



承認書

Specification For Approval

Customer: (客戶) _____

Description: (產品描述) SMD3528燈珠共陽RGB _____

Part number: (產品型號) TJ-S3528UG2W9TLCCYRGB-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**

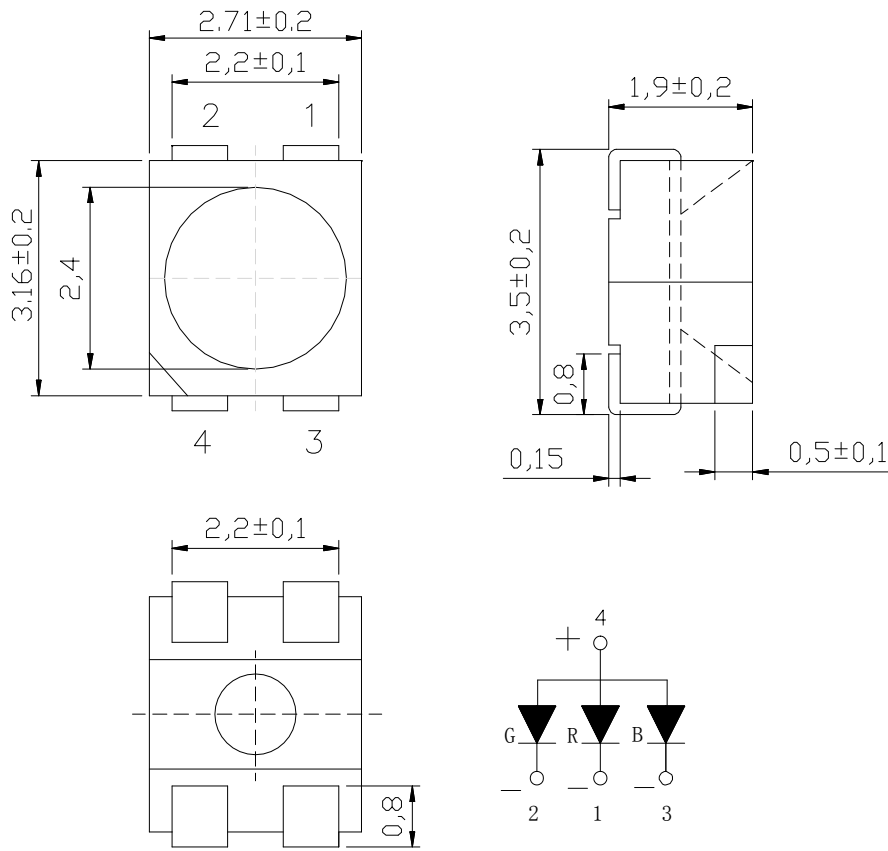
TEL: 0769-8662 5999 0769-8200 2226

E-MAIL : dg@togialed.com

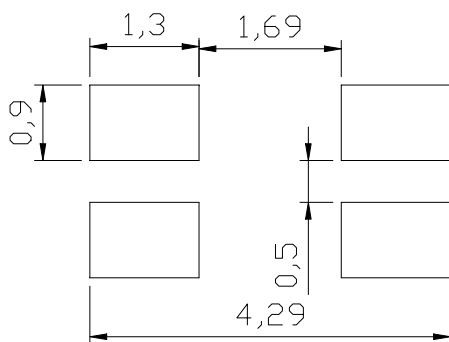
FAX: 0769-8200 2227

WEB: www.togialed.com

■ 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)

