



# 规格书

## SPECIFICATION

文件编号  
NO. XY-QS-1-UV-001

客户名称:  
Customer

客户料号  
Part.No. XY-1WUVAU2W120SI  
品名  
Description XY-1WUVAU3W120SI  
规格  
Model: XY UV LED ( $\lambda_p$ : 365-420nm)

送样日期  
Day:

客户承认章/签 CUSTOMER APPROVED	核准 APPROVED	制定 ISSUED

地址：广东省深圳市宝安区鹤洲阳光工业园

Add: Sunshine Industrial Park, Hezhou, Xixiang, Bao'an District Shenzhen City, Guangdong Province, China.

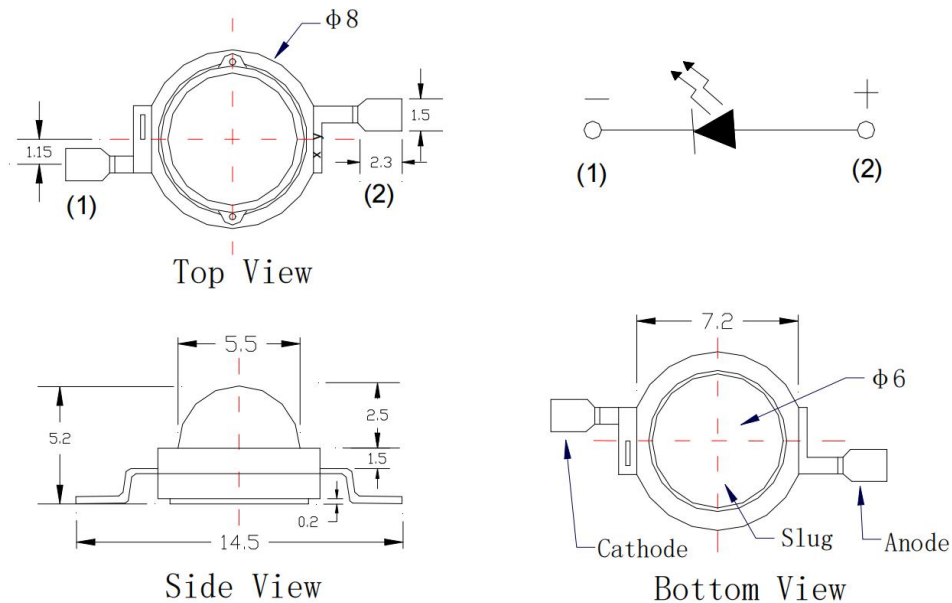
## ◆ Features

- \* Ceramic and silicone molding package
- \* Viewing Angle: 120°
- \* High reliability
- \* RoHS compliant
- \* Suitable for all SMT assembly and solder process
- \* Pb-free reflow soldering application
- \* 发光角度: 120°
- \* 高可靠性
- \* 符合 RoHS
- \* 使用所有 SMT 焊接工艺
- \* 无铅回流焊

## ◆ Applications:

- \* ultraviolet disinfection
- \* uv curing
- \* uv ink curing
- \* printing
- \* moth-killing lamp
- \* medical treatment and health
- \* general use
- \* 紫外消毒
- \* 紫外固化
- \* 油墨固化
- \* 印刷
- \* 诱蚊灯
- \* 医疗健康
- \* 一般应用

## ◆ Package Dimensions



### Notes:

All dimensions are in mm,  
Tolerance is  $\pm 0.2$ mm unless otherwise noted.

### ◆ Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Power Dissipation (功耗)	P <sub>D</sub>	1-3	W
Forward Current (正向电流)	I <sub>F</sub>	(365-370nm)500 (380-420nm)700	mA
Peak Forward Current* (脉冲峰值电流)	I <sub>FP</sub>	(365-370nm)700 (380-420nm)1000	mA
Junction temperature (有限最高结温)	T <sub>j</sub>	115	°C
Operation Temperature Range (工作温度)	T <sub>opr</sub>	-40 to +85	°C
Storage Temperature Range (贮藏温度)	T <sub>stg</sub>	-40 to +100	°C
ESD Sensitivity (HBM) (抗静电级别)	ESD	2000	V

