



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



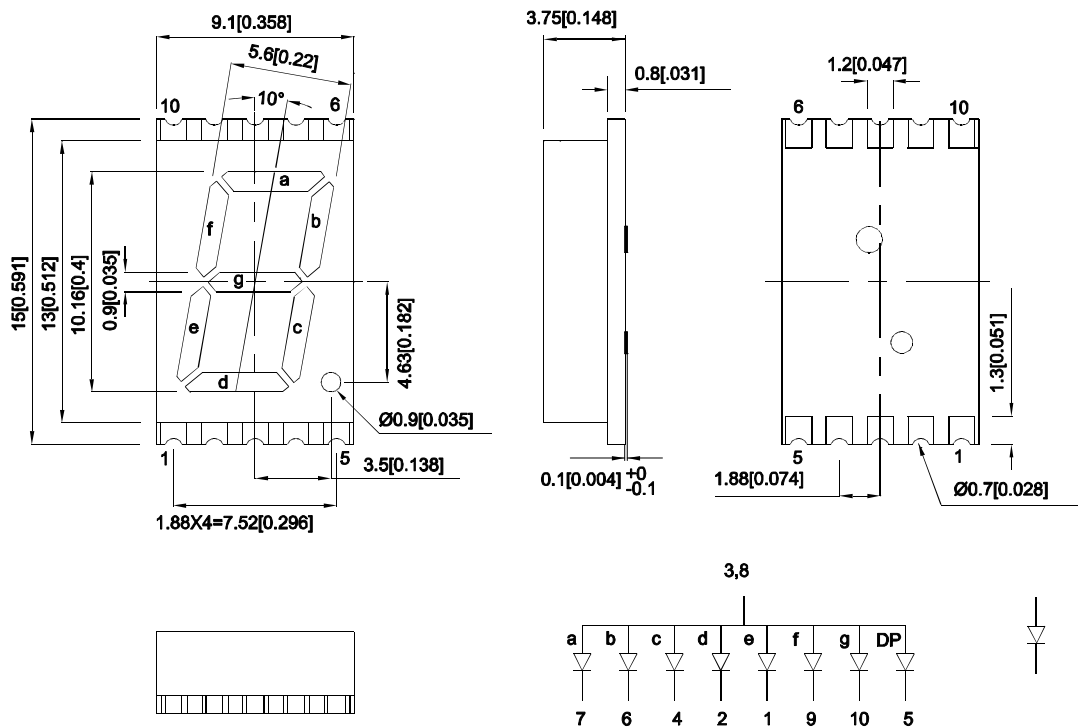
### Features

- 0.4 inch digit height.
- Low current operation.
- Excellent character appearance.
- Mechanically rugged.
- Gray face, white segment.
- Package: 400pcs/ reel.
- Moisture sensitivity level : level 2a.
- RoHS compliant.

### Description

The Green source color devices are made with AlGaInP on GaAs substrate Light Emitting Diode.

### Package Dimensions & Internal Circuit Diagram



#### Notes:

1. All dimensions are in millimeters (inches), Tolerance is  $\pm 0.25$  (0.01") unless otherwise noted.
2. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
3. The gap between the reflector and PCB shall not exceed 0.25mm.



## Selection Guide

| Part No.           | Emitting Color (Material) | Lens Type      | Iv (ucd) [1]<br>@ 10mA |       | Description                        |
|--------------------|---------------------------|----------------|------------------------|-------|------------------------------------|
|                    |                           |                | Min.                   | Typ.  |                                    |
| ACSA04-41CGKWA-F01 | Green (AlGaInP)           | White Diffused | 5600                   | 11000 | Common Anode, Rt.<br>Hand Decimal. |
|                    |                           |                | *2200                  | *4100 |                                    |

Notes:

- Luminous intensity / luminous Flux: +/-15%.
- \* Luminous intensity value is traceable to the CIE127-2007 compliant national standards.

