

WCN Opto Group Co., Limited

Customer Name:

Date:

2021-12-28

Part No:

WCN1S-1056SR-A1

Product Group Description:

LED Display

Customer Part No:

Approval Date:

Customer Confirmation

Approved by

William
2021-12-28

Checked by

Athena
2021-12-28

Prepared By

Wei
2021-12-28

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RoHS



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Table of Contents

| NO. | ITEM | PAGE |
|------------|---|-------------|
| 1 | Cover | 1 |
| 2 | Table of Contents | 2 |
| 3 | Revision Record | 3 |
| 4 | Description | 4 |
| 5 | Outer Dimension and Circuit Diagram | 5 |
| 6 | Absolute Maximum Rating and Electrical/Optical Characteristics Rating | 6 |
| 7 | Typical Electrical/ Optical Characteristic Curves and Spectrometer | 7 |
| 8 | Packaging Data | 8 |
| 9 | Moisture Proof Packaging | 9 |



WCN Opto Group Co., Limited

REVISION RECORD

| MARKER | Matter for revision | SHEET | DTAE | MAKER | APPOVED SIGN | |
|--------|------------------------|------------|------------|-------|--------------|---------|
| | Reason for revision | | | | | |
| A0 | P# WCN1S-1056SR-A1 | Whole Spec | 2017-08-08 | Fei | Athena | William |
| | New Version issued | | | | | |
| A1 | Change Outer Dimension | Page.5 | 2017-8-9 | Fei | Athena | William |
| | Improved | | | | | |
| A2 | Enable New Version | Whole Spec | 2021-12-28 | Wei | Athena | William |
| | Improved | | | | | |
| | | | | | | |
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| | | | | | | |

1. Type No./Manufacture's Name

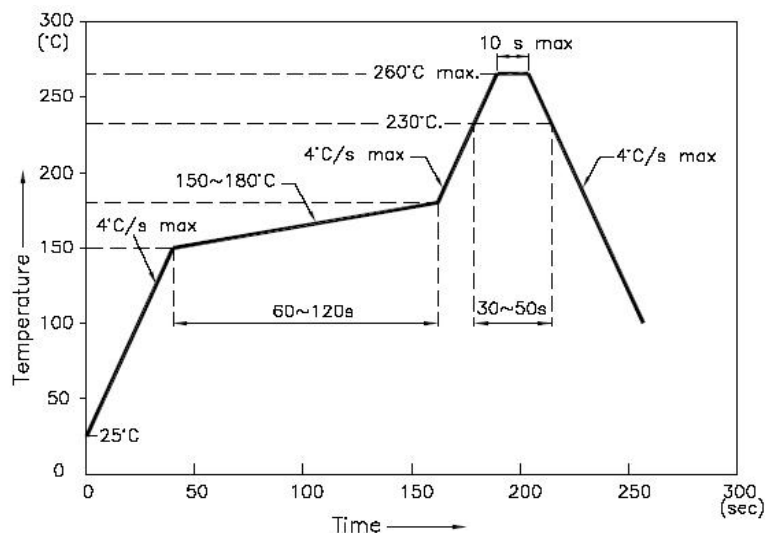
WCN1S-1056SR-A1 / WCN Opto Group Co., Limited.

2. Features:

- High Reliability
- Low Power Requirement
- Easy Assembly

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

Soldering Power <30 W.

