台銘光電股份有限公司

扫描二维码可登陆公司官网

SPECIFICATION FOR APPROVAL

規 格 書

CUSTOMER'S CODE（客戶/代碼)_____

DESCRIPTION:（品名） SMD 0402 红光

RART NO.:（本廠型號） TM-S0402RSYWH8-E3

DATE:（日期） 2019-07-01

REFERENCE NO.（檔案號） Greatbright2019S0402R

NUMBER OF SAMPLE:（送樣數量）_____

Approved By Customer 客戶承認	Qualified By 核准	Form Designer 製作
	司徒立勝	歐陽真

台灣台銘光電科技股份有限公司（東莞）分公司（Greatbright 台銘光電）

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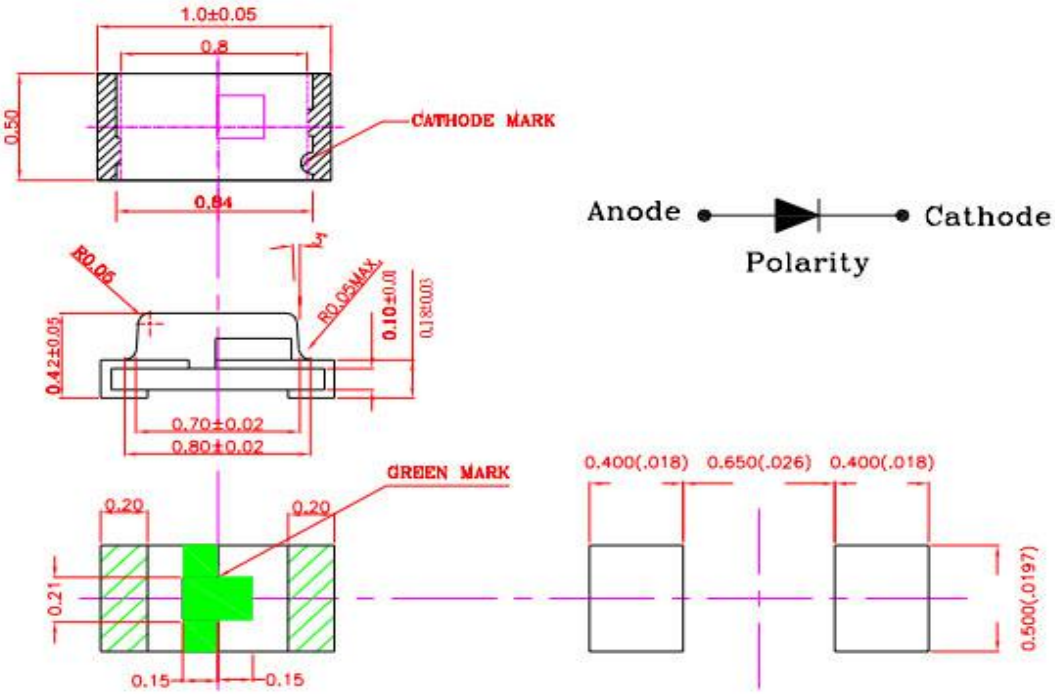
● 特征：

1. 发光颜色：红光；
2. 透镜外观：透明；
3. 单色；
4. 1.0×0.5×0.42mm(0402)标准封装；
5. 适合所有表面贴装方法；
6. 可用于红外或气相焊接复合工艺；
7. 可用于贴片机贴片；
8. 该产品不包含禁用物质，符合 ROHS 标准。

● 应用：

1. 汽车：仪表盘、刹车灯、转向灯；
2. 背光：LCD 屏、键盘、广告键盘；
3. 状态指示：消费或工业电子器件；
4. 其他使用场合。

● 封装尺寸：



注：

1. 所有尺寸均以毫米（英寸）为单位.
2. 除特别说明，尺寸误差为±0.01mm(0.004″).
3. 具体规格如有更改不作另行通知.