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

| Symbol                | Parameter                | Emitting Color | Typ. | Max. | Units | Test Conditions           |
|-----------------------|--------------------------|----------------|------|------|-------|---------------------------|
| $\lambda_{peak}$      | Peak Wavelength          | Green          | 574  |      | nm    | I <sub>F</sub> =10mA      |
| $\lambda_D$ [1]       | Dominant Wavelength      | Green          | 570  |      | nm    | I <sub>F</sub> =10mA      |
| $\Delta\lambda_{1/2}$ | Spectral Line Half-width | Green          | 20   |      | nm    | I <sub>F</sub> =10mA      |
| C                     | Capacitance              | Green          | 15   |      | pF    | V <sub>F</sub> =0V;f=1MHz |
| V <sub>F</sub> [2]    | Forward Voltage          | Green          | 2.0  | 2.5  | V     | I <sub>F</sub> =10mA      |
| I <sub>R</sub>        | Reverse Current          | Green          |      | 10   | uA    | V <sub>R</sub> =5V        |

Notes:

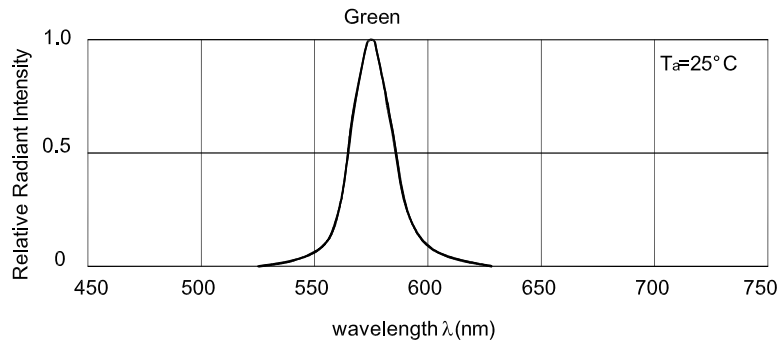
- Wavelength: +/-1nm.
- Forward Voltage: +/-0.1V.
- Wavelength value is traceable to the CIE127-2007 compliant national standards.
- Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

## Absolute Maximum Ratings at TA=25°C

| Parameter                       | Values         | Units |
|---------------------------------|----------------|-------|
| Power dissipation               | 75             | mW    |
| DC Forward Current              | 30             | mA    |
| Peak Forward Current [1]        | 150            | mA    |
| Reverse Voltage                 | 5              | V     |
| Operating / Storage Temperature | -40°C To +85°C |       |

Note:

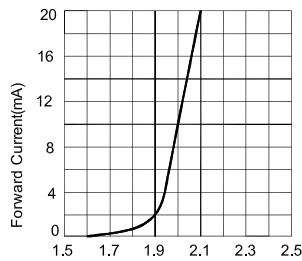
- 1/10 Duty Cycle, 0.1ms Pulse Width.



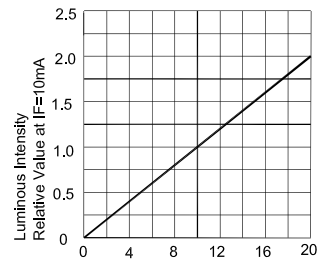
Relative Intensity Vs. Wavelength

Green

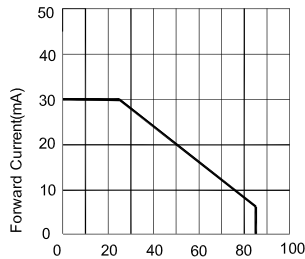
ACSA04-41CGKWA-F01



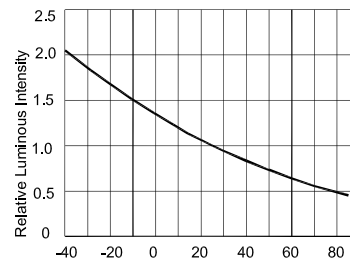
Forward Current(V)  
Forward Current Vs.  
Forward Voltage



