



TAIWAN TONGJIA OPTOELECTRONICS TECHNOLOGY CO., LTD

承認書

Specification For Approval

Customer: (客戶)

Description: (產品描述)

SMD0805灯珠红普绿双色

Part number: (產品型號)

TJ-S2012SW8TCGLC2R7K-A5

Date: (日期)

Approved By: (客戶承認)

Prepared By: (我司承認)

Approval	Check	Design	Sales

核准

審核

製作

業務

Customer Service Hotline: **400-676-8616**

TEL: 0769-8662 5999 0769-8200 2226

E-MAIL : dg@togialed.com

FAX: 0769-8200 2227

WEB: www.togialed.com

Features

2.0mm x 1.25mm SMT LED, 0.8mm thickness

Low power consumption

Wide view angle

Package: 3000PCS/Reel

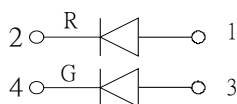
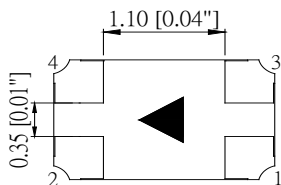
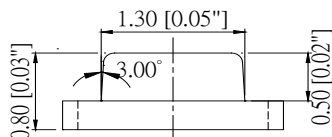
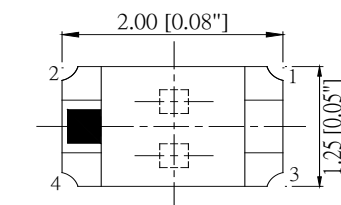
RoHS Compliant

Applications

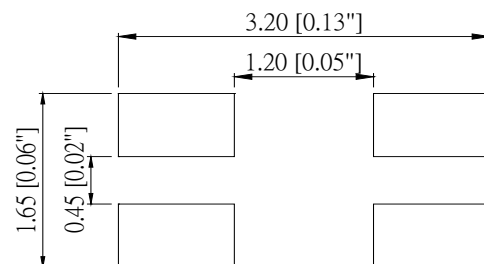
Ideal for back light and indicator

Various colors and lens types available

Package outlines



Recommend Pad Layout



Part No.	Emitted color	Dice	Lens color
TJ-S2012SW8TCGLC2R7K-A5	Red	AlGaInP	Water transparent
	Green	InGaN	

Notes:

1. All dimensions are in millimeters (inches);
2. Tolerances are $\pm 0.1\text{mm}$ (0.004inch) unless otherwise noted.

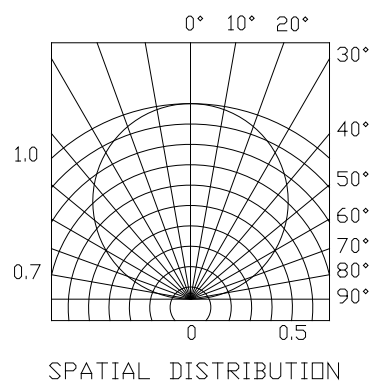
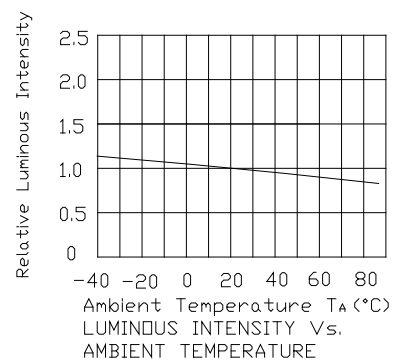
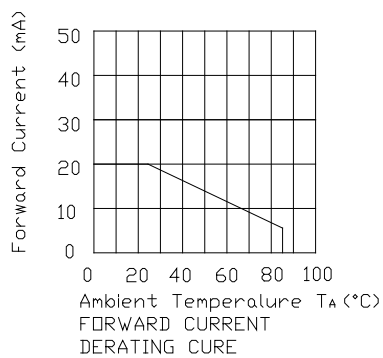
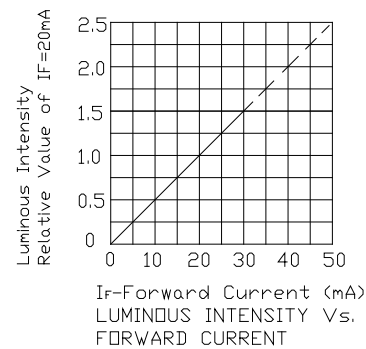
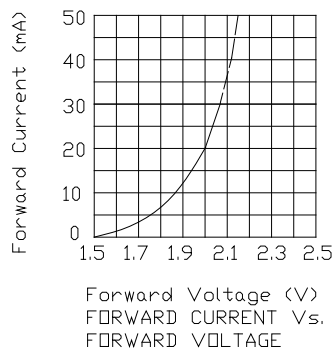
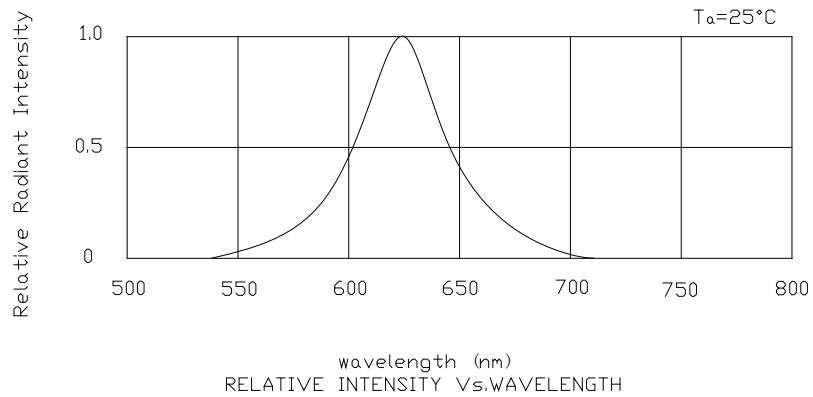
Absolute maximum ratings (TA=25℃)