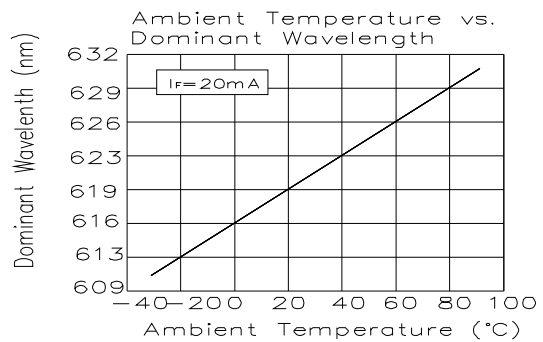
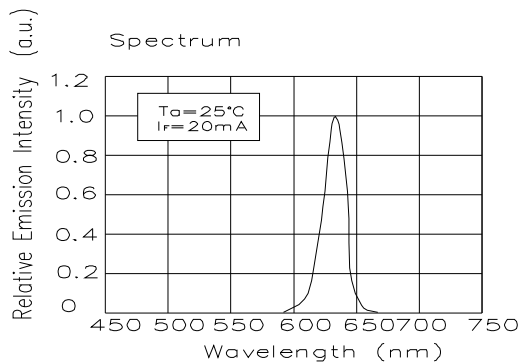
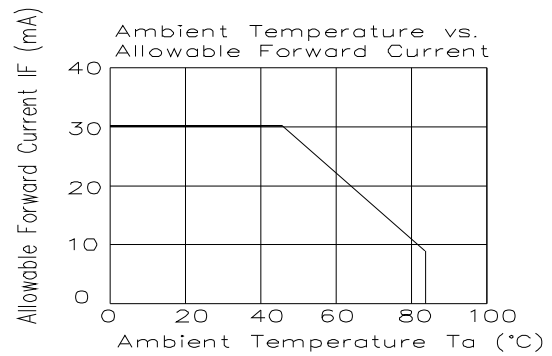
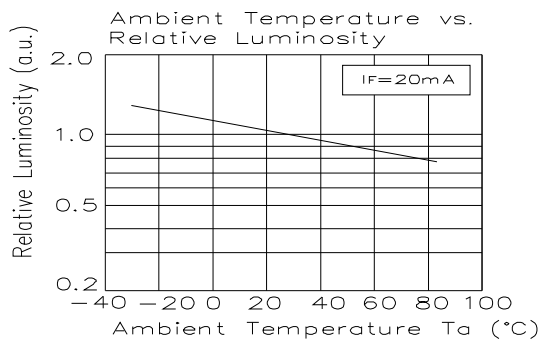
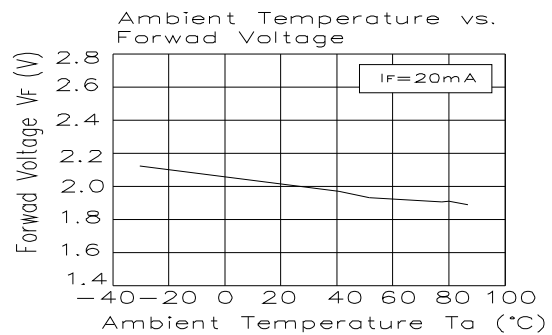
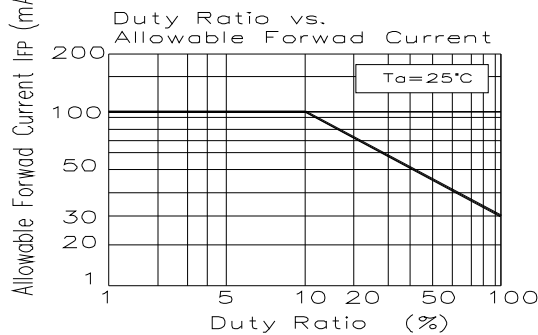
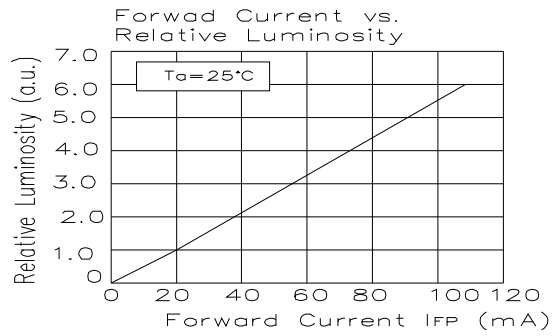
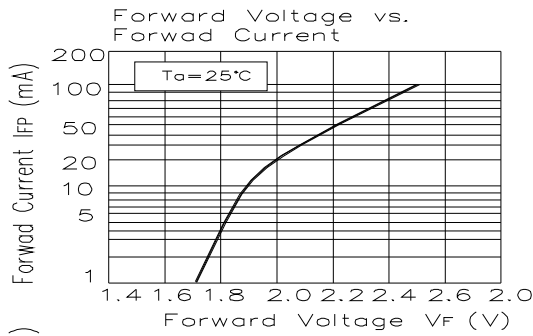
| Items | Symbol | Absolute maximum Rating | Unit |
|----------------------------|------------------|--|------|
| Power Dissipation | P _D | 200 | mW |
| Forward Current(DC) | I _F | 30 | mA |
| Peak Forward Current | I _{FP} | 100 | mA |
| Reverse Voltage | V _R | 5 | V |
| Operation Temperature | T _{opr} | - 40~ + 85 | °C |
| Storage Temperature | T _{stg} | - 40~ + 80 | °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

