产品规格书

SPECIFICATION

产品型号 Model.　　NO：XY-0805-1-BC

文件编号 Document.　NO：

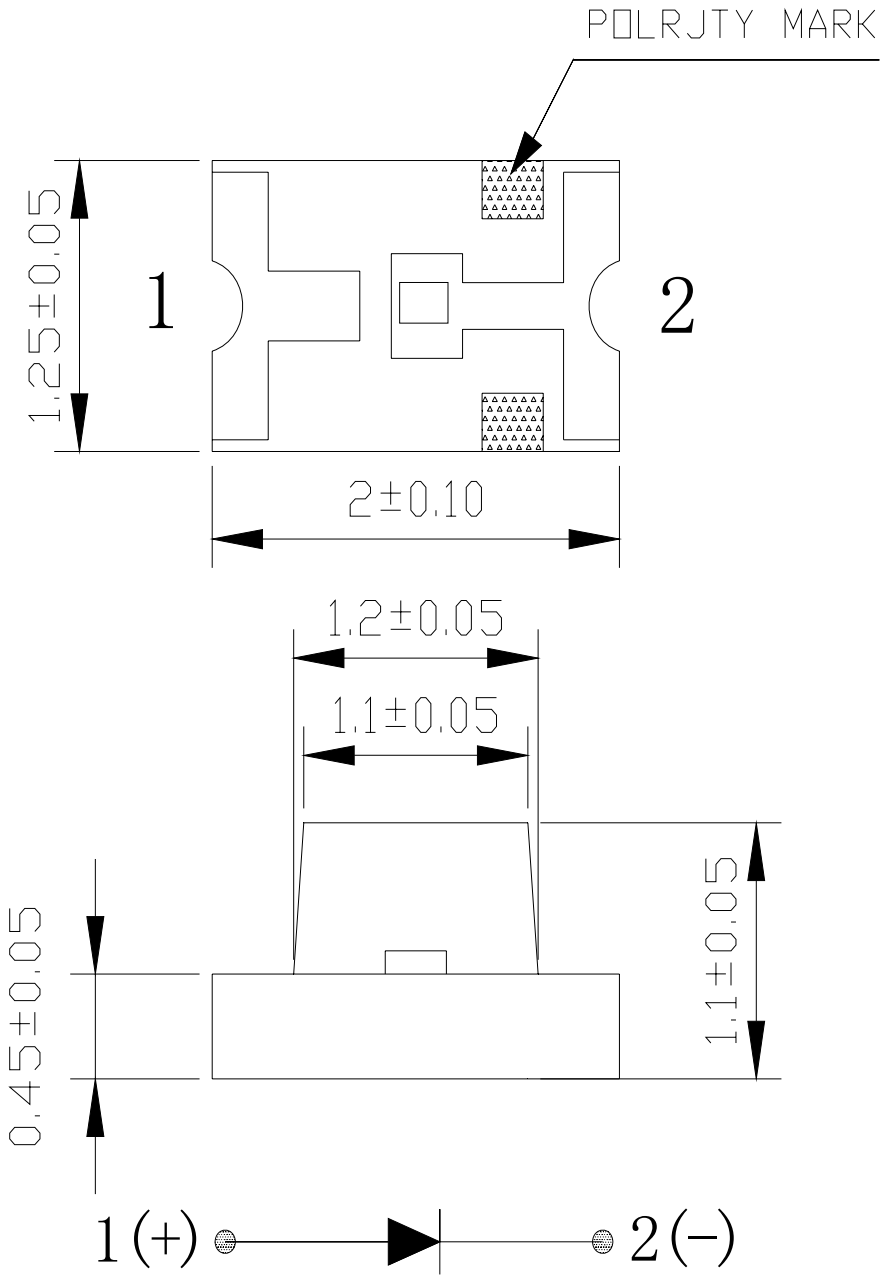
版　　次 REV　　NO：

描述 Description:

■ 2.0×1.25mm 贴片发光二极管 2.0×1.25mm Chip SMD
■ 胶体颜色 Colloid Color: 无色透明 Water Transparent
■ 发光颜色 Emission Color: 蓝色 Blue
■ 半功率角度 Viewing Angle :120°

1. 外形尺寸 **Dimensions**

单位(Units):毫米(mm)



注意:

所有尺寸单位为 mm ， 如无特殊说明误差范围为±0.05mm

All dimensions area in mm tolerance is ±0.05mm unless otherwise noted.