Parameter	Symbol	Value		Unit
		R	G	
Power dissipation	Pd	72	72	mW
Forward current	If	30		mA
Reverse voltage	Vr	5		V
Operating temperature	Top	-40 ~+80		℃
Storage temperature	Tstg	-40 ~+85		℃
Peak pulsing current (1/8 duty f=1kHz)	Ifp	125		mA

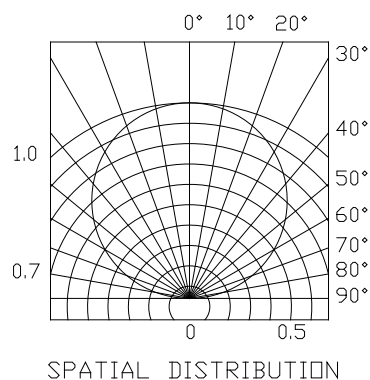
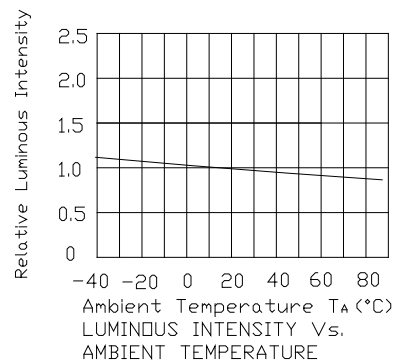
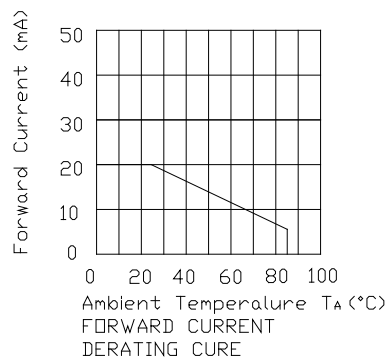
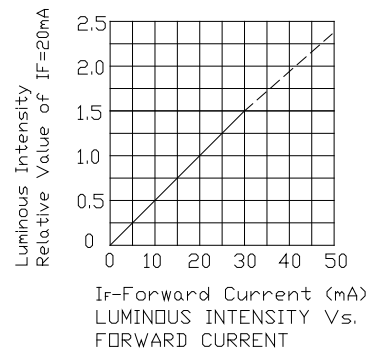
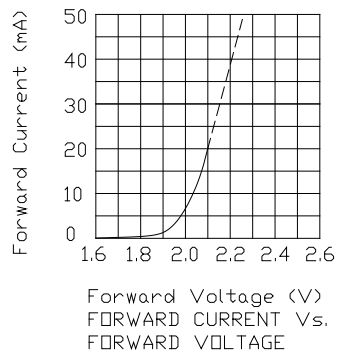
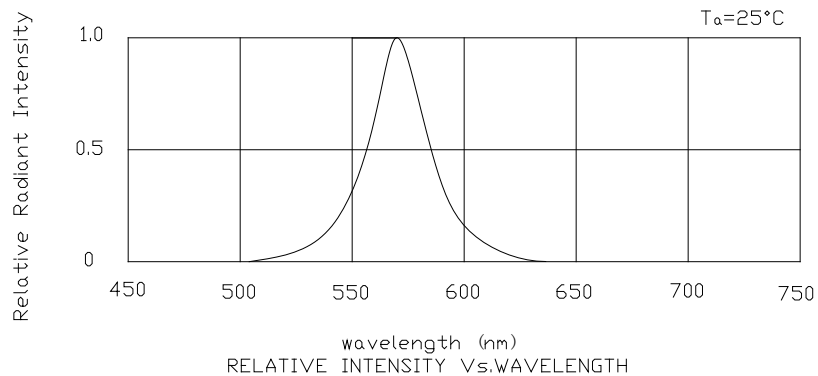
Electro-optical characteristics (TA=25℃)