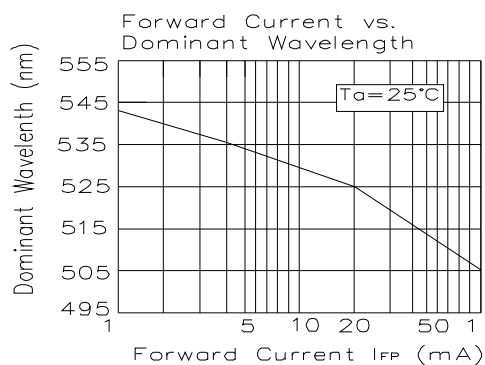
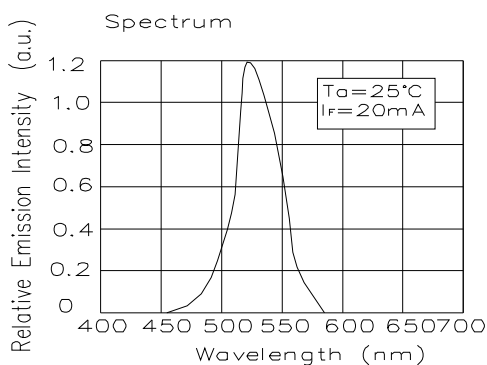
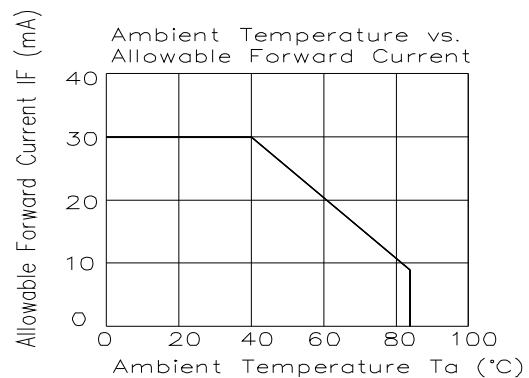
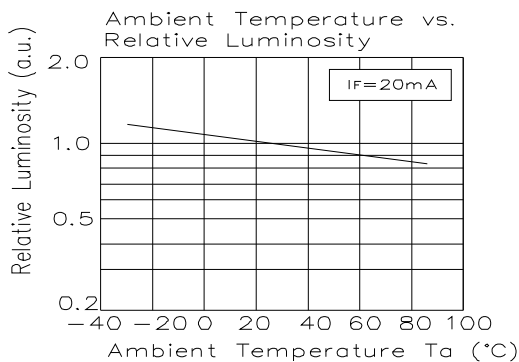
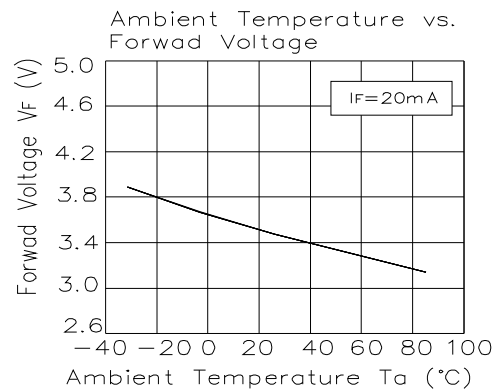
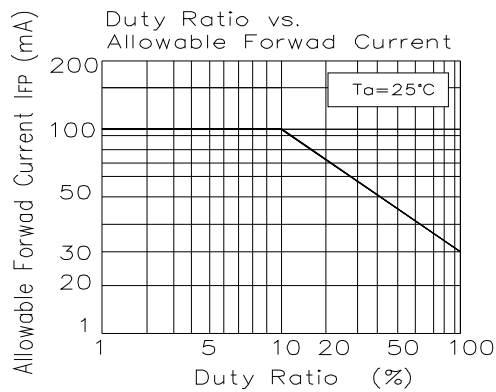
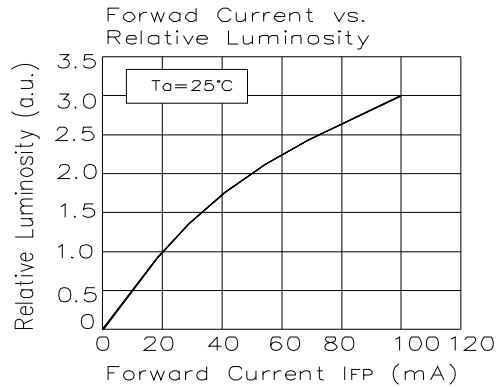
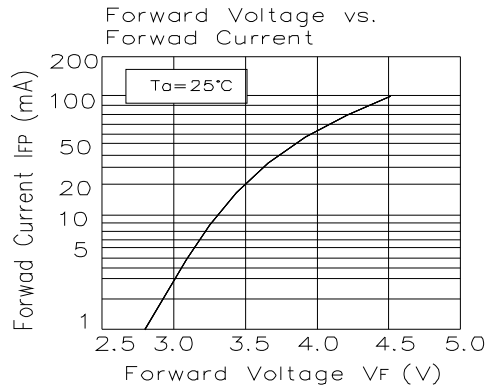
■ Typical Electrical & Optical Characteristics(Ta=25°)