NOTE: \* Pulse width≤0.1msec Duty Ratio ≤1/10

### ◆ Electrical-Optical Characteristics (T<sub>A</sub>=25°C)

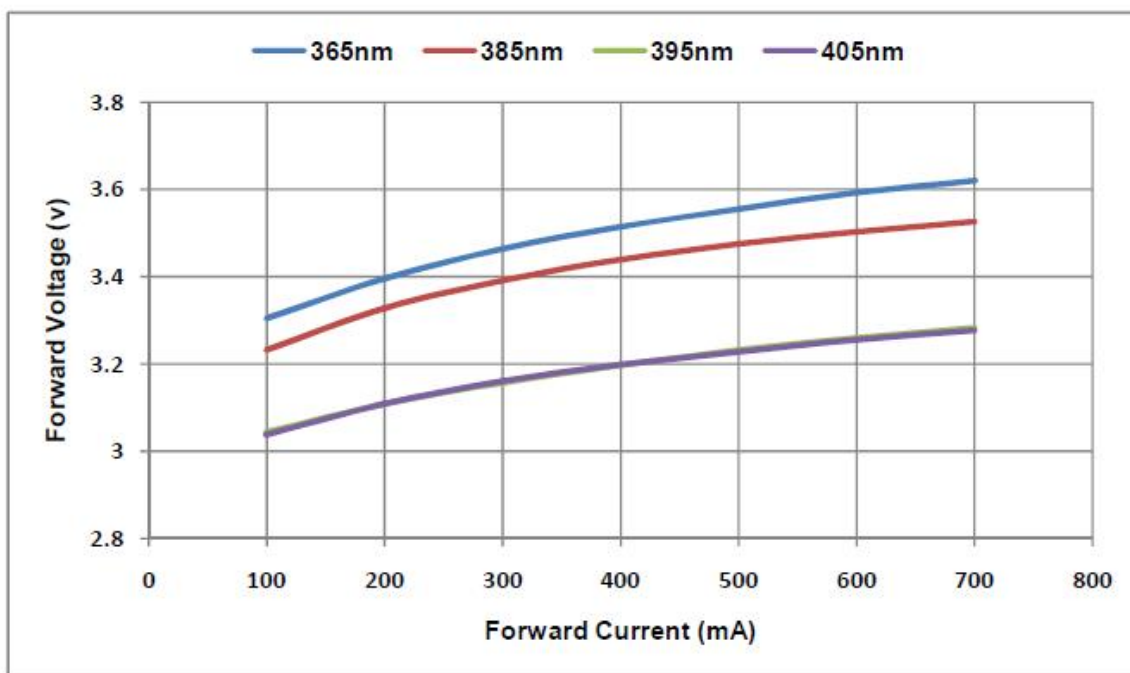
Parameter	Test Condition	Symbol	Min	Typ	Max	Unit
Forward Voltage	I <sub>F</sub> =500/700mA	<b>V<sub>F</sub></b>	3.2		3.8	V
Reverse Current	V <sub>R</sub> =-5V	<b>I<sub>R</sub></b>			50	μA
View Angle	I <sub>F</sub> =500/700mA	<b>2Θ 1/2</b>		120		deg.
Radiant flux (365-370nm)	I <sub>F</sub> =500/700mA	<b>Φ<sub>e</sub></b>	1050		1550	mW
Radiant flux (380-390nm)	I <sub>F</sub> =500/700mA	<b>Φ<sub>e</sub></b>	1050		1550	mW
Radiant flux (390-400nm)	I <sub>F</sub> =500/700mA	<b>Φ<sub>e</sub></b>	1050		1500	mW
Radiant flux (400-410nm)	I <sub>F</sub> =500/700mA	<b>Φ<sub>e</sub></b>	1050		1550	mW
Radiant flux (410-420nm)	I <sub>F</sub> =500/700mA	<b>Φ<sub>e</sub></b>	1050		1550	mW
Spectrum radiation bandwidth	I <sub>F</sub> =500/700mA	<b>Δλ</b>		12		nm
Thermal resistance	I <sub>F</sub> =500/700mA	<b>R<sub>th (i-s)</sub></b>		4.5		°C/W

**Note:** 1.Tolerance of measurement of luminous flux ±10%  
 2.Tolerance of measurement of dominant wavelength ±2nm  
 3.Tolerance of measurement of forward voltage ±0.05V