I<sub>f</sub> -Forward Current (mA)  
Luminous Intensity Vs.  
Forward Current



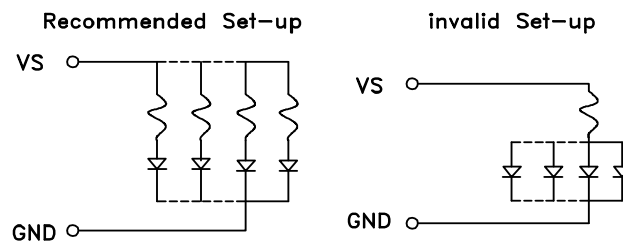
Ambient Temperature T<sub>A</sub>(°C)  
Forward Current  
Derating Curve



Ambient Temperature T<sub>A</sub>(°C)  
Luminous Intensity Vs.  
Ambient Temperature

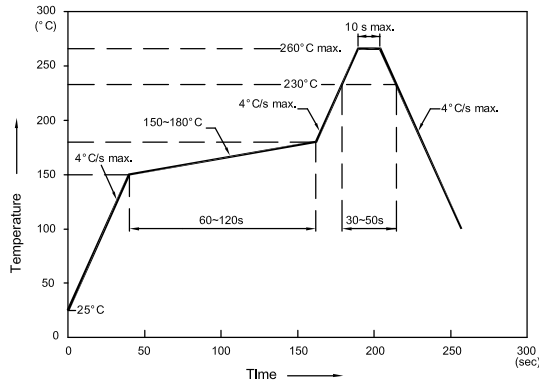
## CIRCUIT DESIGN NOTES

1. Protective current-limiting resistors may be necessary to operate the Displays.
2. LEDs mounted in parallel should each be placed in series with its own current-limiting resistor.



## ACSA04-41CGKWA-F01

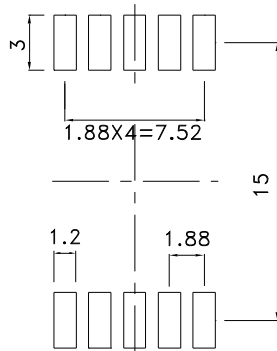
Reflow Soldering Profile For Lead-free SMT Process.



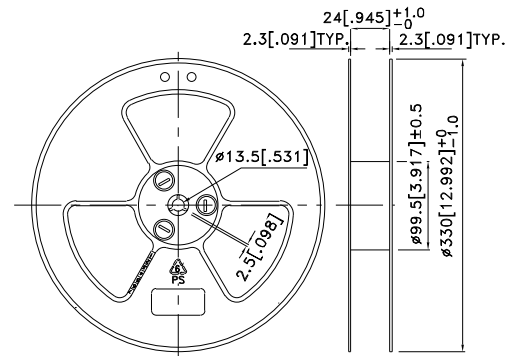
NOTES:

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.

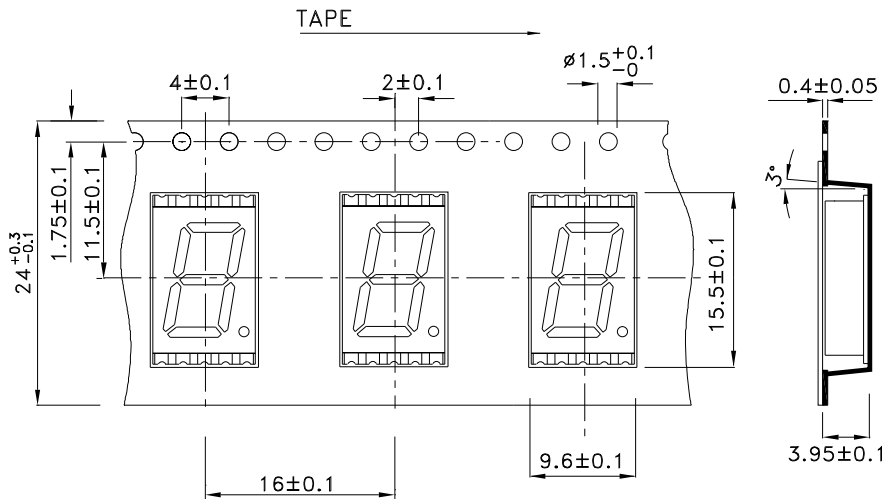
### Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.15)



