



TAIWAN TONGJIA OPTOELECTRONICS TECHNOLOGY CO., LTD

承認書

Specification For Approval

Customer: (客戶)

Description: (產品描述) SMD3528灯珠红普绿双色

Part number: (產品型號) TJ-S3528UG1W9TLC2R7K-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**

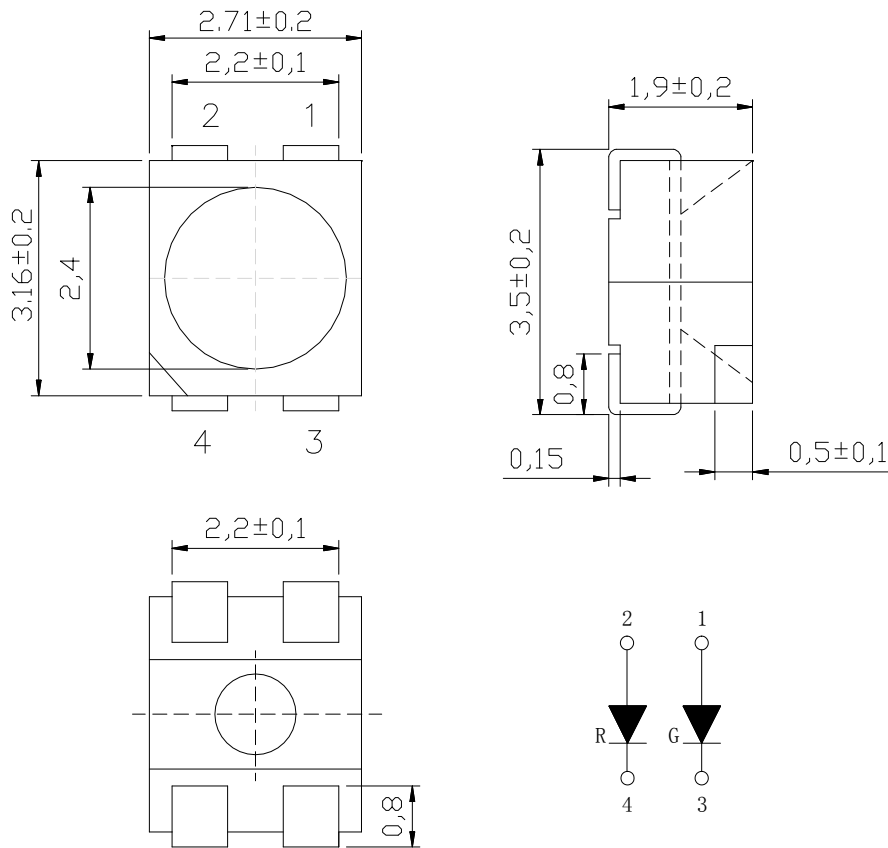
TEL: 0769-8662 5999 0769-8200 2226

E-MIAL : dg@togialed.com

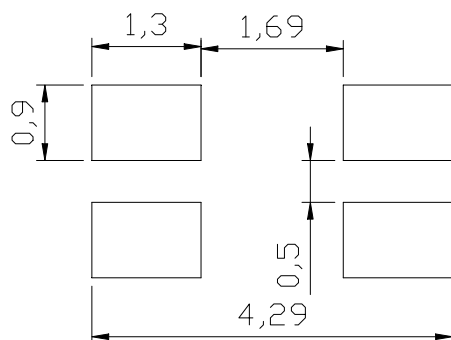
FAX: 0769-8200 2227

WEB: www.togialed.com

■ Outline Dimension:



■ PAD Lay Out PCB



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
SENSITIVE DEVICES

Notes:

1. All dimensions are in millimeters.
2. Tolerance is ± 0.2 unless otherwise noted.
3. Specifications are subject to change without notice.

■ Absolute Maximum Ratings (Ta = 25°C)

