

**WCN Opto Group Co., Limited****Customer Name:****Date:**

2019-8-28

**Part No:**

WCN2S-1039B6-A2

**Product Group  
Description:**

LED Display

**Customer Part No:****Approval Date:****Customer  
Confirmation****Approved by****Checked by**Athena  
2019-8-28**Prepared By**Zhang  
2019-8-28**Country of Origin: China  
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## WCN Opto Group Co., Limited

### REVISION RECORD

| MARKER | Matter for revision | SHEET         | DTAE          | MAKER | APPOVED SIGN |  |
|--------|---------------------|---------------|---------------|-------|--------------|--|
|        | Reason for revision |               |               |       |              |  |
| A0     | P# WCN2S-1039B6-A2  | Whole<br>Spec | 2019-8-<br>28 | Zhang | Athena       |  |
|        | New Version issued  |               |               |       |              |  |
|        |                     |               |               |       |              |  |
|        |                     |               |               |       |              |  |
|        |                     |               |               |       |              |  |
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|        |                     |               |               |       |              |  |
|        |                     |               |               |       |              |  |
|        |                     |               |               |       |              |  |

**1. Type No./Manufacture's Name**

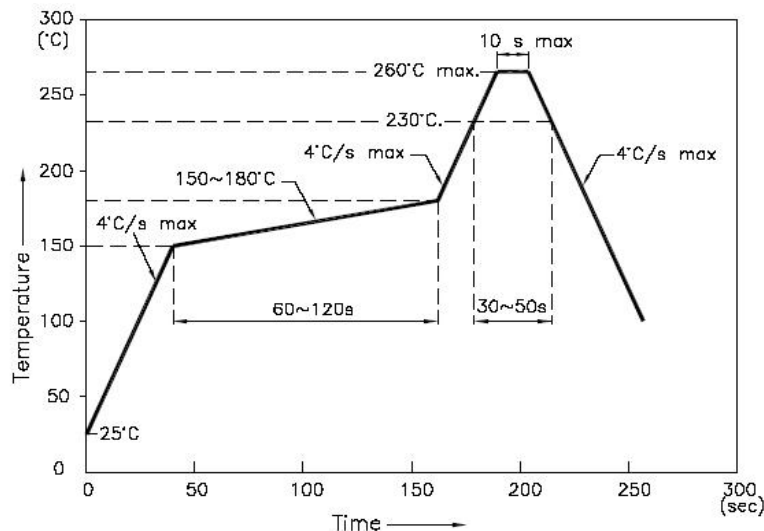
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**2. Features:**

- High Reliability
- Low Power Requirement
- Easy Assembly

**3. Faction: Display Digit Characteristic****4. Soldering Conditions: Soldering Temp.  $260 \pm 5$  °C, Soldering Time. 3~5 sec.**

Soldering Power <30 W.

**5. Re-flow Temp/Time****NOTES:**

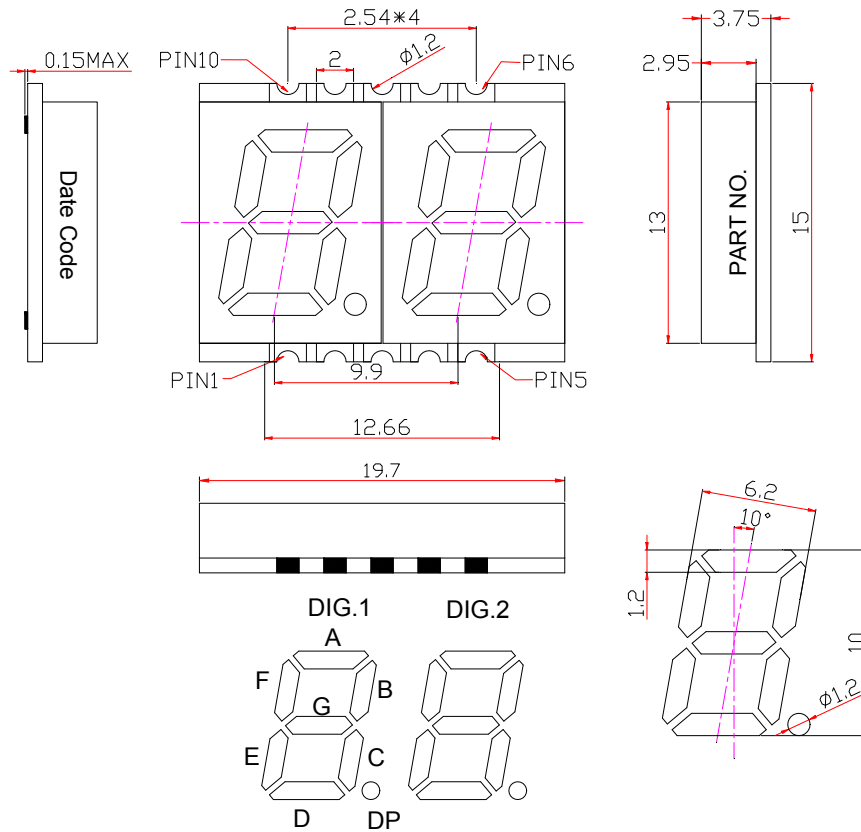
5.1. We recommend the re-flow temperature  $245^{\circ}\text{C}(\pm 5^{\circ}\text{C})$ . the maximum soldering temperature should be limited to  $260^{\circ}\text{C}$ .

