



**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES

Part Number: KCDC56-131

Blue

### Features

- 0.56 inch digit height.
- Low current operation.
- Excellent character appearance.
- Mechanically rugged.
- Gray face, white segment.
- Package: 200pcs/ reel.
- Moisture sensitivity level : level 2a.
- RoHS compliant.

### Description

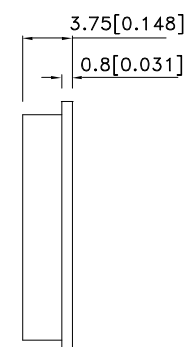
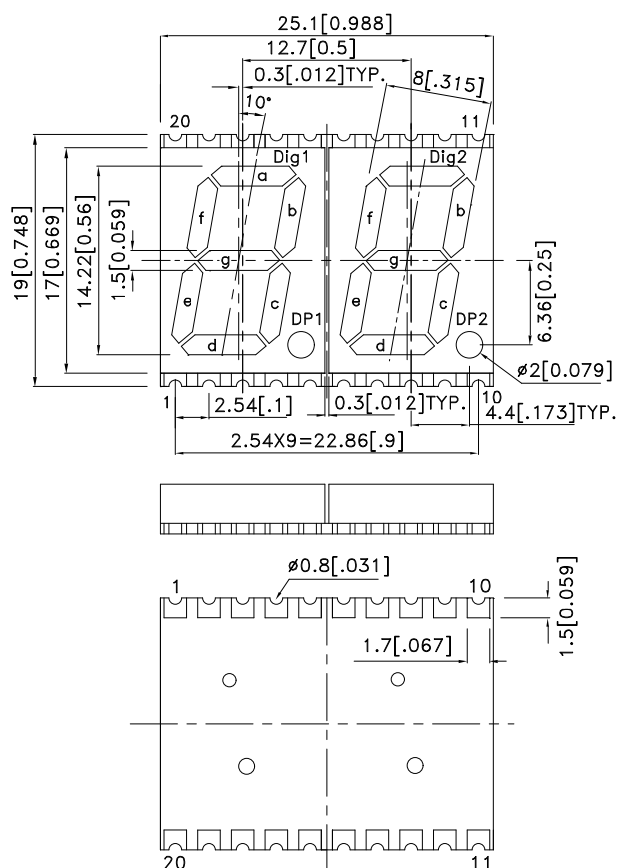
The Blue source color devices are made with InGaN Light Emitting Diode.

Static electricity and surge damage the LEDs.

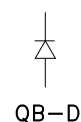
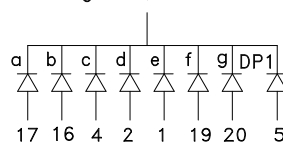
It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.

All devices, equipment and machinery must be electrically grounded.

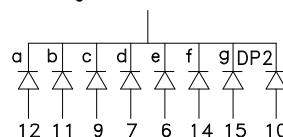
### Package Dimensions& Internal Circuit Diagram



Dig.1: 3,18



Dig.2: 13,8



#### 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.   | Dice         | Lens Type      | Iv (ucd) [1]<br>@ 10mA |       | Description                         |
|------------|--------------|----------------|------------------------|-------|-------------------------------------|
|            |              |                | Min.                   | Typ.  |                                     |
| KCDC56-131 | Blue (InGaN) | White Diffused | 5600                   | 15000 | Common Cathode,<br>Rt. Hand Decimal |

Notes:

1. Luminous intensity/ luminous Flux: +/-15%.

2. 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           |
|-----------------------|--------------------------|--------|------|------|------|-------|---------------------------|
| $\lambda_{peak}$      | Peak Wavelength          | Blue   | 468  | *460 |      | nm    | I <sub>F</sub> =20mA      |
| $\lambda_D$ [1]       | Dominant Wavelength      | Blue   | 470  | *465 |      | nm    | I <sub>F</sub> =20mA      |
| $\Delta\lambda_{1/2}$ | Spectral Line Half-width | Blue   | 25   |      |      | nm    | I <sub>F</sub> =20mA      |
| C                     | Capacitance              | Blue   | 100  |      |      | pF    | V <sub>F</sub> =0V;f=1MHz |
| V <sub>F</sub> [2]    | Forward Voltage          | Blue   | 3.3  |      | 4.0  | V     | I <sub>F</sub> =20mA      |
| I <sub>R</sub>        | Reverse Current          | Blue   |      |      | 50   | uA    | V <sub>R</sub> =5V        |

Notes:

1.Wavelength: +/-1nm.