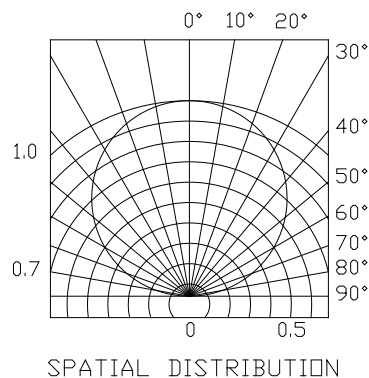
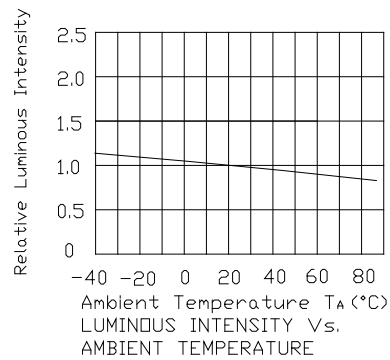
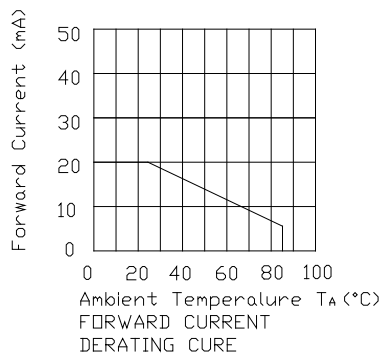
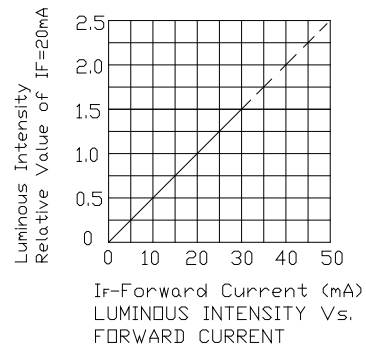
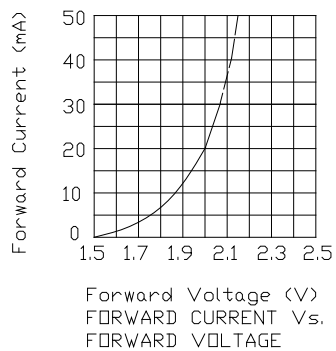
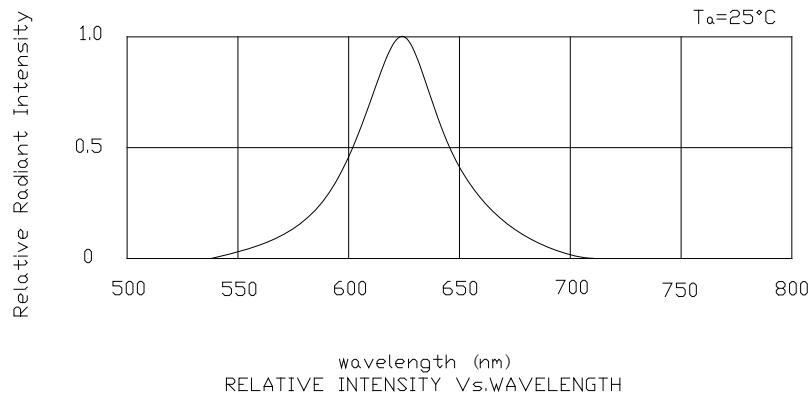
Items	Symbol	Absolute maximum Rating	Unit
Power Dissipation	P _D	84	mW
Forward Current(DC)	I _F	20	mA
Peak Forward Current	I _{FP}	60	mA
Reverse Voltage	V _R	5	V
Operation Temperature	T _{opr}	- 25 ~ + 80	°C
Storage Temperature	T _{stg}	- 30 ~ + 85	°C
Lead Soldering Temperature	T _{sol}	Max.260°C for 5 sec Max. (3min from the base of the epoxy bulb)	