### 典型特性曲线 Typical Characteristics Curves

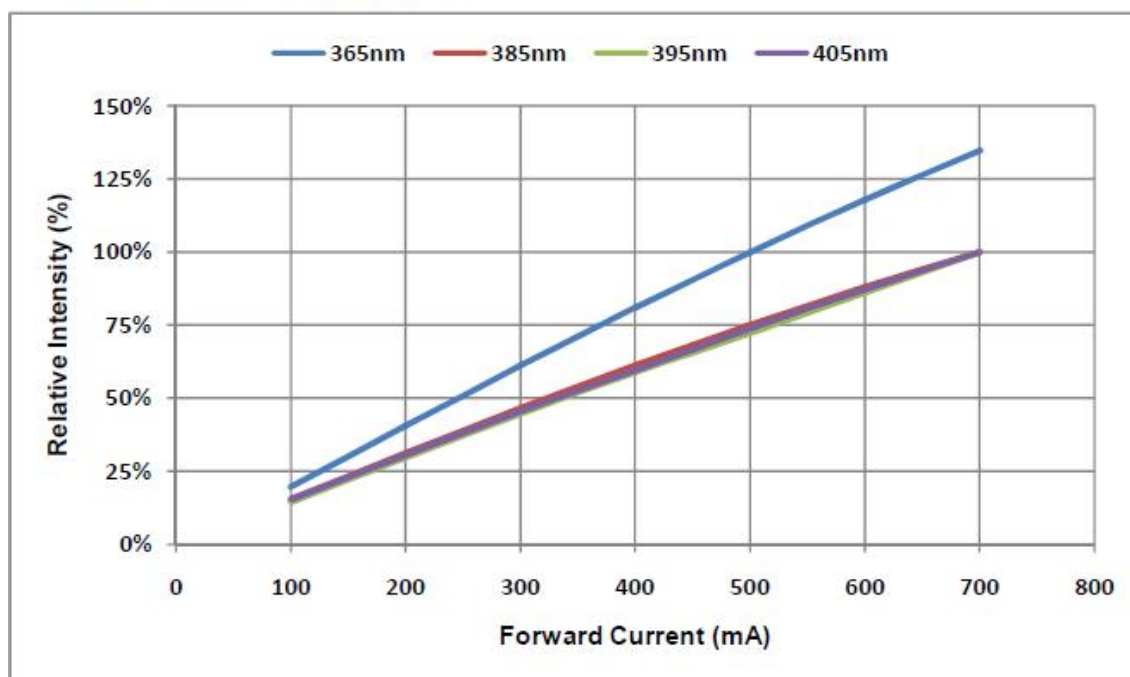
伏安特性曲线

Forward Voltage Vs. Forward Current

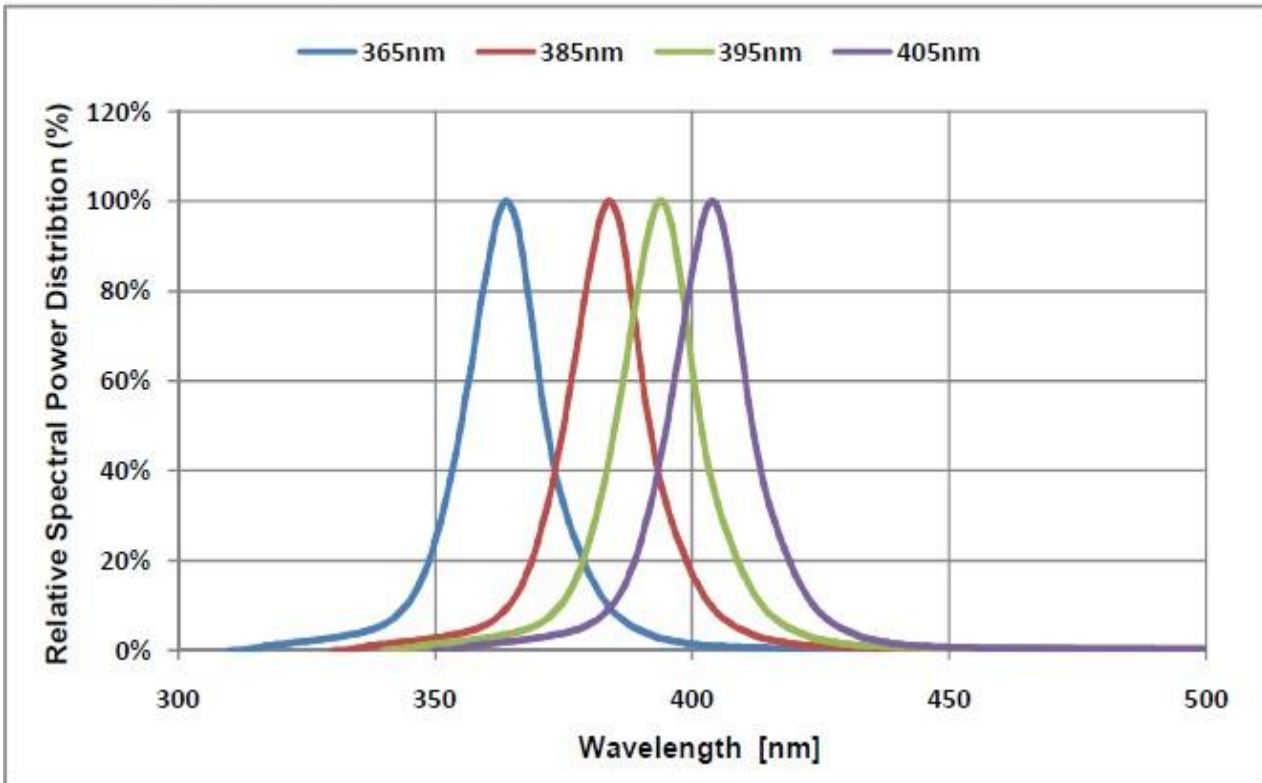


正向电流与相对光强特性曲线

Forward Current Vs. Relative Intensity



光谱分布特性曲线  
Spectrum Distribution



备注: Note:

与温度相关的测试基于额定电流。

Related to the temperature test based on the Rated current.

所有测试都是基于旭宇光电（深圳）股份有限公司现有的标准测试平台。

All measurements were made under the standardized environment of YUCHUANG.

## ◆ Reliability

### 1. Test Items And Results

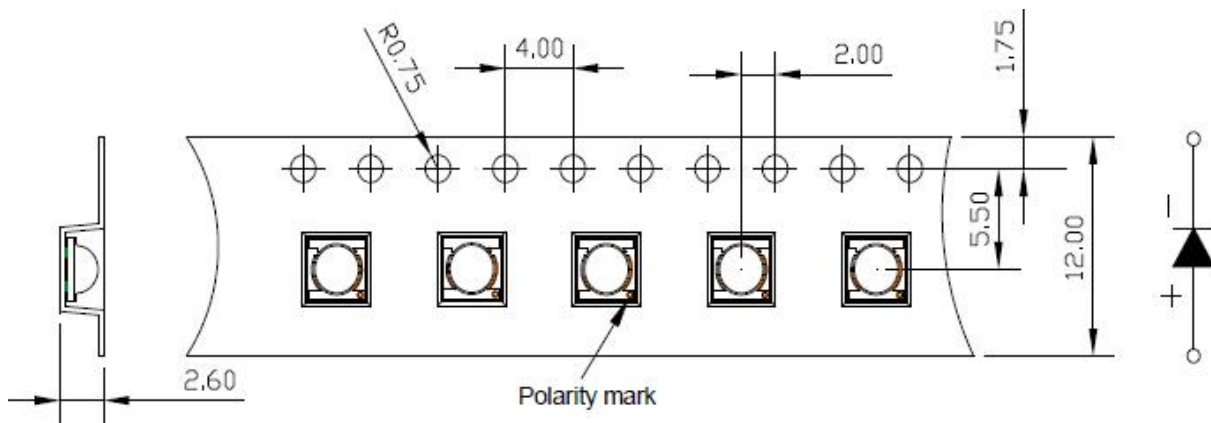
Item	Standard Test Method	Test conditions	Note	Number of Damaged
Resistance to Soldering Heat	JEITA ED-4701 300 302	$T_{SLD}: 160^{\circ}\text{C} \pm 5^{\circ}\text{C}$ 10sec	1 time	0/11
Solder ability	JEITA ED-4701 300 303	$TSLD=150 \pm 5^{\circ}\text{C}$ , 5Sec	1time	0/11
Thermal Shock	JEITA ED-4701 300 307	$-40-100^{\circ}\text{C}$ 10min, 10min	100cycles	0/11
Temperature Cycle	JEITA ED-4701 100 105	$-40^{\circ}\text{C} \sim 25^{\circ}\text{C} \sim 100^{\circ}\text{C} \sim 25^{\circ}\text{C}$ 30min. 5min. 30min.5min	160cycles	0/11
Steady State Operating life	--	$T_a=25^{\circ}\text{C}$ , $I_F=500/700\text{mA}$	1000hrs	0/11
Steady State Operating life of High Humidity Heat	--	$T_a=60^{\circ}\text{C}$ $RH=90\%$ , $I_F=500/700\text{mA}$	1000hrs	0/11
High Temperature Storage	JEITA ED-4701 200 201	$T_a=100^{\circ}\text{C}$	1000HRS	0/11
Low Temperature Storage	JEITA ED-4701 200 202	$T_a=-40^{\circ}\text{C}$	1000HRS	0/11