2. Forward Voltage: +/-0.1V.

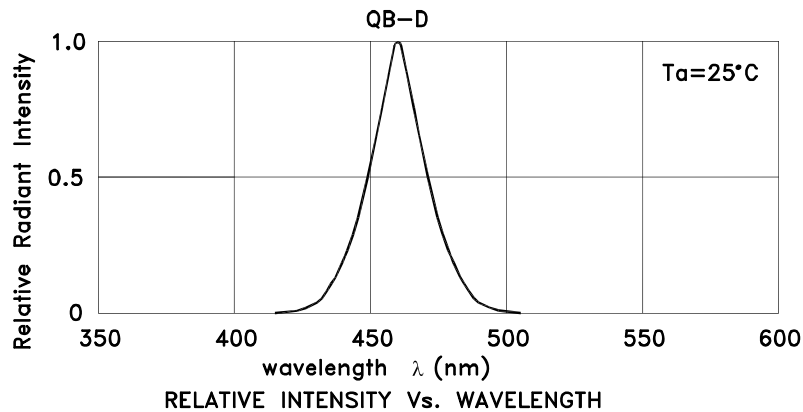
\* Wavelength value is traceable to the CIE127-2007 compliant national standards.

## Absolute Maximum Ratings at TA=25°C

| Parameter                       | Blue           | Units |
|---------------------------------|----------------|-------|
| Power dissipation               | 120            | mW    |
| DC Forward Current              | 30             | mA    |
| Peak Forward Current [1]        | 150            | mA    |
| Reverse Voltage                 | 5              | V     |
| Operating / Storage Temperature | -40°C To +85°C |       |

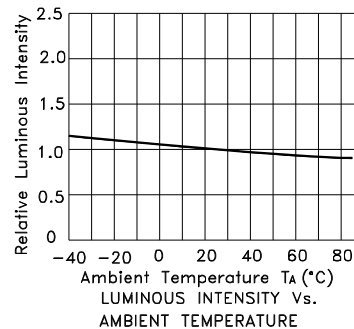
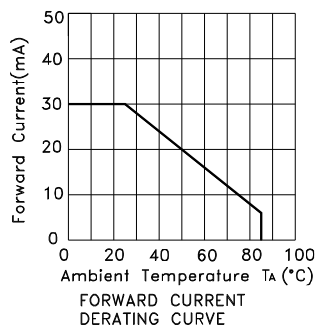
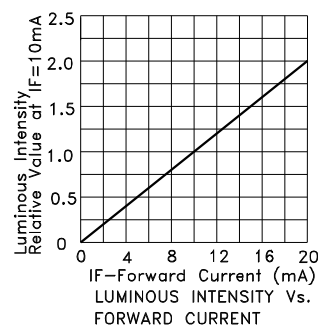
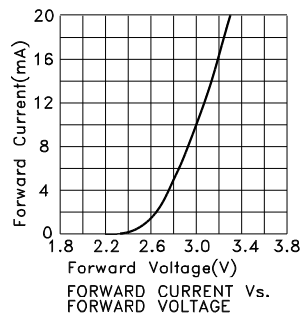
Note:

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



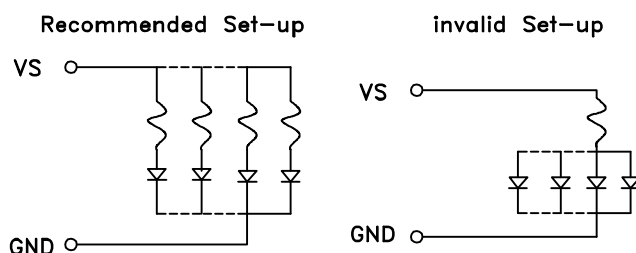
**Blue**

**KCDC56-131**



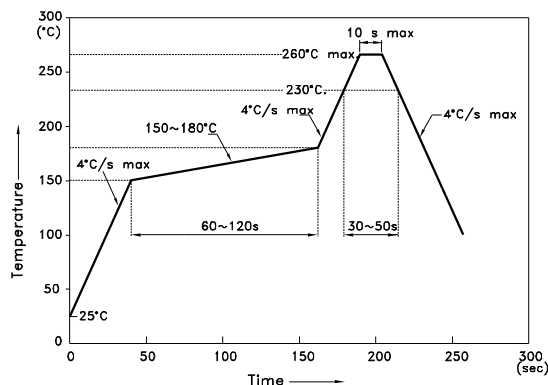
## CIRCUIT DESIGN NOTES

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.



## KCDC56-131

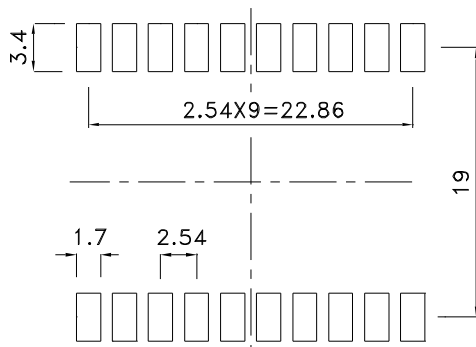
Reflow Soldering Profile For Lead-free SMT Process.



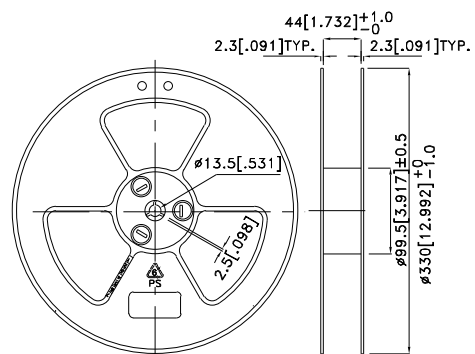
NOTES:

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.

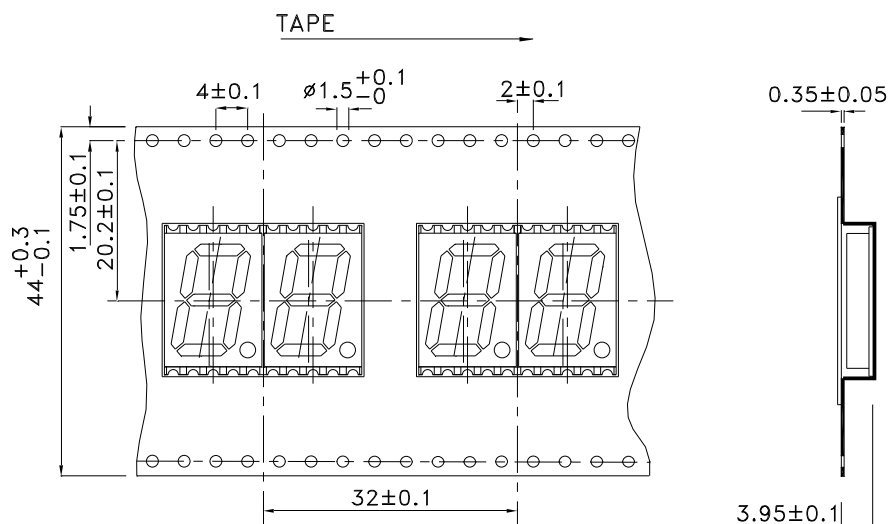
### Recommended Soldering Pattern (Units : mm; Tolerance: $\pm 0.15$ )