Absolute maximum ratings (TA=25℃)

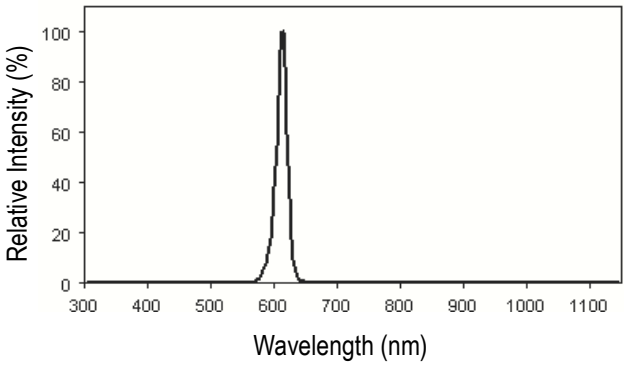
Parameter	Symbol	Value	Unit
Forward current If		20	mA
Reverse voltage	Vr	5	V
Power dissipation	Pd	111	mW
Operating temperature	Top	-40 ~+80	℃
Storage temperature	Tstg	-40 ~+85	℃
Peak pulsing current (1/8 duty f=1kHz)	Ifp	125	mA

Electro-optical characteristics (TA=25℃)

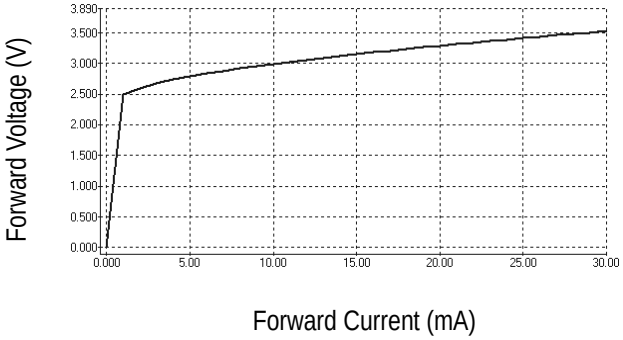
Parameter	Test Condition	Symbol	Value			Unit
			Min	Typ	Max	
Wavelength at peak emission	If=20mA	λp	--	625	–	nm
Spectral half bandwidth	If=20mA	△λ	--	18	--	nm
Dominant wavelength	If=20mA	λd	620	--	630	nm
Forward voltage	If=20mA	Vf	1.8	--	2.4	V
Luminous intensity	If=20mA	v	50	100	---	mcd
Viewing angle at 50% Iv	If=10mA	2θ1/2	--	120	--	Deg
Reverse current	Vr=5V	Ir	--	--	10	μA

Optical characteristic curves

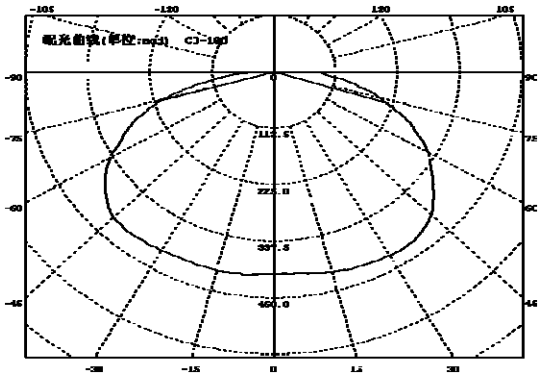
Relative Intensity vs. Wavelength



Forward Current vs. Forward Voltage

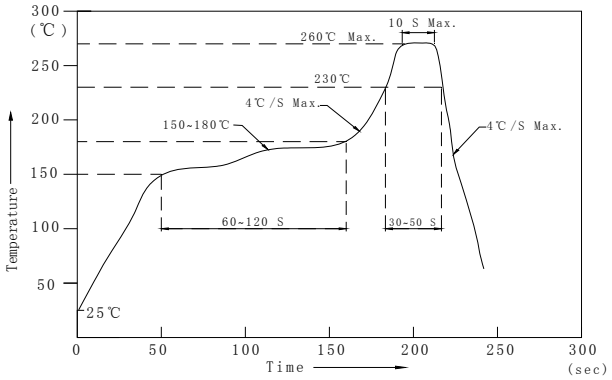


Directive Characteristics



Reflow Profile

■ Reflow Temp/Time



Notes:

1.We recommend the reflow temperature 245℃(±5℃).the maximum soldering temperature should be limited to 260℃.