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

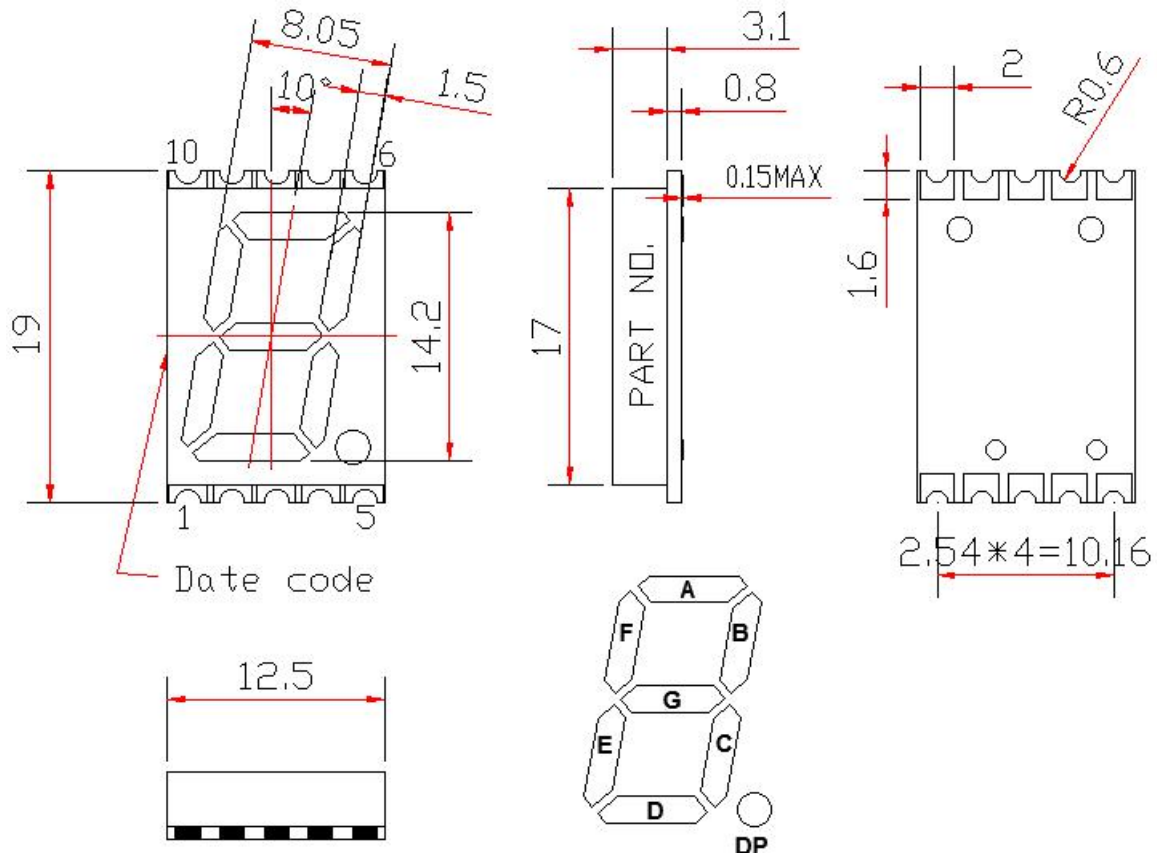
5.1. We recommend the re-flow temperature $245^{\circ}\text{C}(\pm 5^{\circ}\text{C})$. the maximum soldering temperature should be limited to 260°C .

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:

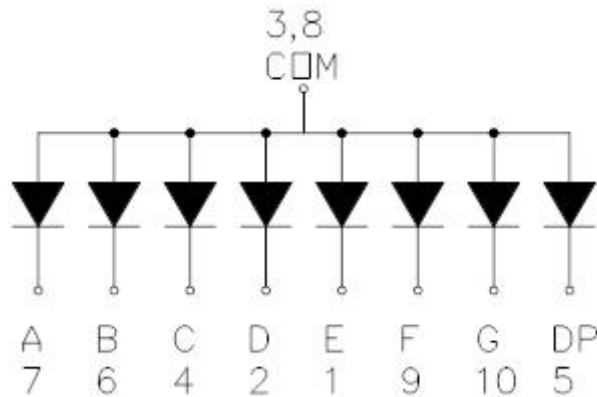
- Single Digit LED Display
- Digit Height: 14.2mm(0.56")
- Gray Face and Milky Segment
- Color: Red

■ 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 E | 6 | Cathode B |
| 2 | Cathode D | 7 | Cathode A |
| 3 | Common Anode | 8 | Common Anode |
| 4 | Cathode C | 9 | Cathode F |
| 5 | Cathode DP | 10 | Cathode G |