Pulse width ≤ 0.1msec duty ≤ 1/10

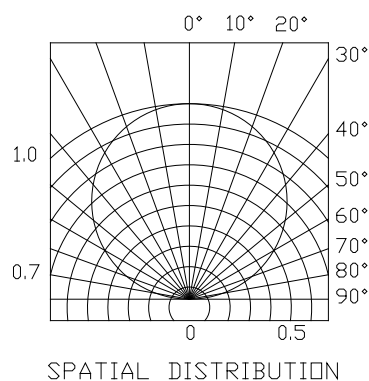
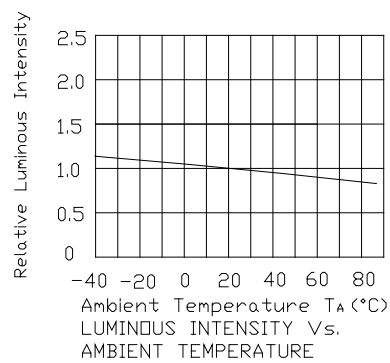
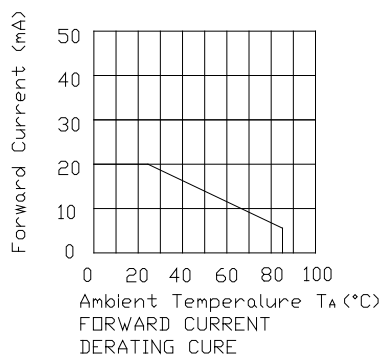
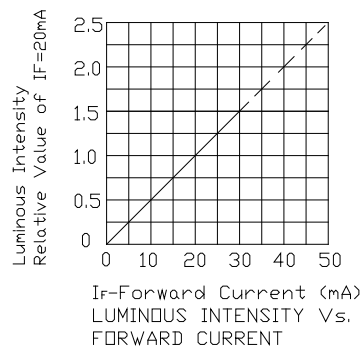
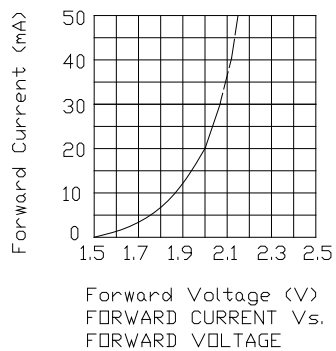
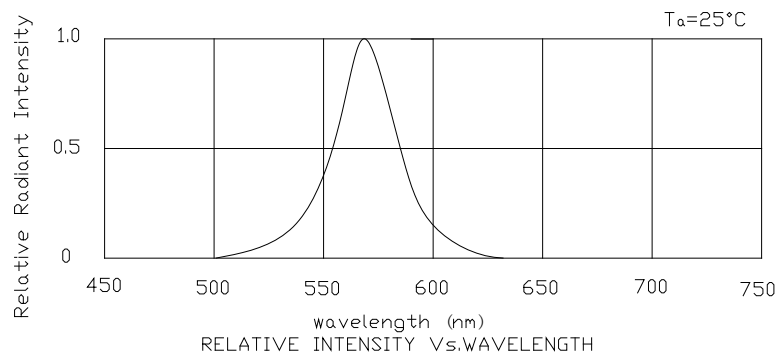
■ Typical Electrical & Optical Characteristics(Ta=25°)

Items	Symbol	Condition	Min	Typ	Max	Unit
Forward Voltage	V _F (I _F =20mA)	G	1.8	2.0	2.4	V
		R	1.8	2.0	2.4	V
Reverse Current	I _R	V _R =5V	---	---	2	μ A
Dominant Wavelength	λ _d (I _F =20mA)	R	620	---	630	nm
		G	565	---	575	nm
Luminous Intensity	I _v (I _F =20mA)	R	300	500	---	mcd
		G	50	100	---	mcd
View Angle	2 θ 1/2	I _F =20mA	---	120	---	Deg

Typical Electrical/Optical Characteristics Curves (R):



Typical Electrical/Optical Characteristics Curves (G):



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

● Soldering :

1. Manual Soldering

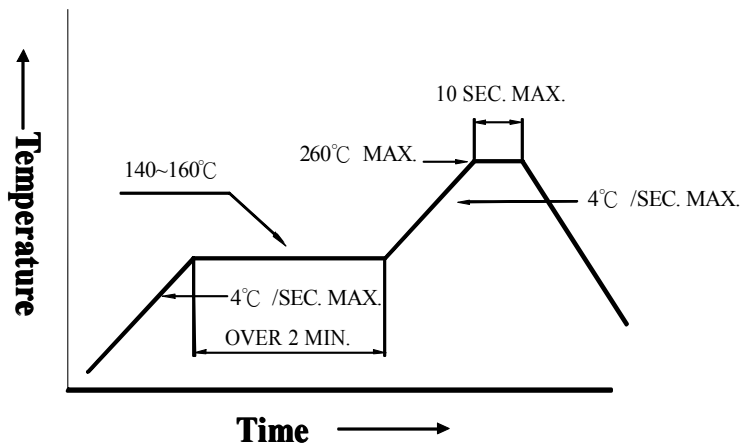
The temperature of the iron tip should not be higher than 350°C and Soldering time to be within 3 seconds per solder-pad.

2. Reflow Soldering

Preheating : 140°C~160°C±5°C, within 2 minutes.

Operation heating : 260°C (Max.) within 10 seconds. (Max)

Gradual Cooling (Avoid quenching).