### 2. Criteria for Judging The Damage

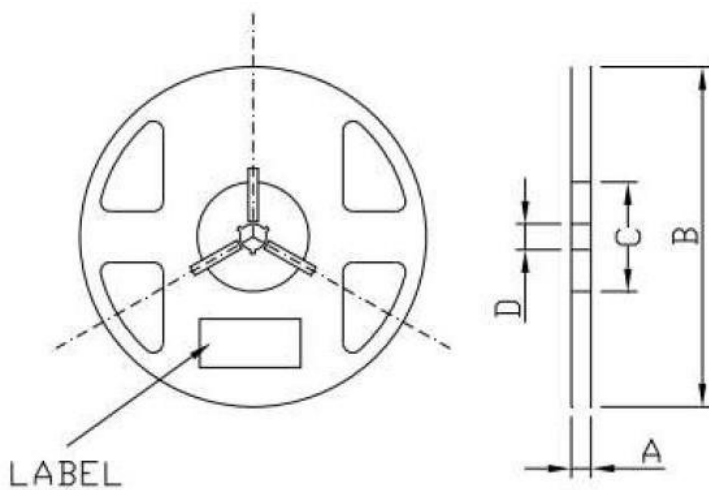
Item	Symbol	Test Conditions	Criteria for Judgment	
			Min.	Max.
Forward Voltage	$V_F$	$I_F=500/700\text{ mA}$	Initial Data $\times$ 0.9	Initial Data $\times$ 1.1
Total radiant flux	$\Phi_e$	$I_F=500/700\text{ mA}$	---	$\leq 30\%$
Reverse Current	$I_R$	$V_R = 5V$	---	$\leq 50\mu\text{A}$