■ ABSOLUTE MAXIMUM RATINGS AT TA=25°C

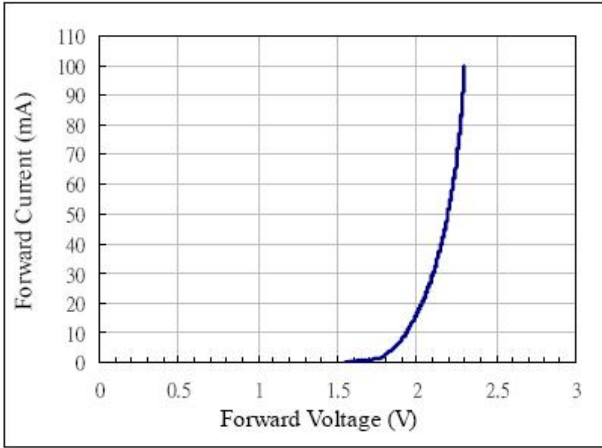
| Parameter | Symbol | Condition | Color | Rating | Units |
|----------------------------------|-----------|-------------------|-------|----------|-------|
| Power Dissipation Per Segment | P_d | — | Red | 65 | mW |
| Forward Current Per Segment | I_F | — | Red | 25 | mA |
| Peak Forward Current Per Segment | I_{FP} | 1/10 Duty 1KHz | Red | 100 | mA |
| Reverse Voltage Per Segment | V_R | — | Red | 5 | V |
| Operating Temperature Range | T_{opr} | — | — | -40~+105 | °C |
| Storage Temperature Range | T_{stg} | — | — | -40~+105 | °C |

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

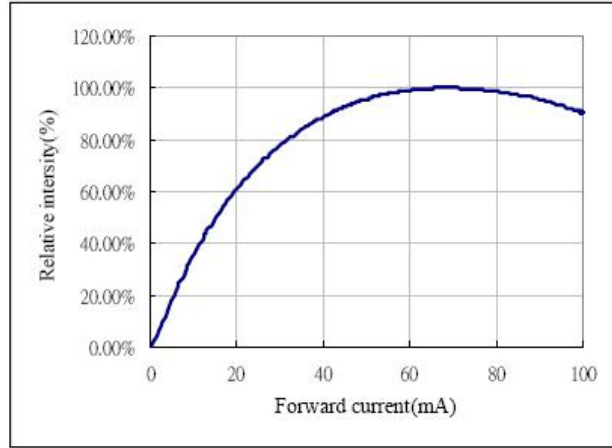
| Item | Symbol | Test conditions | Location | Rating | | | Units |
|--------------------------|------------------|-----------------|----------|--------|------|-------|---------|
| | | | | Min. | Typ. | Max. | |
| Forward Voltage | V_F | $I_F=20mA$ | Per Chip | 1.8 | 2.0 | 2.6 | V |
| Reverse Current | I_R | $V_R=5V$ | Per Chip | — | — | 100 | μA |
| Luminous Intensity | I_V | $I_F=10mA$ | Per Chip | 4001 | 6500 | 10500 | ucd |
| Wave Length | λ_P | $I_F=20mA$ | Per Chip | — | 635 | — | nm |
| | λ_D | | | — | 630 | — | |
| Spectral Line Half Width | $\Delta \lambda$ | $I_F=20mA$ | Per Chip | — | — | 20 | nm |