Parameter	Test Condition	Symbol	Value			Unit
			Min	Typ	Max	
Wavelength at peak emission	If=20mA	λ_p R G	-- --	631 570	-- --	nm
Spectral half bandwidth	If=20mA	$\Delta \lambda$ R G	-- --	18 16	-- --	nm
Dominant wavelength	If=20mA	λ_d R G	620 565	-- --	630 575	nm
Forward voltage	If=20mA	Vf R G	1.8 1.8	-- --	2.4 2.4	V
Luminous intensity	If=20mA	Iv R G	63 25	-- --	200 80	mcd
Viewing angle at 50% Iv	If=10mA	2 θ 1/2	--	120	--	Deg
Reverse current	Vr=5V	Ir	--	--	10	μA

Optical characteristic curves (Red)

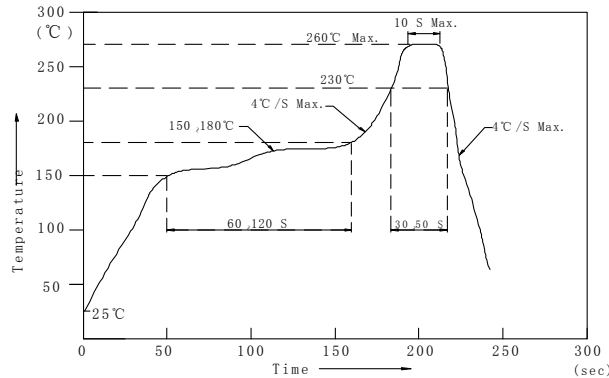


Optical characteristic curves (Green)



Reflow Profile

■ Reflow Temp/Time



Notes:

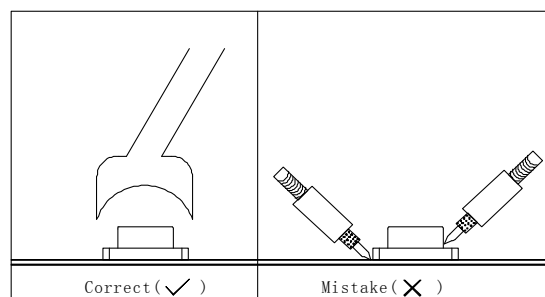
1. We recommend the reflow temperature $245^{\circ}\text{C}(\pm 5^{\circ}\text{C})$. the maximum soldering temperature should be limited to 260°C .
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

■ Soldering iron

Basic spec is $\leq 5\text{sec}$ when 260°C . If temperature is higher, time should be shorter ($+10^{\circ}\text{C} \rightarrow -1\text{sec}$). Power dissipation of iron should be smaller than 20W, and temperatures should be controllable. Surface temperature of the device should be under 230°C .

■ Rework

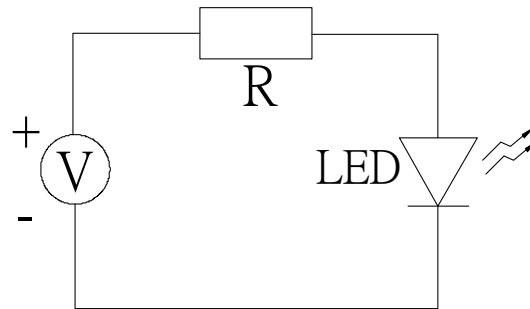
1. Customer must finish rework within 5 sec under 260°C .
2. The head of iron can not touch copper foil
3. Twin-head type is preferred.



- 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 : $5^{\circ}\text{C}\sim 30^{\circ}\text{C}$ ($41^{\circ}\text{F}\sim 86^{\circ}\text{F}$)

2.2 Shelf life in sealed bag: 12 month at $<5^{\circ}\text{C}\sim 30^{\circ}\text{C}$ 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 $60\pm 3^{\circ}\text{C}$ x(12~24hrs) and $<5\%$ RH, taped reel type

3.2 $100\pm 3^{\circ}\text{C}$ x(45min~1hr), bulk type

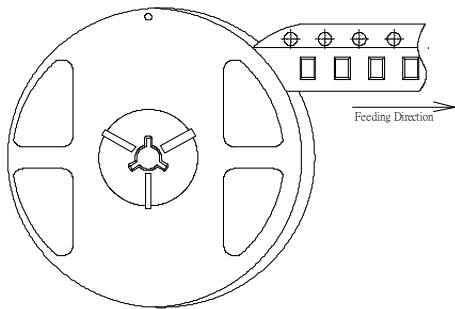
3.3 $130\pm 3^{\circ}\text{C}$ x(15~30min), bulk type