5.2. Don't cause stress to the epoxy resin while it is exposed to high temperature. Number of re-flow process shall be 2 times or less.

**6. Description:**

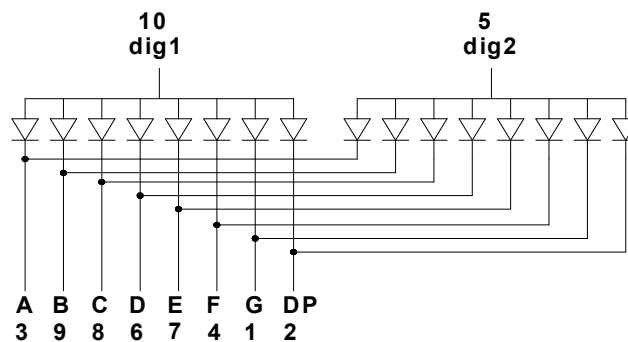
- Two Digit LED Display
- Digit Height: 10.0mm(0.39" )
- Gray Face and Milky Segment
- Color: Blue

### Outer Dimension:



Notes: Unless otherwise stated, the tolerance is  $\pm 0.25\text{mm}$ .

### Circuit Diagram:



### Pin Connection:

| PIN NO. | CONNECTION        | PIN NO. | CONNECTION        |
|---------|-------------------|---------|-------------------|
| 1       | Cathode G         | 6       | Cathode D         |
| 2       | Cathode DP        | 7       | Cathode E         |
| 3       | Cathode A         | 8       | Cathode C         |
| 4       | Cathode F         | 9       | Cathode B         |
| 5       | Common Anode dig2 | 10      | Common Anode dig1 |

# WCN Opto Group Co., Limited

## ABSOLUTE MAXIMUM RATINGS AT TA=25°C

| Parameter                        | Symbol          | Condition         | Color | Rating  | Units |
|----------------------------------|-----------------|-------------------|-------|---------|-------|
| Forward Current Per Segment      | I <sub>F</sub>  | —                 | Blue  | 25      | mA    |
| Peak Forward Current Per Segment | I <sub>FP</sub> | 1/10 Duty<br>1KHz | Blue  | 60      | mA    |
| Reverse Voltage Per Segment      | V <sub>R</sub>  | —                 | Blue  | 5       | V     |
| Operating Temperature Range      | Topr            | —                 | —     | -40~+85 | °C    |
| Storage Temperature Range        | Tstg            | —                 | —     | -40~+85 | °C    |