2. 光电特性 **Electrical / Optical characteristics**

(1) 最大限度额定值 Absolute Maximum Ratings (TA=25°C)

项目 Item	符号 Symbol	最大绝对额定值 Absolute Maximum Rating	单位 Unit
正向电流 Forward Current	IF	30	mA
正向峰值电流 Pulse Forward Current	IFP	150	mA
反向电压 Reverse Voltage	VR	9	V
功率消耗 Power Dissipation	PD	350	mW
工作温度 Operating Temperature	Topr	-40°C To +85°C	°C
贮藏温度 Storage Temperature	Tstg	-40°C To +85°C	°C
焊接温度 Soldering Temperature	Tsld	Reflow Soldering: 260°C Hand Soldering : 350°C	for 10sec. for 3sec.

1/10周期, 0.1 msec脉宽

IFP Conditions : 1/10 Duty Cycle, 0.1 msec Pulse Width.

(2) 本样品光电参数Initial Electrical/Optical Characteristics (TA=25°C)

符号 Symbol	项目 Item	单位 Units	最小值 Min.	规格值 Typ.	最大值 Max.	测试条件 Test Conditions
VF	正向电压 Forward Current	V	2.9		3.1	IF=20mA
IR	反向电流 Reverse Current	uA	-	-	10	VR=9V
Δλ1/2	发光角度 Viewing Angle	°	-	120°	-	IF=20mA
IV	发光强度 Luminous Intensity	Mcd	120	-	150	IF=2mA
λD	主波长 Dominate Wavelength	Nm	465		470	IF=20mA

正向电压允许误差± 0.05V Tolerance of measurement of Vf is ±0.05 V..

亮度允许误差±10% Luminous Intensity Measurement allowance is ± 10%.

波长允许误差±1nm Color Coordinates Measurement allowance is ± 1nm.

(3)发光强度范围 Luminous Intensity Ranking (TA=25°C)

项目 Item	符号 Symbol	测试条件 Test Conditions	最小值 Min.	最大值 Max.	单位 Units
发光强度 Luminous Intensity	Iv	IF=2mA	120	150	Mcd

亮度允许误差± 10%

Luminous Intensity Measurement allowance is ± 10%.

以上发光强度最小值和最大值参数仅供参考，但批量出货亮度分光跨度范围为 1：1.3 之内.

Above are the reference for minimum and maximum of luminous intensity which rank in the rate of 1:1.3 in the process of light splitting when manufacturing massively.

(4) 主波长范围 Color Coordinates Ranking (TA=25°C)

项目 Item	符号 Symbol	测试条件 Test Conditions	最小值 Min.	最大值 Max.	单位 Units
主波长 Dominate Wavelength	λD	IF=20mA	465	470	Nm

波长允许误差±0.5nm

Color Coordinates Measurement allowance is ± 0.5nm.

以上波长最小值和最大值参数仅供参考，但批量出货波长分光跨度范围为 R:5nm、G:2.5nm、B:2.5nm 之内

Above are the reference for minimum and maximum of wavelength, while it ranks as:R:5nm/G:2.5nm/B:2.5nm, when light splitting in mass manufacturing.

3.特性曲线 Characteristic curve

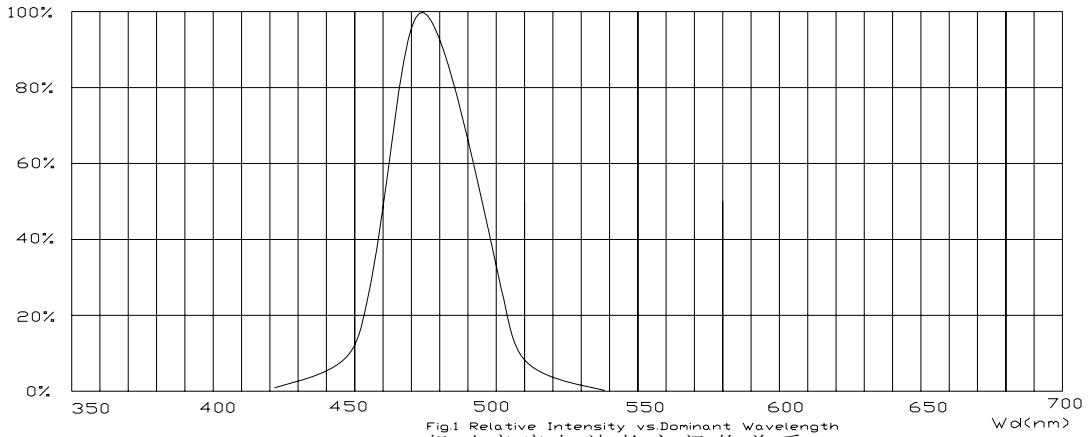
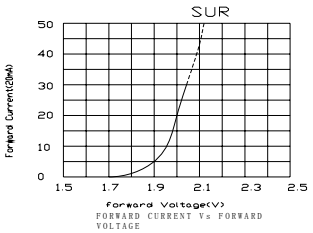