■ Typical Optical-Electronic Characteristic Curves

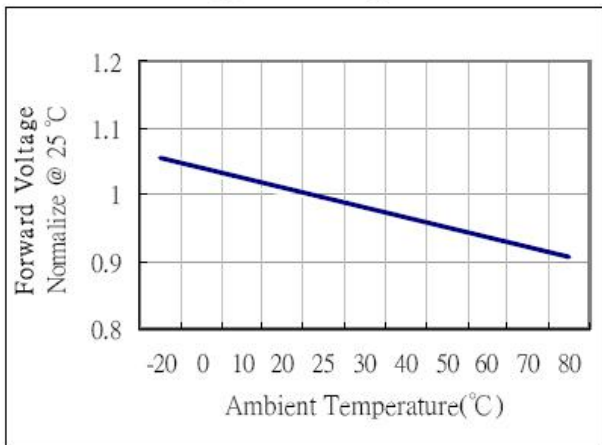
Forward current vs. Forward voltage



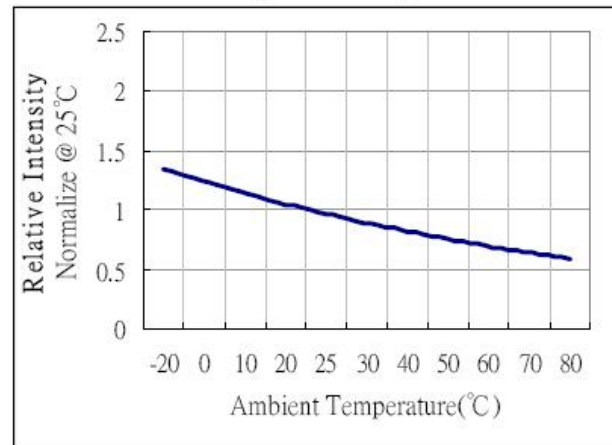
Relative intensity vs. Forward current



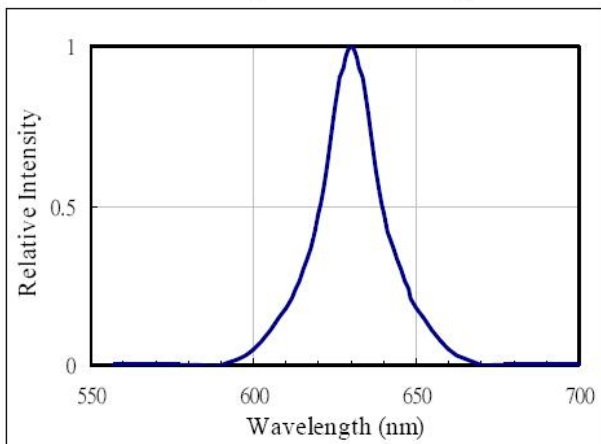
Forward voltage vs. Temperature



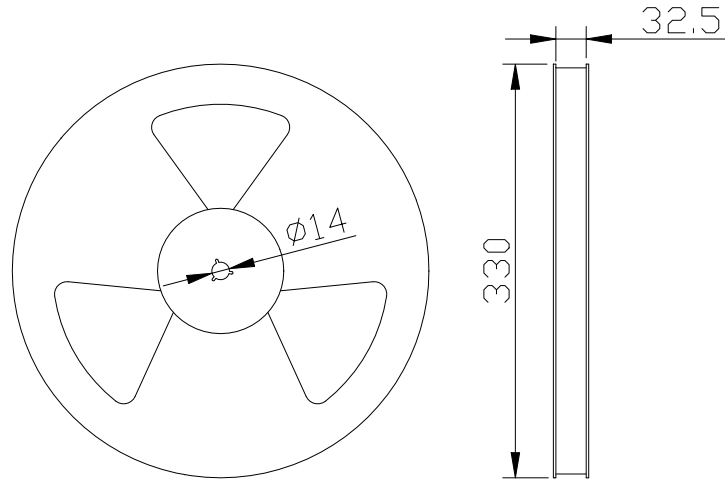
Relative intensity vs. Temperature