### Reel Dimension

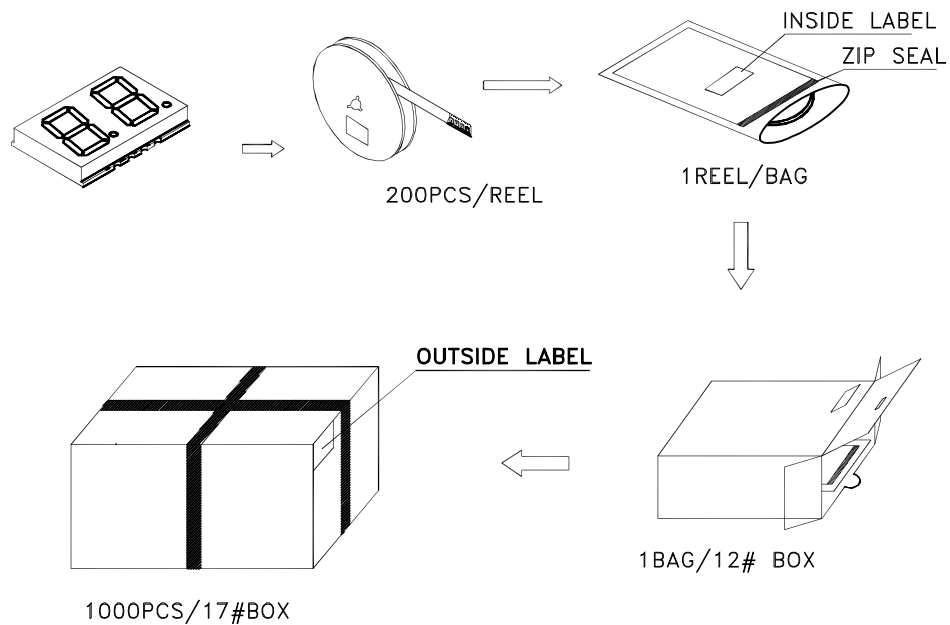


### Tape Specifications (Units : mm)

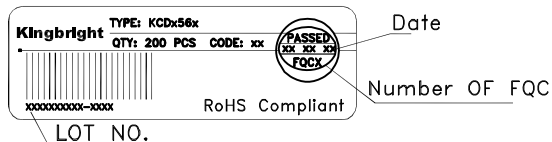


## PACKING & LABEL SPECIFICATIONS

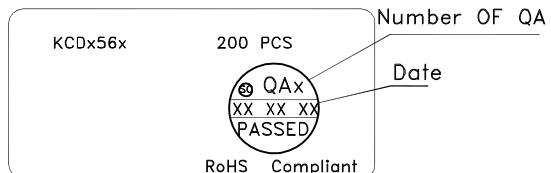
KCDC56-131



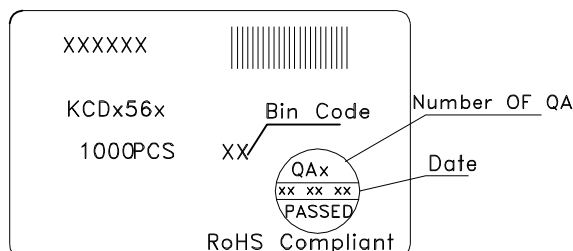
Inside LABEL On Tape



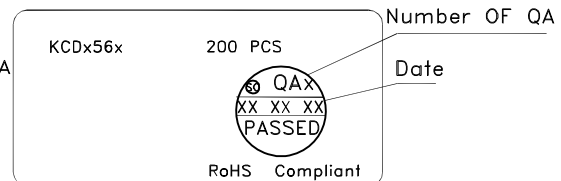
Outside LABEL On BAG



Outside LABEL On 19#Box



Outside LABEL On 12#Box



Detailed application notes are listed on our website.

[http://www.kingbright.com/application\\_notes](http://www.kingbright.com/application_notes)