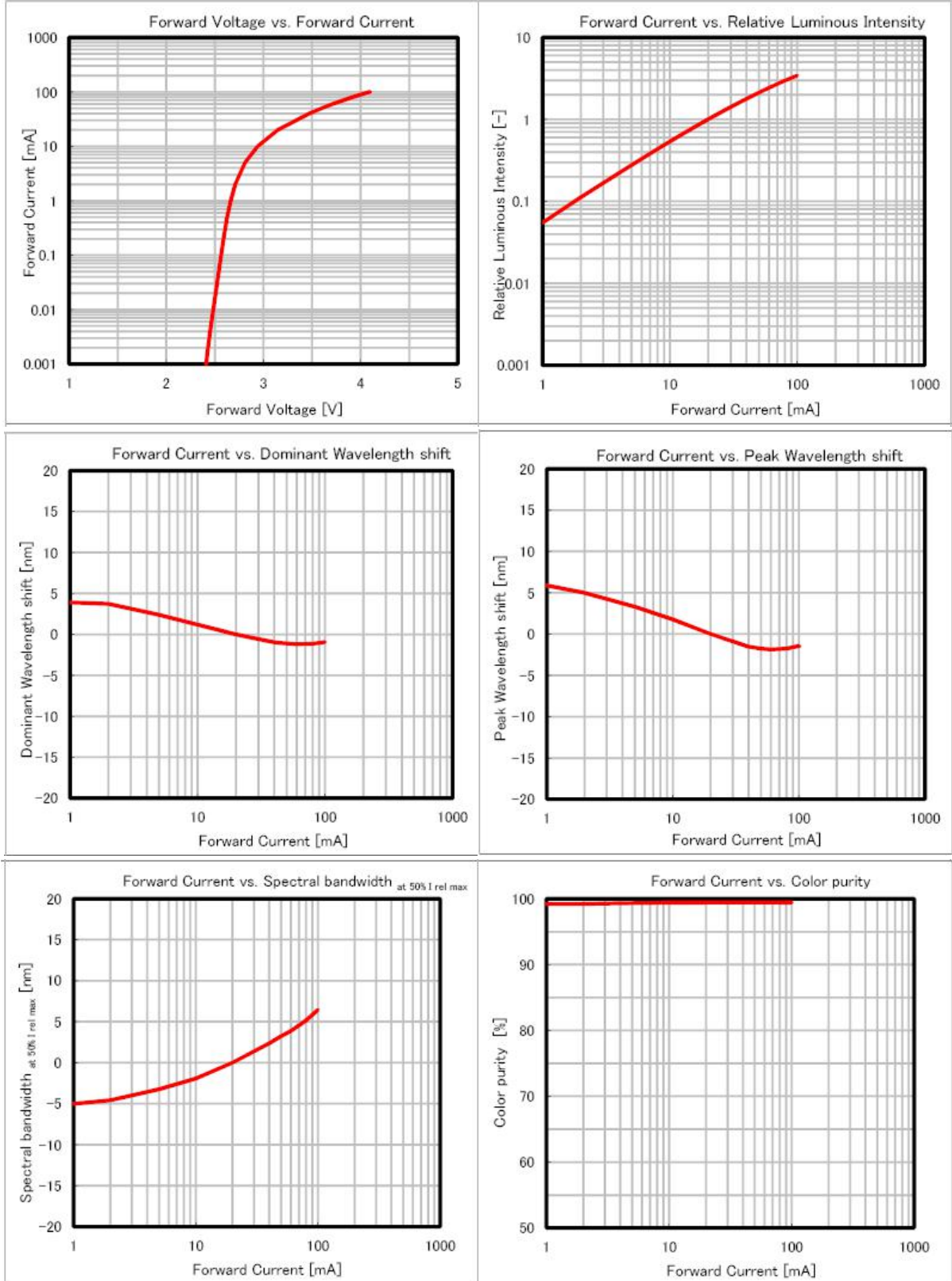
## Electrical/Optical Characteristics Rating(Ta=25°C)

| Item                     | Symbol         | Test conditions      | Location | Rating |      |      | Units |
|--------------------------|----------------|----------------------|----------|--------|------|------|-------|
|                          |                |                      |          | Min.   | Typ. | Max. |       |
| Forward Voltage          | V <sub>F</sub> | I <sub>F</sub> =20mA | Per Chip | 2.80   | 3.10 | 3.60 | V     |
| Reverse Current          | I <sub>R</sub> | V <sub>R</sub> =5V   | Per Chip | —      | —    | 100  | μA    |
| Luminous Intensity       | I <sub>V</sub> | I <sub>F</sub> =10mA | Per Chip | 28.5   | 32.5 | 37.5 | mW    |
| Wave Length              | λ <sub>D</sub> | I <sub>F</sub> =20mA | Per Chip | 450    | -    | 460  | nm    |
| Spectral Line Half Width | Δλ             | I <sub>F</sub> =20mA | Per Chip | —      | —    | 25   | nm    |