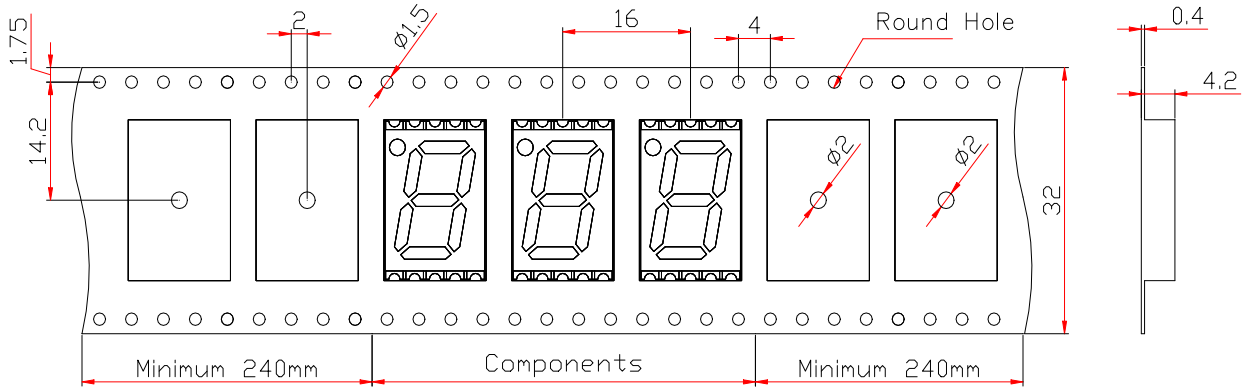
Relative intensity vs. Wavelength



■ **Packing Reel Dimensions(mm):**

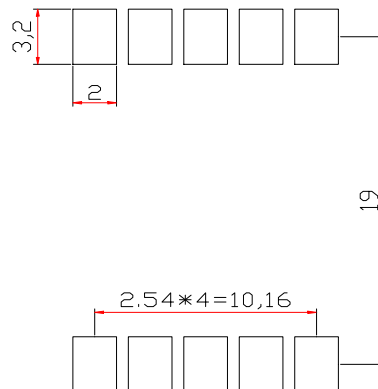


■ **Dimensions of Tape (Unit: mm)**



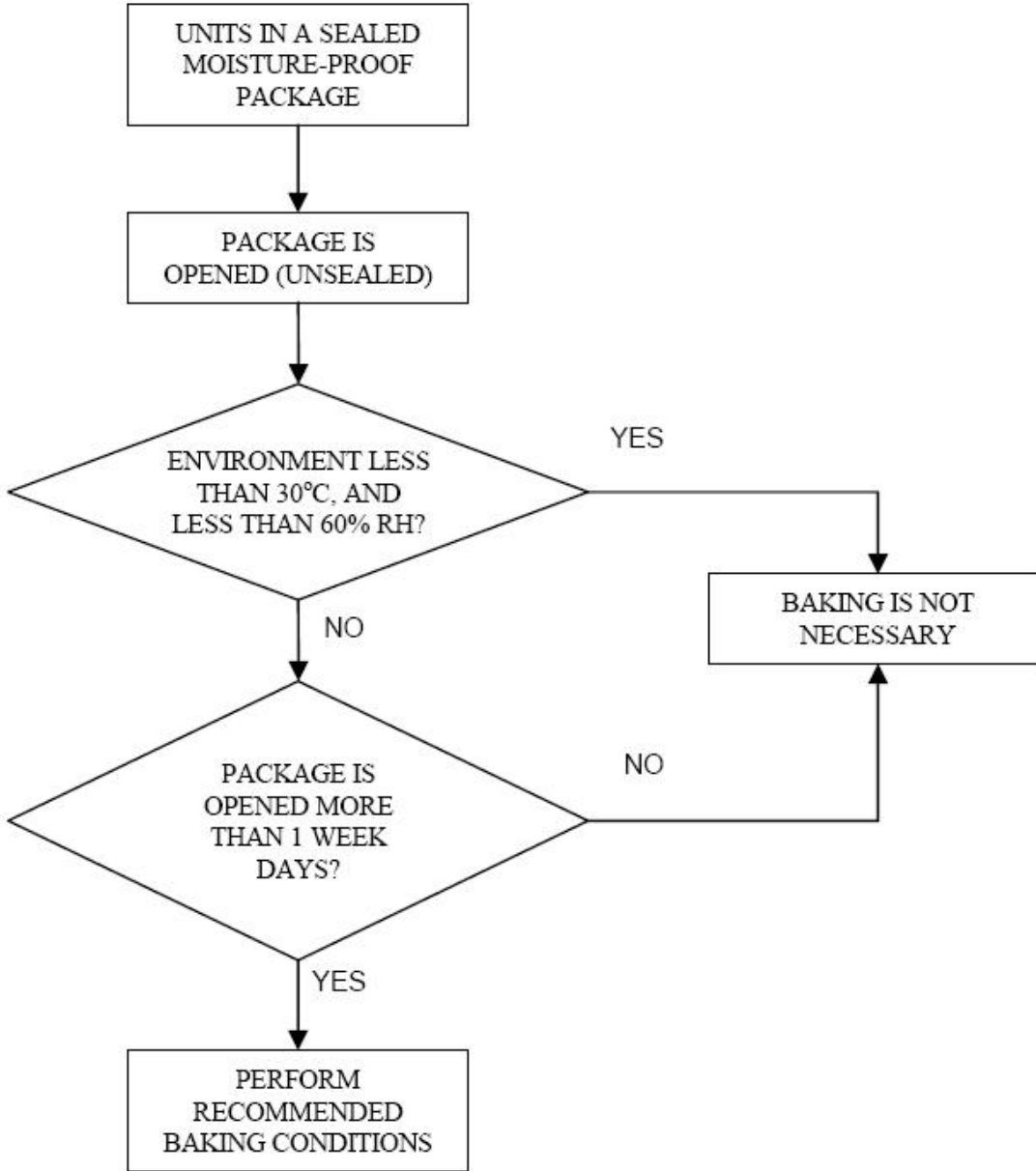
■ **One Reel contained 1000 PCS products:**

■ **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.**