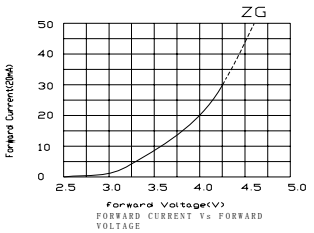
Fig.1 Relative Intensity vs.Dominant Wavelength

相 对 亮 度 与 波 长 之 间 的 关 系



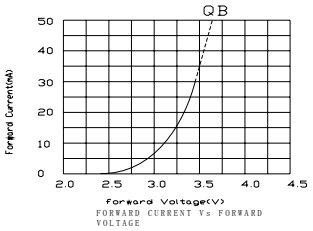
FORWARD CURRENT Vs FORWARD VOLTAGE

正 向 电 流 与 正 向 电 压 关 系 曲 线 图



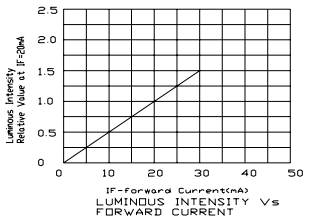
FORWARD CURRENT Vs FORWARD VOLTAGE

正 向 电 流 与 正 向 电 压 关 系 曲 线 图



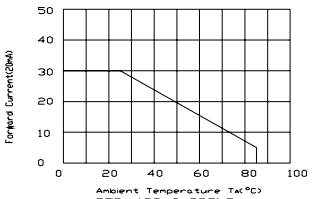
FORWARD CURRENT Vs FORWARD VOLTAGE

正 向 电 流 与 正 向 电 压 关 系 曲 线 图



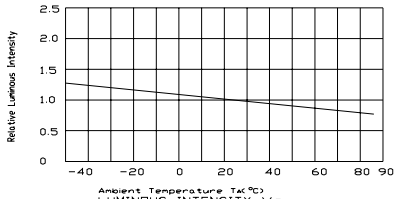
LUMINOUS INTENSITY Vs FORWARD CURRENT

亮 度 与 正 向 电 流 关 系 曲 线 图



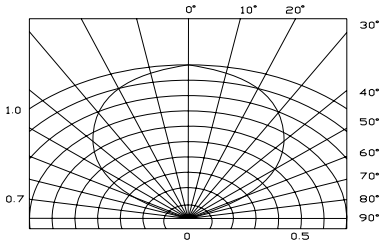
FORWARD CURRENT DERATING CURVE

正 向 电 流 递 减 曲 线 图



LUMINOUS INTENSITY Vs AMBIENT TEMPERATURE

亮 度 与 环 境 温 度 关 系 曲 线 图



SPATIAL DISTRIBUTION

发 光 角 度 图 解

4.可靠性 RELIABILITY

(1)测试项目及结果 Test Items and Results

Test Item	Standard Test Method	Test Conditions	Note	Number of Damaged
Resitance to Soldering Heat (Reflow Soldering)	JEITA ED-4701 300 301	Tsld=260℃, 10sec. (Pre treatment 30℃,70%,168hrs)	2 times	0/50
Solderability (Reflow Soldering)	JEITA ED-4701 300 303	Tsld=215±5℃, 3sec. (Leader Solder)	1time over 95%	0/50
Thermal Shock	JEITA ED-4701 300 307	-40℃~100℃ 5min. 5min.	100cycles	0/50
Temperature Cycle	JEITA ED-4701 100 105	-40℃~25℃~100℃~25℃ 30min. 5min. 30min. 5min.	100cycles	0/50
Moisture Resistance Cycle	JEITA ED-4701 200 203	25℃~65℃~-10℃ 90%RH 24hrs./1cycle	10 cycles	0/50
High Temperature Storage	JEITA ED-4701 200 201	Ta=100℃	1000 hrs	0/50
High Temperature High Humidity Storage	JEITA ED-4701 100 103	Ta=60℃, 90%RH	1000 hrs	0/50
Low Temperature Storage	JEITA ED-4701 200 202	Ta=-40℃	1000 hrs	0/50
Steady State Operating Life		Ta=25℃, I_F=60MA	1000 hrs	0/50
Steady State Operating Life of High Temperature		Ta=85℃, I_F=60MA	1000 hrs	0/50
Steady State Operating Life of High Humidity Heat		60℃, 90%RH, I_F=160MA	500 hrs	0/50
Steady State Operating Life of Low Temperature		Ta=-30℃, I_F=60MA	1000 hrs	0/50
Drop		H=75cm	3 cycles	0/50
Substrate Bending	JEITA ED-4702	3mm, 5 ± 1 sec.	1 time	0/50
Stick	JEITA ED-4702	5N, 10 ± 1 sec.	1 time	0/50

(2) 损伤判断标准 Criteria For Judging Damage

Item	Symbol	Test Conditions	Criteria for Judgement	
			Min.	Max.
Forward Voltage	V_F	I_F=3x20MA	-	U.S.L.*)X1.1
Reverse Current	I_R	VR=5V	-	U.S.L.*)X2.0
Luminous Intensity	I_V	I_F=3x20MA	L.S.L.**)X0.7	-