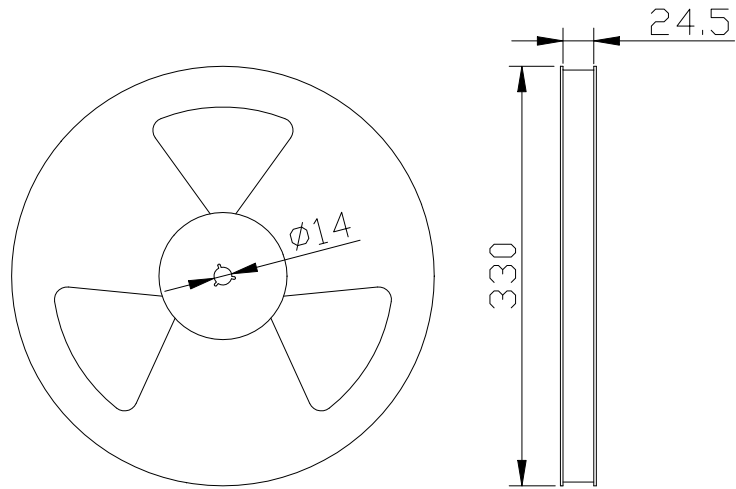
## Luminous Intensity Sorting: (Luminous intensity tolerance :+/-10%)

| Rank | Symbol | Condition            | Min  | Max  | Unit |
|------|--------|----------------------|------|------|------|
| T    | T      | I <sub>F</sub> =20mA | 28.5 | 30.0 | mW   |
| U    | U      | I <sub>F</sub> =20mA | 30.0 | 32.5 | mW   |
| V    | V      | I <sub>F</sub> =20mA | 32.5 | 35.0 | mW   |
| W    | W      | I <sub>F</sub> =20mA | 35.0 | 37.5 | mW   |

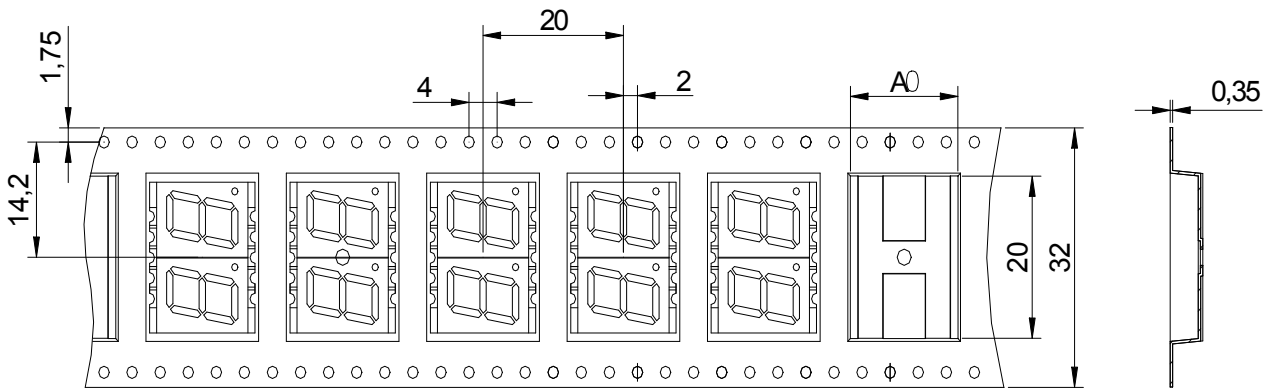
■ **Typical Optical-Electronic Characteristic Curves**



■ Packing Reel Dimensions(mm):

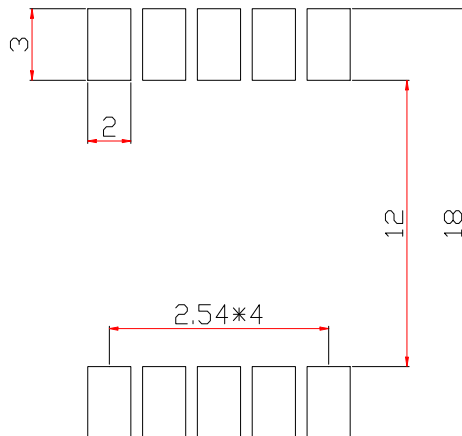


■ Dimensions of Tape (Unit: mm)



■ One Reel contained 600 PCS products:

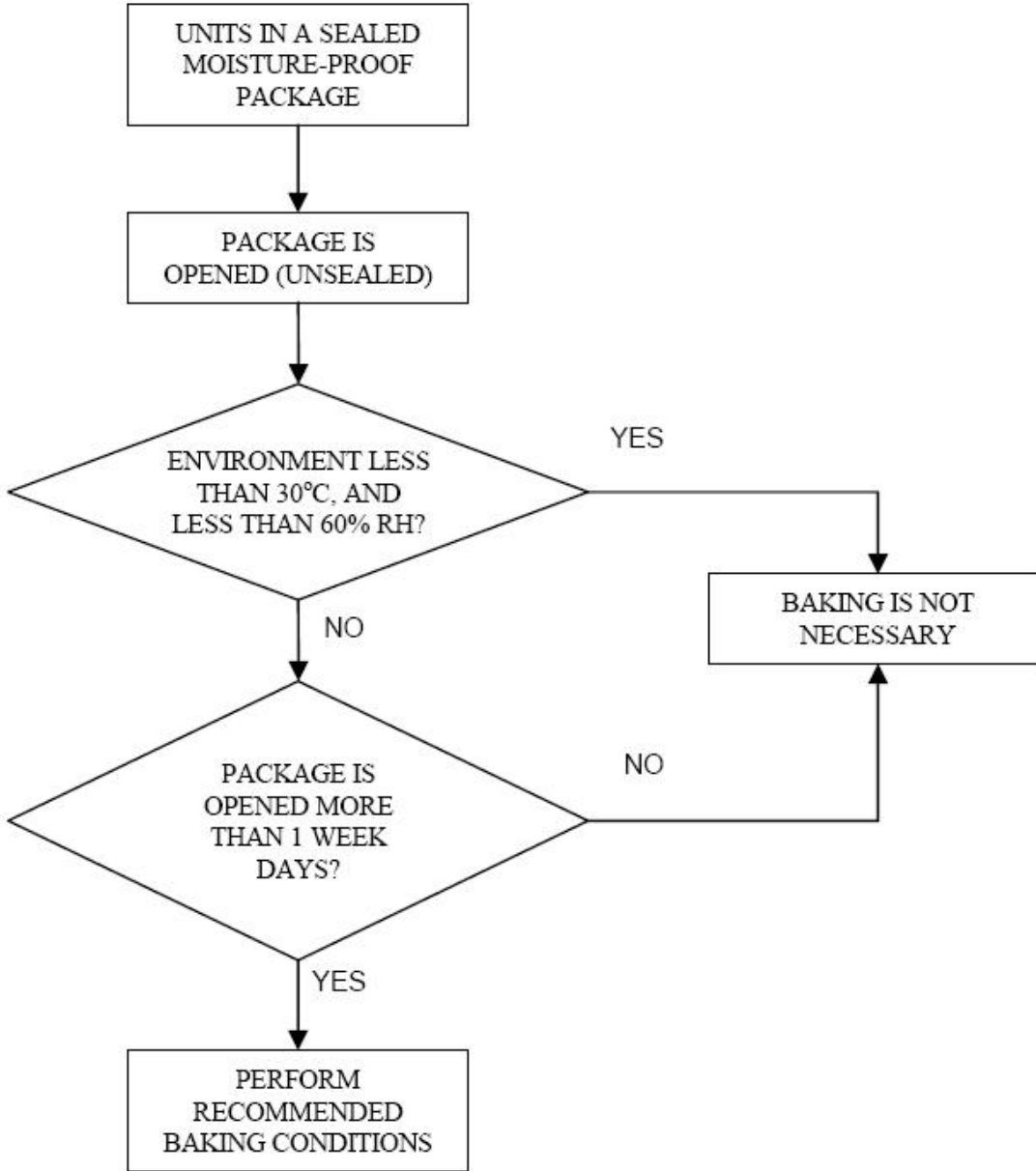
■ Recommended Soldering Pattern:





■ **Moisture Proof Packaging:**

All N/D SMD displays are shipped in moisture proof package. The displays should be stored at 30°C or less and 60% RH or less. Once the package opened, moisture absorption begins.



■ **Baking Conditions:**

If the parts not stored in dry conditions, they must be baked before re-flow to prevent damage to the parts.

| Package | Temperature | Time      |
|---------|-------------|-----------|
| In Reel | 60 °C       | ≥ 48hours |
| In Bulk | 100 °C      | ≥ 4hours  |
|         | 125 °C      | ≥ 2hours  |

■ **Baking should only be done once.**