Kingbright

**4.5x2mm SMD CHIP LED LAMP**

Part Number: APD2520SGC03 Super Bright Green

香港至恩科技有限公司
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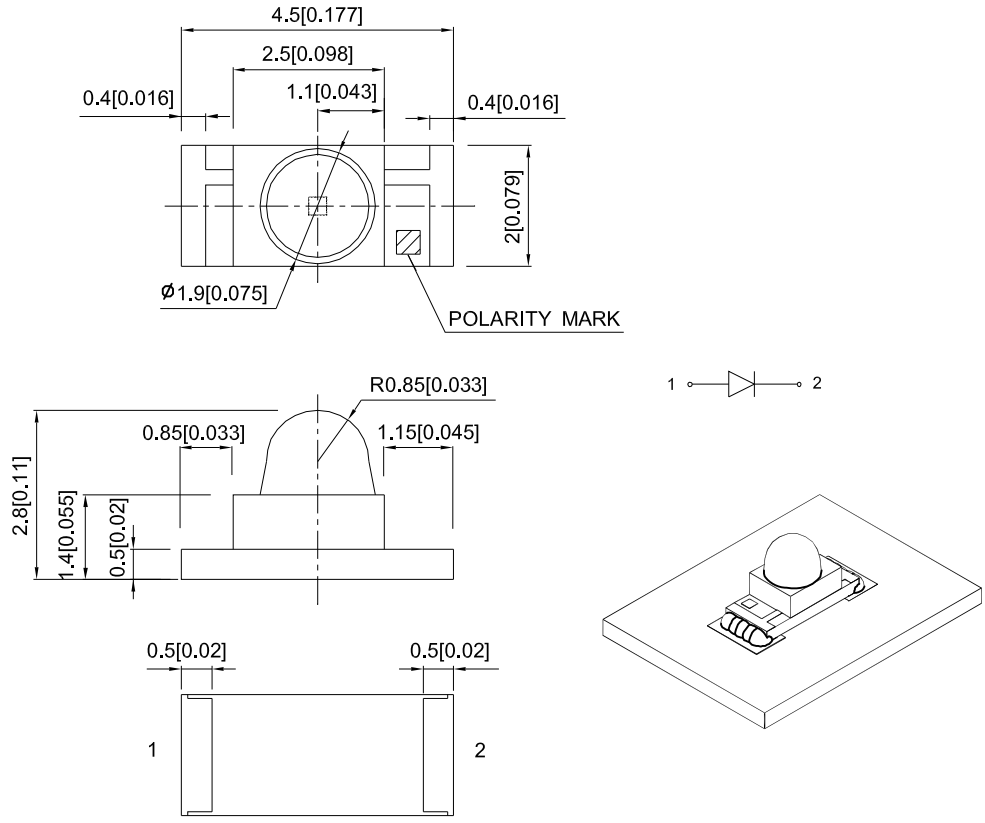
## Features

- 4.5x2mm SMT LED,2.8mm thickness.
- Low power consumption.
- Ideal for backlight and indicator.
- Package : 1000pcs/reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

## Description

The Super Bright Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

## Package Dimensions




Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.2(0.008") unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
4. The device has a single mounting surface. The device must be mounted according to the specifications.



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## Selection Guide

| Part No. | Dice | Lens Type | Iv (mcd) [2] @ 20mA | | Viewing Angle [1] |
|---|---|---|---|---|---|
| | | | Min. | Typ. | 2θ1/2 |
| APD2520SGC03 | Super Bright Green (GaP) | Water Clear | 55 | 90 | 10° |

Notes:
1. θ1 / 2 is the angle from optical centerline where the luminous intensity is 1 / 2 of the optical peak value.
2. Luminous intensity / luminous Flux: + / -15%.
3. Luminous intensity value is traceable to the CIE127-2007 compliant national standards.

## Electrical / Optical Characteristics at TA=25°C

| Symbol | Parameter | Device | Typ. | Max. | Units | Test Conditions |
|---|---|---|---|---|---|---|
| λpeak | Peak Wavelength | Super Bright Green | 565 | | nm | $I_F$=20mA |
| λD [1] | Dominant Wavelength | Super Bright Green | 568 | | nm | $I_F$=20mA |
| Δλ1/2 | Spectral Line Half-width | Super Bright Green | 30 | | nm | $I_F$=20mA |
| C | Capacitance | Super Bright Green | 15 | | pF | $V_F$=0V;f=1MHz |
| $V_F$ [2] | Forward Voltage | Super Bright Green | 2.2 | 2.5 | V | $I_F$=20mA |
| $I_R$ | Reverse Current | Super Bright Green | | 10 | uA | $V_R$=5V |

Notes:
1. Wavelength: + / -1nm.
2. Forward Voltage: + / -0.1V.
3. Wavelength value is traceable to the CIE127-2007 compliant national standards.
4. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