◆ Packaging Specifications 包装规格

Dimensions of Tape 载带规格

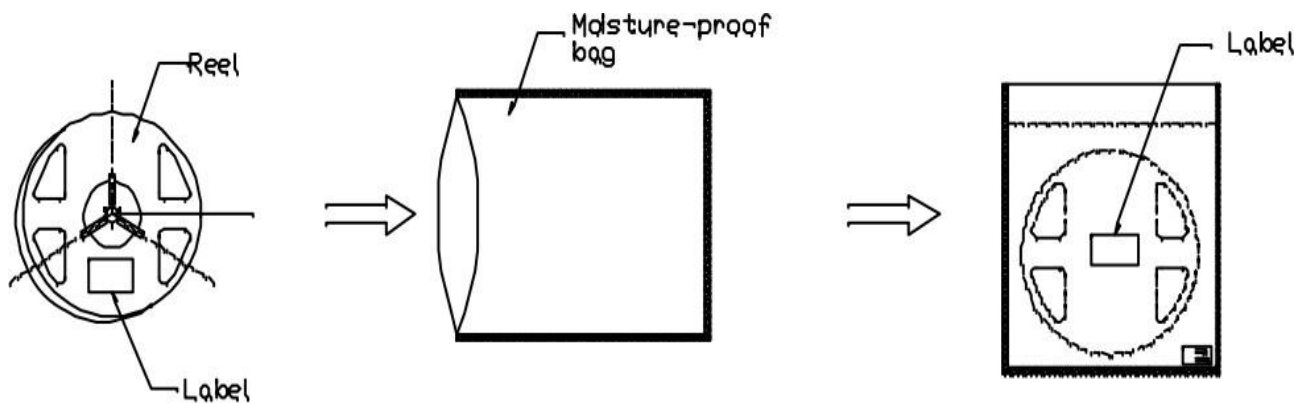


Dimensions of Reel 卷盘规格

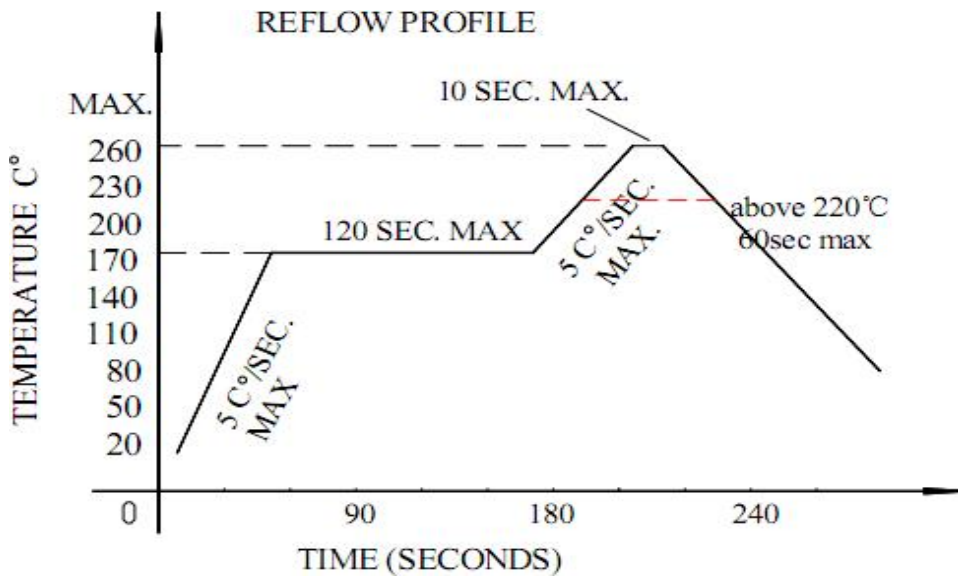


A	$13.6 \pm 0.1 \text{mm}$
B	$179 \pm 1 \text{mm}$
C	$58 \pm 1 \text{mm}$
D	$13.5 \pm 0.5 \text{mm}$

Packaging specifications 包装规格



## ◆ SMT Reflow Soldering Instructions SMT 回流焊说明



1. Reflow soldering should not be done more than two times  
回流焊不可以做两次以上
2. When soldering, do not put stress on the LEDs during heating  
当焊接时，材料受热，不可以用力按压胶体表面
3. After soldering, do not deal with the product before its temperature drop down to room temperature.  
焊接完成后待产品温度下降到室温后再进行其他操作。



## ◆ CAUTIONS 注意事项

The encapsulated material of the LEDs is silicone .Therefore the LEDs have a soft surface on the top of package. The pressure to the top surface will be influence to the reliability of the LEDs. Precautions should be taken to avoid the strong pressure on the encapsulated part. So when using the picking the picking up nozzle, the pressure on the silicone resin should be proper.

LED 封装为硅胶，故 LED 胶体表面较软，用力按压胶体表面会影响 LED 可靠性，因此应有预防措施避免在封装的零件上的强大压力，当使用吸嘴时，胶体表面的压力应是恰当的。

When the UV led is lighting, users must not look straight at the UV leds or the UV light will damage your eyes permanently; When it lighting a long time , human or other animals must keep away from it ,only if they put on the UV protective clothing(include your eyes) .

紫外LED使用或者点亮时人眼不可直视发光器件，这将会对人的眼睛造成无法恢复的伤害；当紫外LED长期点亮时，人或者其他动物不可长期停留在相同空间，除非人和其他动物均有有效的紫外防护措施