2.Don't cause stress to the epoxy resin while it is exposed to high temperature.

3.Number of reflow process shall be 2 times or less.

■Soldering iron

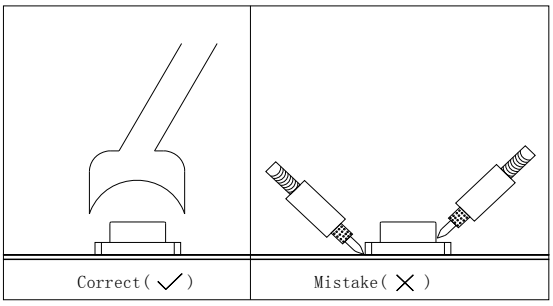
Basic spec is ≤ 5sec when 260℃. If temperature is higher, time should be shorter (+10℃→ -1sec).Power dissipation of iron should be smaller than 20W, and temperatures should be controllable .Surface temperature of the device should be under 230℃ .

■Rework

1.Customer must finish rework within 5 sec under 260℃.

2.The head of iron can not touch copper foil

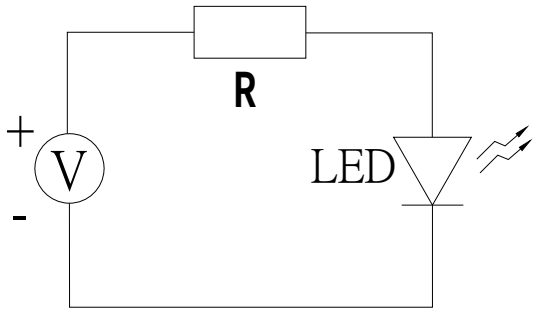
3.Twin-head type is preferred.



■ Avoid rubbing or scraping the resin by any object, during high temperature, for example reflow solder etc.

Test circuit and handling precautions

■ Test circuit



■ Handling precautions

1. Over-current-proof

Customer must apply resistors for protection; otherwise slight voltage shift will cause big current change (Burn out will happen).

2. Storage

2.1 It is recommended to store the products in the following conditions:

Humidity: 60% R.H. Max.

Temperature : 5℃~30℃(41℉~86℉)

2.2 Shelf life in sealed bag: 12 month at ＜5℃~30℃ and ＜30% R.H. after the package is Opened, the products should be used within a week or they should be keeping to stored at≦20 R.H. with zip-lock sealed.

3. Baking

It is recommended to baking before soldering when the pack is unsealed after 72hrs. The Conditions are as followings:

3.1 60±3℃ x(12~24hrs) and ＜5%RH, taped reel type

3.2 100±3℃ x(45min~1hr), bulk type

3.3 130±3℃ x(15~30min), bulk type

Test items and results of reliability

Type	Test Item	Test Conditions	Note	Number of Damaged
Environmental Sequence	Temperature Cycle	-20℃ 30min ↑ ↓ 80℃ 30min	100 cycle	0/22
	Thermal Shock	-20℃ 15min ↑ ↓ 80℃ 15min	100 cycle	0/22
	High Humidity Heat Cycle	30℃⇔ 65℃ 90%RH 24hrs/1cycle	10 cycle	0/22
	High Temperature Storage	Ta=80℃	1000 hrs	0/22
	Humidity Heat Storage	Ta=60℃ RH=90%	1000 hrs	0/22
	Low Temperature Storage	Ta=-30℃	1000 hrs	0/22
Operation Sequence	Life Test	Ta=25℃ IF=20mA	1000 hrs	0/22
	High Humidity Heat Life Test	60℃ RH=90% IF=10mA	500 hrs	0/22
	Low Temperature Life Test	Ta=-20℃ IF=20mA	1000 hrs	0/22