| Items | Symbol | Condition | Min | Typ | Max | Unit |
|---------------------|--|----------------------|------|-----|------|------|
| Forward Voltage | V _F (I _F =20mA) | GB | 2.8 | 3.0 | 3.4 | 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 | 520 | --- | 530 | nm |
| | | B | 460 | --- | 470 | nm |
| Luminous Intensity | I _v (I _F =20mA) | R | 300 | --- | 600 | mcd |
| | | G | 1200 | --- | 2000 | mcd |
| | | B | 300 | --- | 600 | mcd |
| View Angle | 2 θ 1/2 | I _F =20mA | --- | 120 | --- | Deg |

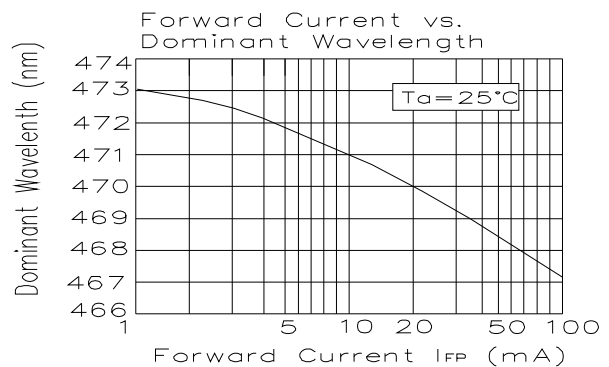
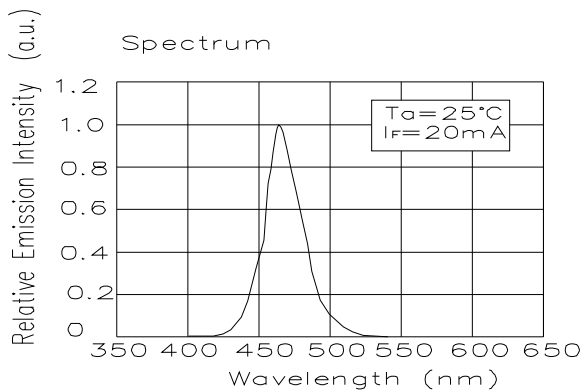
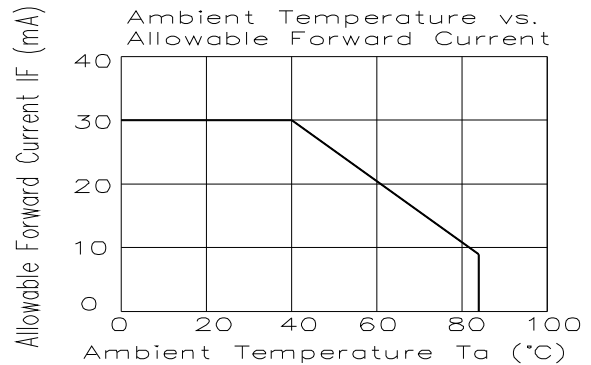
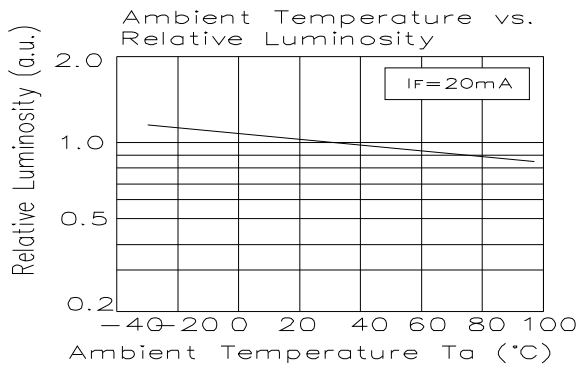
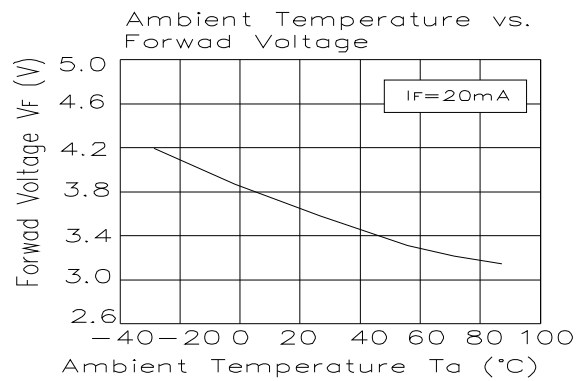
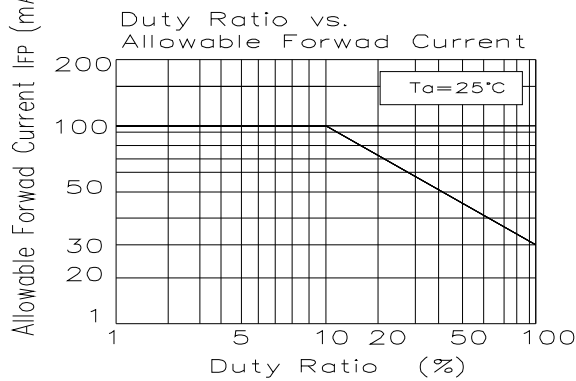
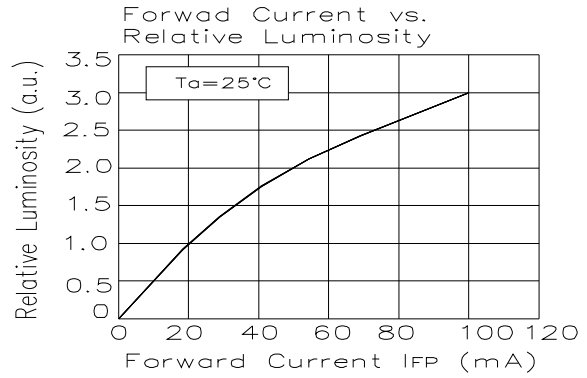
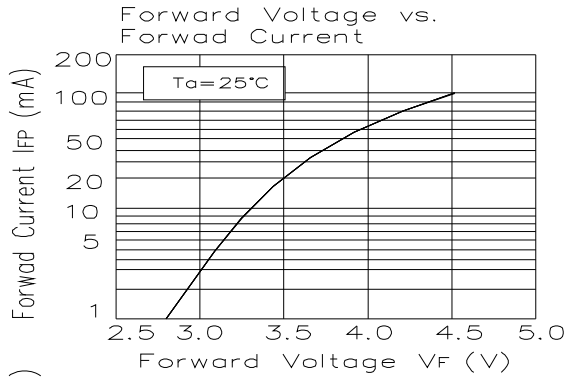
Typical Electrical/Optical Characteristics Curves (R):



Typical Electrical/Optical Characteristics Curves (G):



■ Typical Electrical/Optical Characteristics Curves (B):