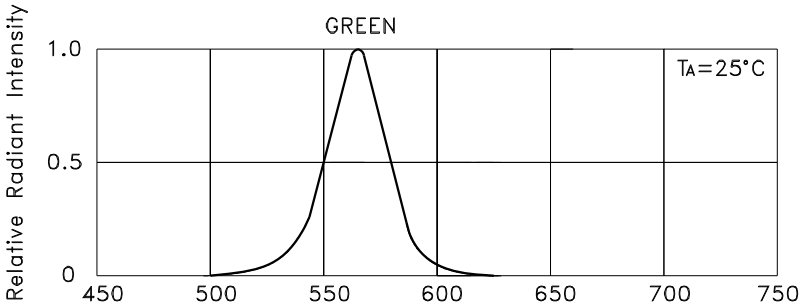
## Absolute Maximum Ratings at TA=25°C

| Parameter | Super Bright Green | Units |
|---|---|---|
| Power dissipation | 62.5 | mW |
| DC Forward Current | 25 | mA |
| Peak Forward Current [1] | 140 | mA |
| Reverse Voltage | 5 | V |
| Operating Temperature | -40°C To +85°C | |
| Storage Temperature | -40°C To +85°C | |

Note:
1. 1 / 10 Duty Cycle, 0.1ms Pulse Width.

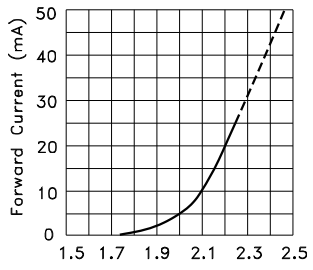


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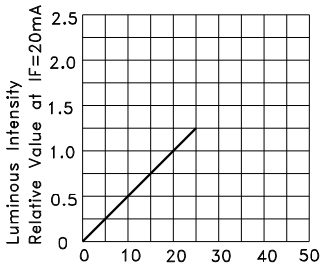



RELATIVE INTENSITY Vs. WAVELENGTH

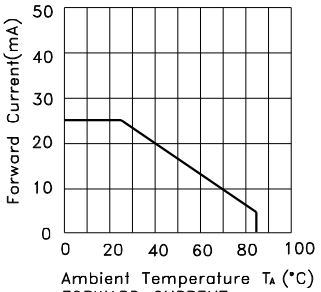
**Super Bright Green APD2520SGC03**



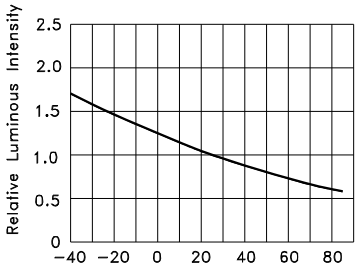

FORWARD CURRENT Vs.
FORWARD VOLTAGE



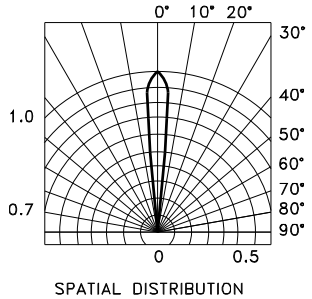

LUMINOUS INTENSITY Vs.
FORWARD CURRENT




FORWARD CURRENT
DERATING CURVE




LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE




SPATIAL DISTRIBUTION

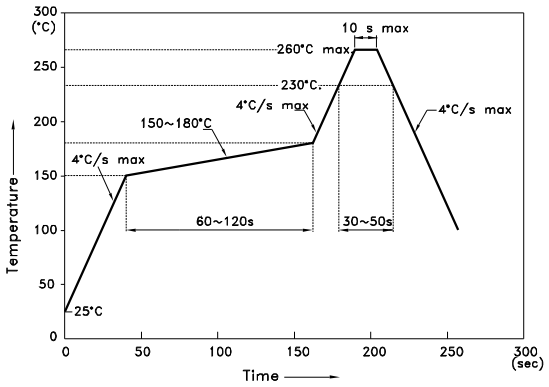


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## APD2520SGC03

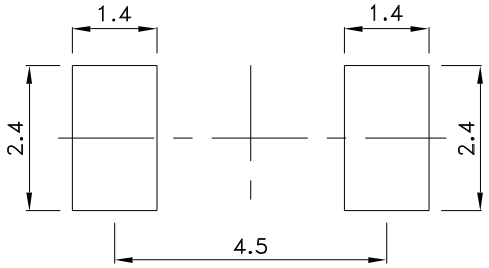
**Reflow soldering is recommended and the soldering profile is shown below.**
**Other soldering methods are not recommended as they might cause damage to the product.**

Reflow Soldering Profile For Lead-free SMT Process.