*) U.S.L.：Upper Standard Level **) L.S.L.：Lower Standard Level

5.注意事项 Cautions

(1) 焊接条件 Soldering Conditions

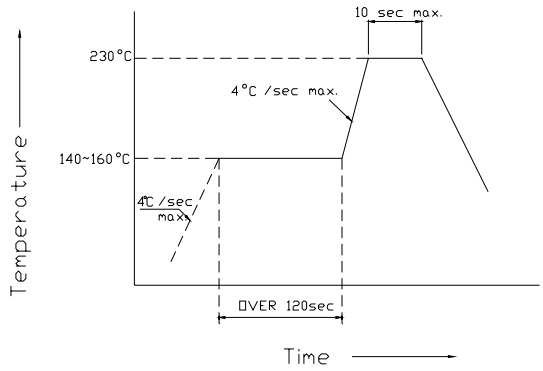
本产品最多只可回焊两次,且在首次回焊后须冷却至室温之后方可进行第二次回焊.

Number of reflow process shall be less than 2 times and cooling process to normal temperature is required between first and Second soldering process.

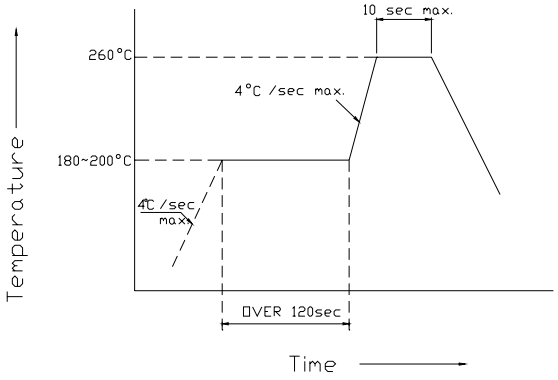
推荐焊接条件(Recommended soldering conditions)

回流焊接 Reflow Soldering			手工焊接 Hand Soldering	
	有铅Lead Solder	无铅 Lead-free Solder	温度Temperature	350°C Max.
预热温度Pre-heat	140 ~ 160°C	180 ~ 200°C	焊接时间Soldering time	3 sec. Max. (one time only)
预热时间Pre-heat time	120 sec. Max.	120 sec. Max.		
峰值温度Peak temperature	230°C Max.	260°C Max.		
焊接温度Soldering time	10 sec. Max.	10 sec. Max.		
条件Condition	参考下图	参考下图		

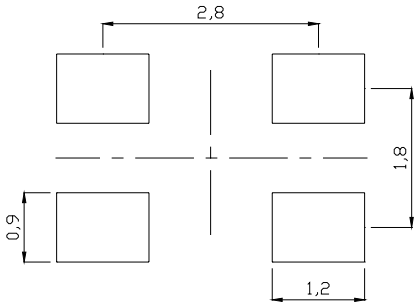
有铅回焊（Lead Solder）



无铅回焊 (Lead-Free Solder)



推荐焊盘式样(Recommended Soldering Pattern) 单位:毫米(Units:mm)



(2)静电 Static Electricity

触摸 LED 时,推荐使用防静电手腕带或防静电手套.

It is recommended that a wrist band or an anti-electrostatic glove be used when handling the LEDs.

所有装置、设备、机器均应接地.

All devices, equipment and machinery must be properly grounded.

静电损坏的 LED 会显示出异常特征:正向电压变低或在低电流时死灯.标准: I_F=0.5mA 时, V_F > 2.0V

Damaged LEDs will show some unusual characteristics such as the forward voltage becomes lower, or the LEDs do not light at the low current. Criteria : (V_F > 2.0V at I_F=0.5mA)

(3)防潮包装 Moisture Proof Package

使用防潮包装

It is recommended that moisture proof package be used .

(4)储藏 Storage

打开包装袋之前,LED 在温度为 30°C 或更低湿度 70%RH 以下,可保存一年.

Before opening the package ,The LEDs should be kept at 30°C or less and 70%RH or less. The LEDs should be used within a year.

（5）打开包装之后,应在 24hrs 内焊接完毕.

After opening the package, The LEDs should be soldered within 24 hours (1days) after opening the package. If unused LEDs remain, they should be stored in moisture proof packages, such as sealed containers with packages of moisture absorbent material (silica gel).

下列情况发生时，须要在焊接前重新烘烤 75 ± 5°C,12 小时以上。

A．当包装袋破损漏气

B．打开包装后在 24hrs 内未焊接完毕

C．LED 超过存储时间。.

If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions Baking treatment : more than 12 hours at 75 ± 5°C.