| Classification | Test Item | Standard Test Method | Test Conditions | Duration | Units Tested | Number of Damaged |
|------------------|------------------------------|---|---|-----------|--------------|-------------------|
| Life Test | Operating Life Test | JIS7021:B4 MIL-STD-202:107D MIL-STD-750:1026 | T _A =25°C ± 5°C, I _F =30mA | 1000h | 22 | 0/22 |
| Environment Test | High Temperature Storage | JIS7021:B10 MIL-STD-202:210A MIL-STD-750:2031 | T _A =100°C ± 5°C | 1000h | 22 | 0/22 |
| | Low Temperature Storage | JIS7021:B12 | T _A = - 55°C ± 5°C | 1000h | 22 | 0/22 |
| | Temp & Humidity Test | JIS7021:B11 MIL-STD-202:103D | T _A =85°C ± 5°C RH=85% ± 5%RH | 1000h | 22 | 0/22 |
| | Thermal Shock Test | JIS7021:B4 MIL-STD-202:107D MIL-STD-750:1026 | - 10°C ± 5°C ← → 100°C ± 5°C 5min - 5min | 50 Cycles | 22 | 0/22 |
| | Temperature Cycling Test | JIS7021:A3 MIL-STD-202:107D MIL-STD-750:1051 | - 55°C ~ 25°C ~ 85°C ~ 25°C 3min - 5min - 30min - 5min | 50 Cycles | 22 | 0/22 |
| Mechanical Test | Resistance to Soldering Heat | JIS7021:A1 MIL-STD-202:210A MIL-STD-750:2031 | 260 ± 5°C, 10 ± 1sec | 1 time | 22 | 0/22 |
| | Lead Integrity | MIL-STD-750D Method 2036.3 | Load 2.5N 0° ~ 90° ~ 0° | 3time | 22 | 0/22 |

● **Soldering :**

1. Manual Soldering

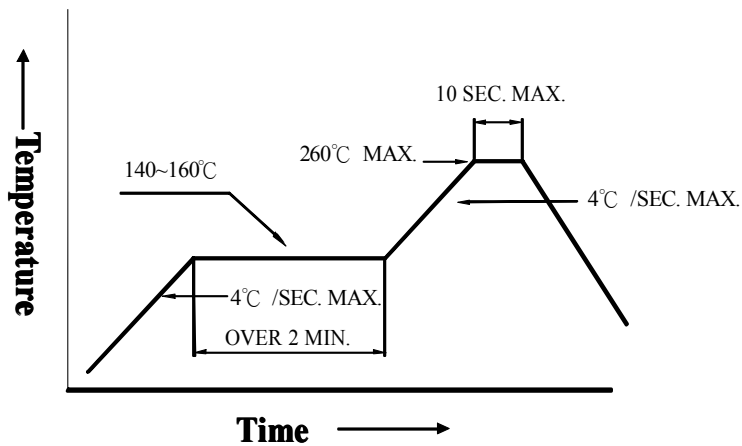
The temperature of the iron tip should not be higher than 350°C and Soldering time to be within 3 seconds per solder-pad.

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).

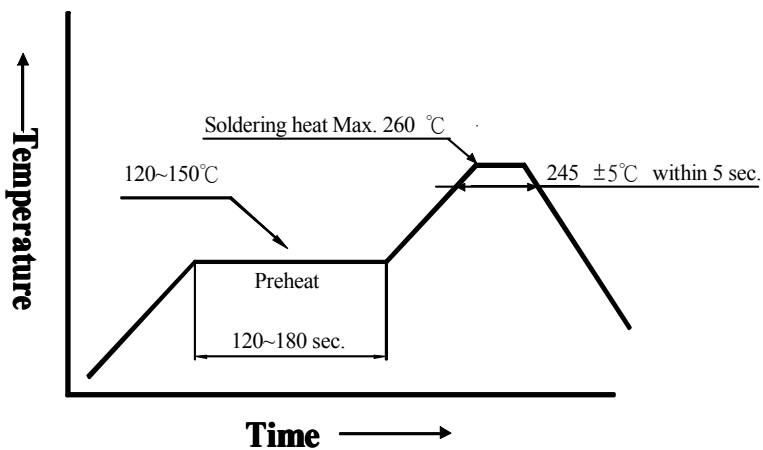


3. DIP soldering (Wave Soldering) :

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.

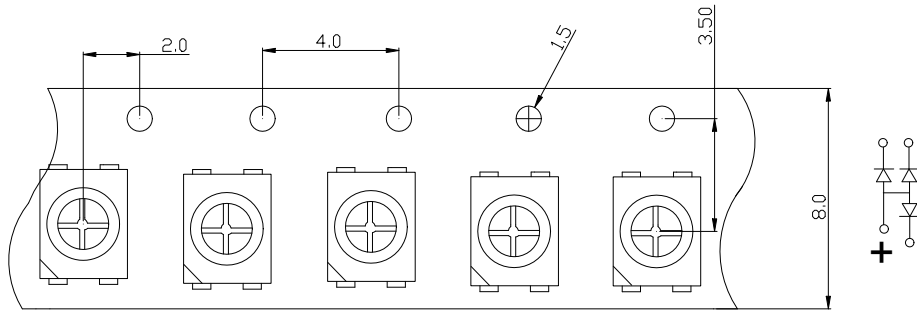
If the envelope is still packed, to store it in the environment as following:

- (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.