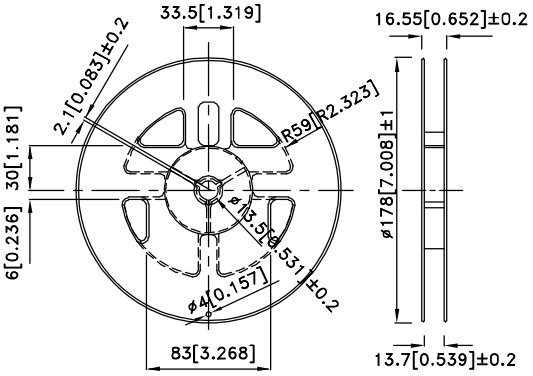



NOTES:
1. We recommend the reflow temperature 245°C(+/-5°C).The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

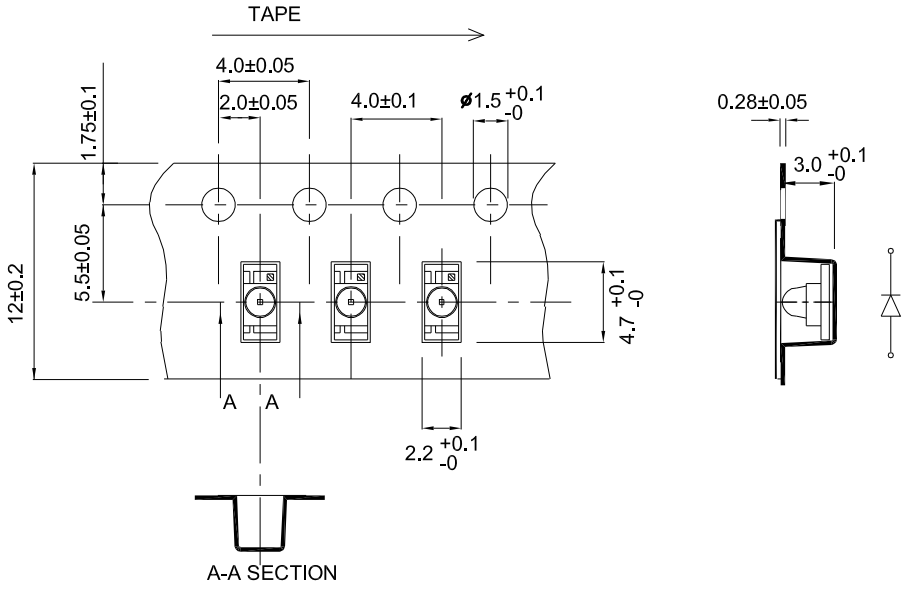
### Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)




### Reel Dimension




### Tape Dimensions (Units : mm)

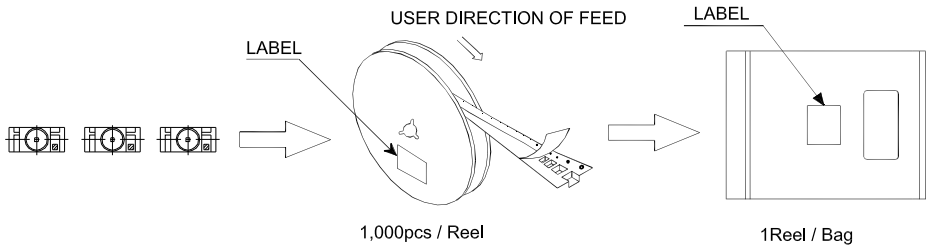


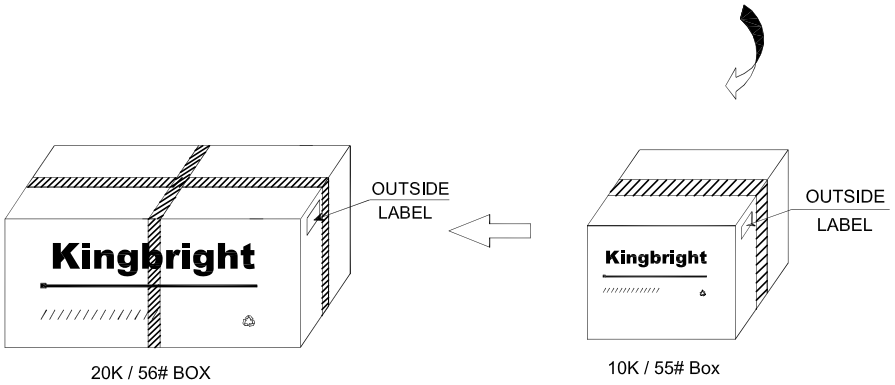


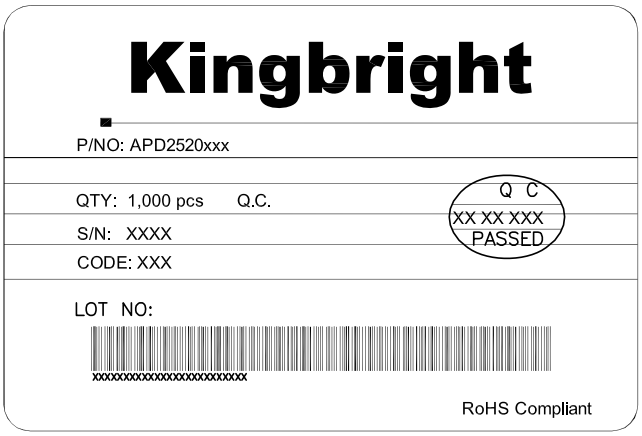

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**PACKING & LABEL SPECIFICATIONS** **APD2520SGC03**




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