 5^{\circ}\text{C}$ ，湿度控制在 $50\pm 25\%$ 以内。

It is recommended that the storage temperature be controlled at $20\pm 5^{\circ}\text{C}$ and the humidity be controlled within $50\pm 25\%$.

固晶作业 DB operation

固晶作业中，注意调节顶针高度、吸嘴压力，控制施加在器件上的力度，避免损伤器件。

During the DB operation, pay attention to adjust the height of the needle and the pressure of the nozzle, and control the force applied on the device to avoid damage to the device.