### Reel Dimension

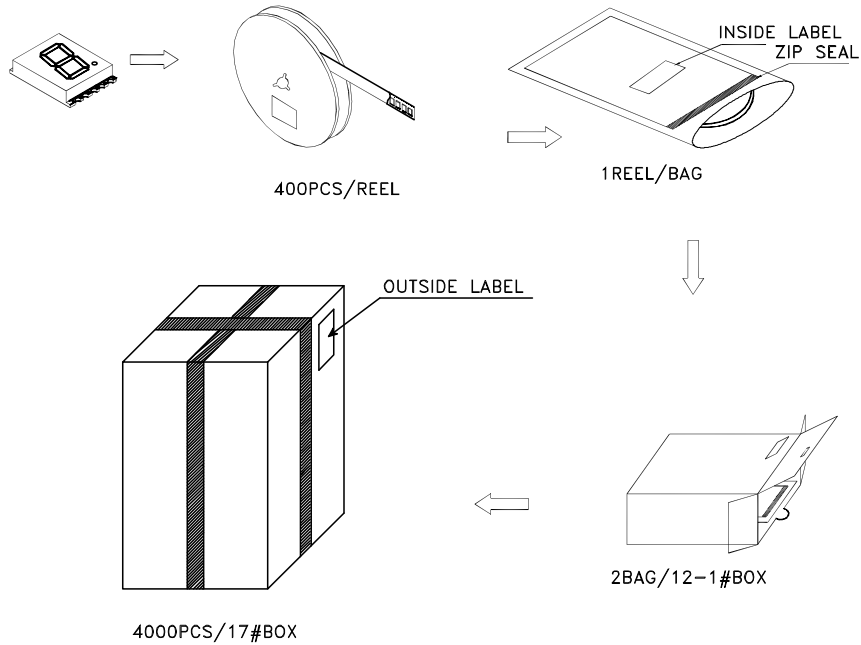


### Tape Specifications (Units : mm)

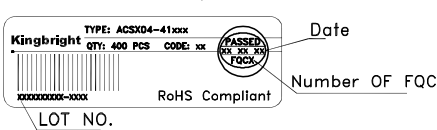


## PACKING & LABEL SPECIFICATIONS

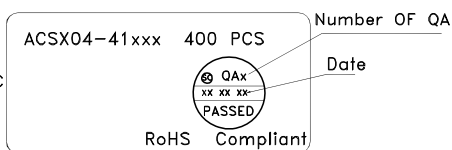
## ACSA04-41CGKWA-F01



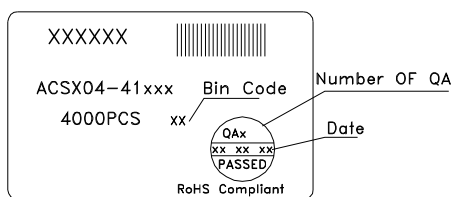
Inside Label On Tape



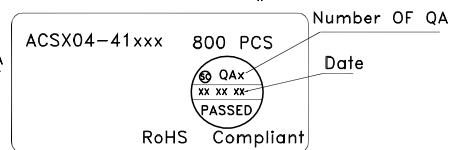
Outside Label On BAG



Outside Label On 17#Box



Outside Label On 12-1#Box



### Terms and conditions for the usage of this document

1. The information included in this document reflects representative usage scenarios and is intended for technical reference only.
2. The part number, type, and specifications mentioned in this document are subject to future change and improvement without notice. Before production usage customer should refer to the latest datasheet for the updated specifications.
3. When using the products referenced in this document, please make sure the product is being operated within the environmental and electrical limits specified in the datasheet. If customer usage exceeds the specified limits, Kingbright will not be responsible for any subsequent issues.
4. The information in this document applies to typical usage in consumer electronics applications. If customer's application has special reliability requirements or have life-threatening liabilities, such as automotive or medical usage, please consult with Kingbright representative for further assistance.
5. The contents and information of this document may not be reproduced or re-transmitted without permission by Kingbright.
6. All design applications should refer to Kingbright application notes available at <http://www.KingbrightUSA.com/ApplicationNotes>