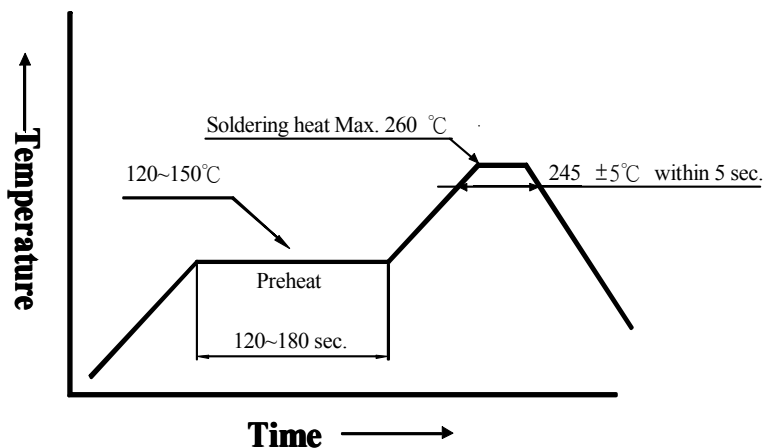


3. DIP soldering (Wave Soldering) :

Preheating : 120°C~150°C, within 120~180 sec.

Operation heating : 245°C±5°C within 5 sec. 260°C (Max)

Gradual Cooling (Avoid quenching).



● Handling :

Care must be taken not to damage LED's epoxy resin while exposing to high temperature or contact LED's epoxy resin with hard or sharp objects, such as metal hook, tweezer or sand blasting.

● Notes for designing:

Current limiting resistor must be used in the circuit to drive TOGIA LEDs within the rated figures and not to overload TOGIA LEDs with instantaneous voltage at the turning ON and OFF cycles.

When using pulse driving, the average current must be within the rated figures. And the circuit should be designed to avoid reverse voltage when turning off the TOGIA LEDs.

● Storage:

In order to avoid the absorption of moisture, it is recommended to solder TOGIA LEDs as soon as possible after unpacking the sealed envelope.

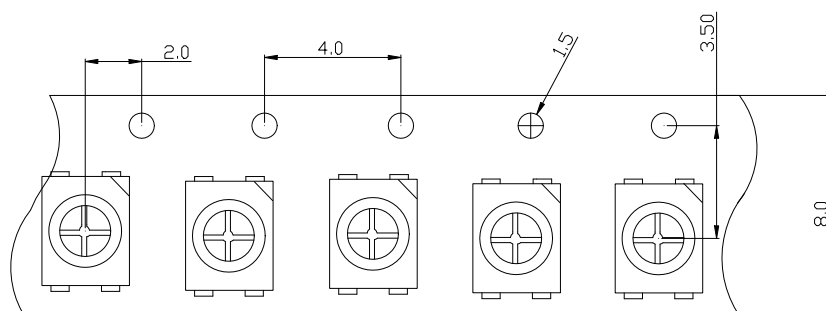
If the envelope is still packed, to store it in the environment as following:

- (1) Temperature : 5°C-30°C(41°F) Humidity : RH 60% Max.
- (2) After this bag is opened, devices that will be applied to infrared reflow, vapor-phase reflow, or equivalent soldering process must be:
 - a. Completed within 168 hours.
 - b. Stored at less than 30% RH.
- (3) Devices require baking before mounting, if:
 - (2) a or (2) b is not met.
- (4) If baking is required, devices must be baked under below conditions:
48 hours at 60°C±3°C.

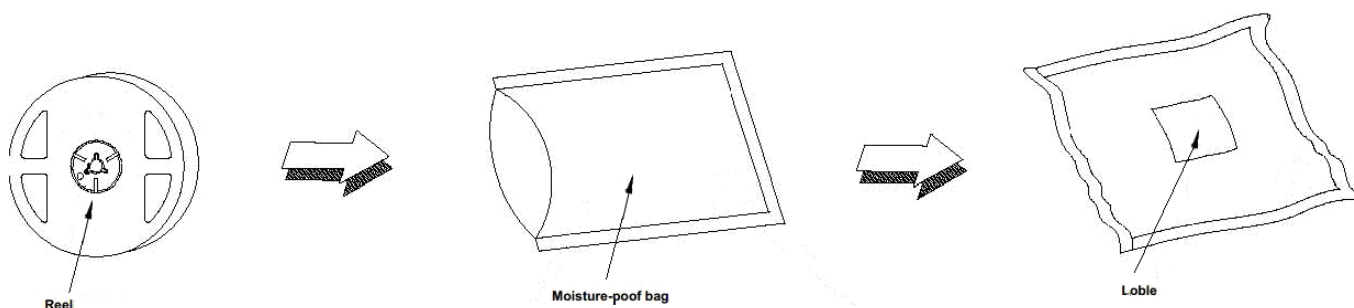
● Package and Label of Products:

Package: Products are packed in one bag of 1000 pcs (one taping reel) and a label is attached to each bag.

● **Tapping and packaging specifications(Units: mm)**



Label Aluminum moisture-proof bag Desiccant Label



● **Package Method unit: mm)**