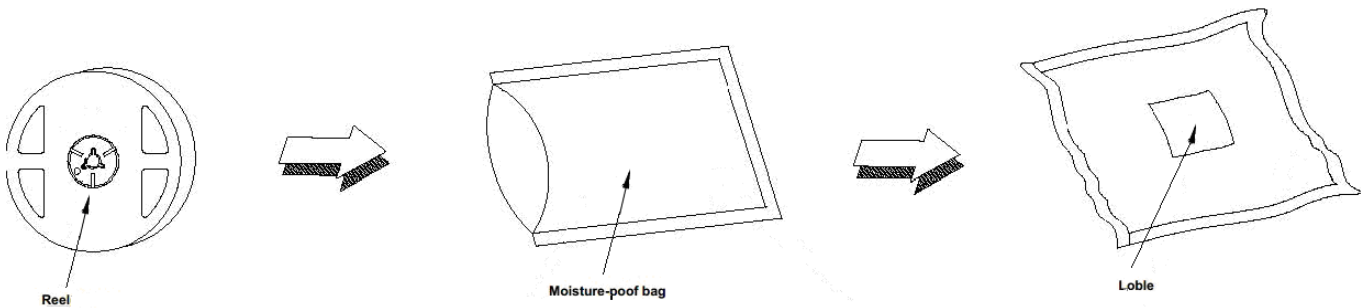
● Package and Label of Products:

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

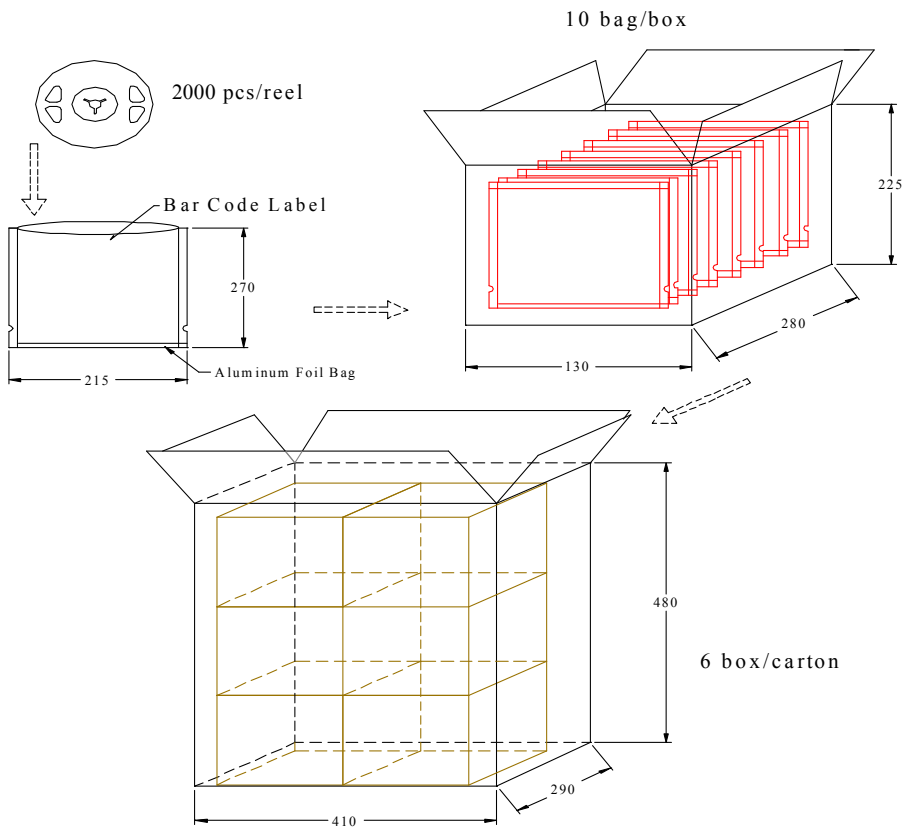
● Tapping and packaging specifications(Units: mm)



Label Aluminum moisture-proof bag Desiccant Label



● Package Method unit: mm)



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