Test items and results of reliability

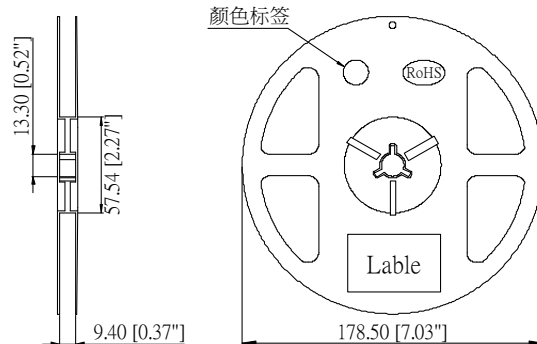
Type	Test Item	Test Conditions	Note	Number of Damaged
Environmental Sequence	Temperature Cycle	-40℃ 30min ↑ ↓ 80℃ 30min	100 cycle	0/22
	Thermal Shock	-40℃ 15min ↑ ↓ 80℃ 15min	100 cycle	0/22
	High Humidity Heat Cycle	30℃ ⇔ 65℃ 90%RH 24hrs/1cycle	10 cycle	0/22
	High Temperature Storage	Ta=80℃	1000 hrs	0/22
	Humidity Heat Storage	Ta=60℃ RH=90%	1000 hrs	0/22
	Low Temperature Storage	Ta=-40℃	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=-40℃ IF=20mA	1000 hrs	0/22

2012 Series SMD Chip LED Lamps Packaging Specifications

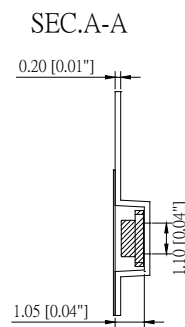
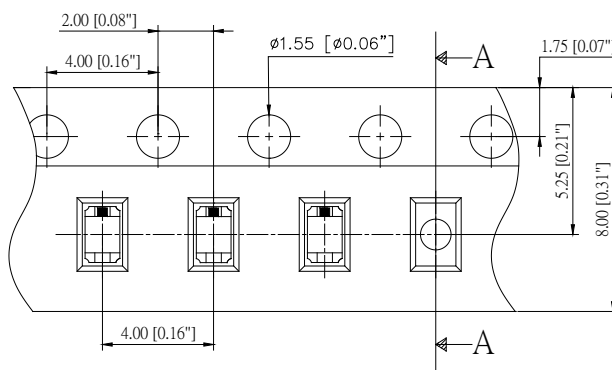
● Feeding Direction



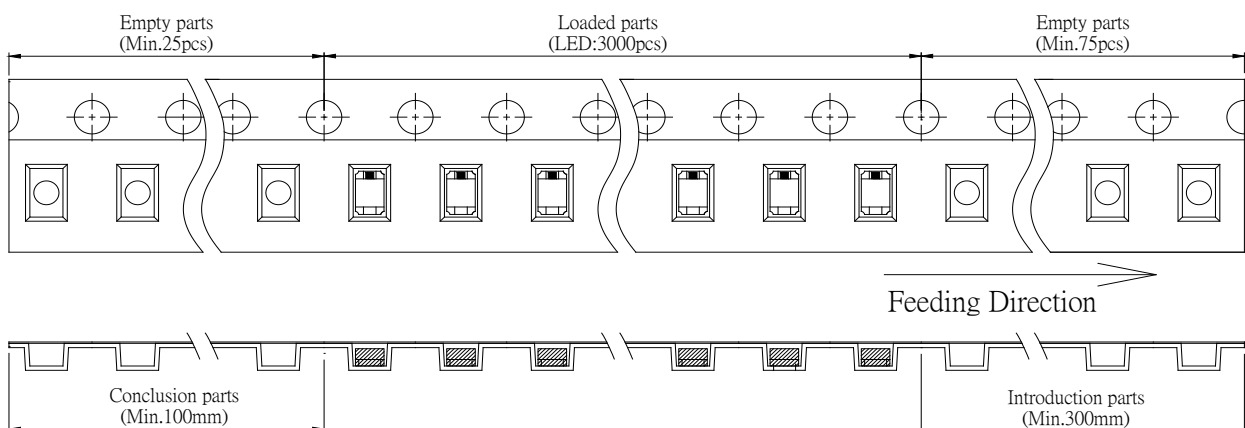
● Dimensions of Reel (Unit: mm)



● Dimensions of Tape (Unit: mm)



● Arrangement of Tape



Notes:

1. Empty component pockets are sealed with top cover tape;
2. The maximum number of missing lamps is two;
3. The cathode is oriented towards the tape sprocket hole in accordance with ANSI/EIA RS-481 specifications.

