

## WCN Opto Group Co., Limited

**Customer Name:**

**Date:**

2017-07-15

**Part No:**

WCN3S-1056R7-A3

**Product Group Description:**

LED Display

**Customer Part No:**

**Approval Date:**

**Customer Confirmation**

**Approved by**

**Checked by**

Athena  
2017-07-15

**Prepared By**

Fei  
2017-07-15

Country of Origin: China

World Components Network Service Ltd

5th Floor,Block A-2,Xuxingda Ind Zone  
Shiyan Town,Bao An District , Shenzhen  
Tel : (86)755-29000022  
Fax : (86)755-29000023



[www . wcnopto.net](http://www.wcnopto.net)

**Table of Contents**

<b>NO.</b>	<b>ITEM</b>	<b>PAGE</b>
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



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

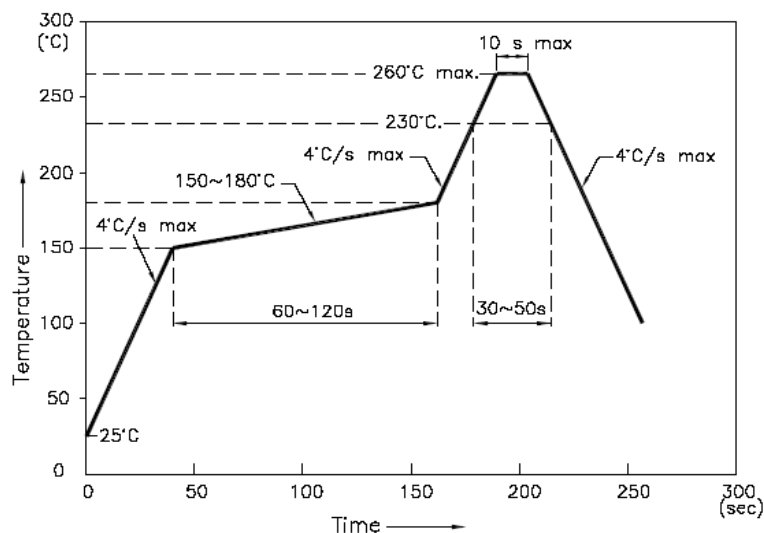
WCN3S-1056R7-A3 / WCN Opto Group Co., Limited.

**2. Features:**

- High Reliability
- Low Power Requirement
- Easy Assembly

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

Soldering Power <30 W.

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

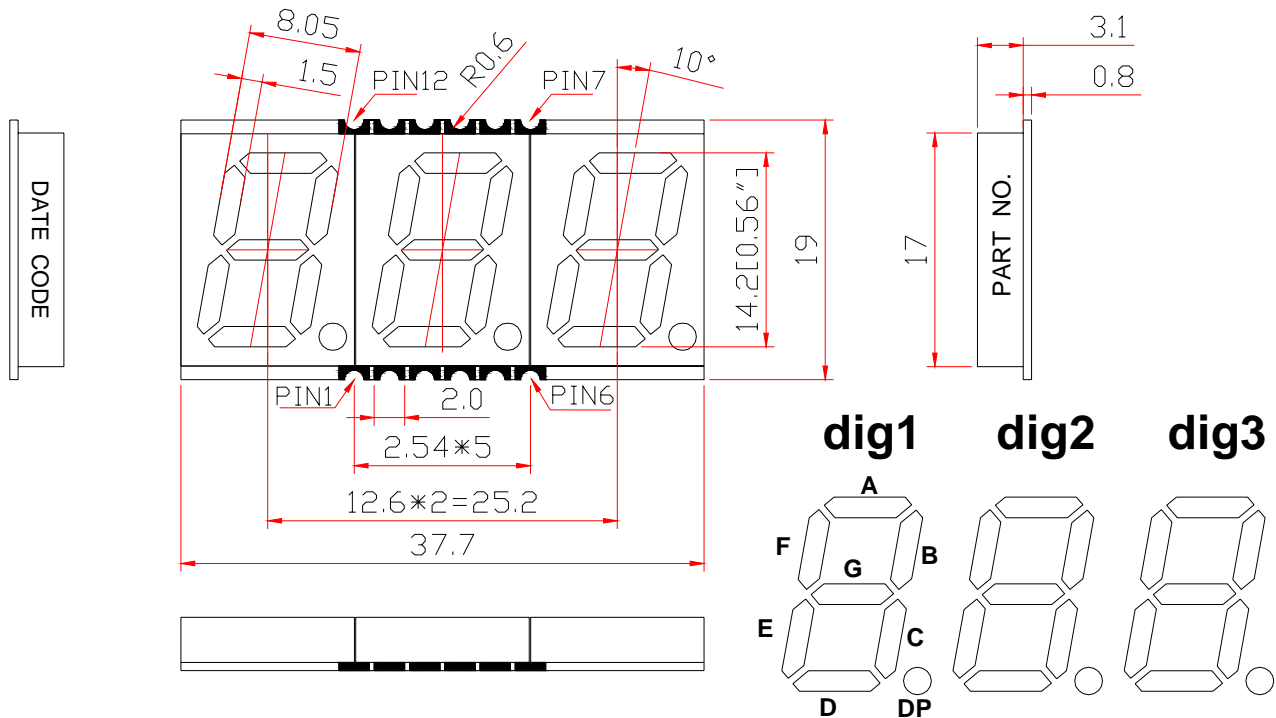
5.1. We recommend the re-flow temperature  $245^{\circ}\text{C}(\pm 5^{\circ}\text{C})$ . the maximum soldering temperature should be limited to  $260^{\circ}\text{C}$ .

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:**

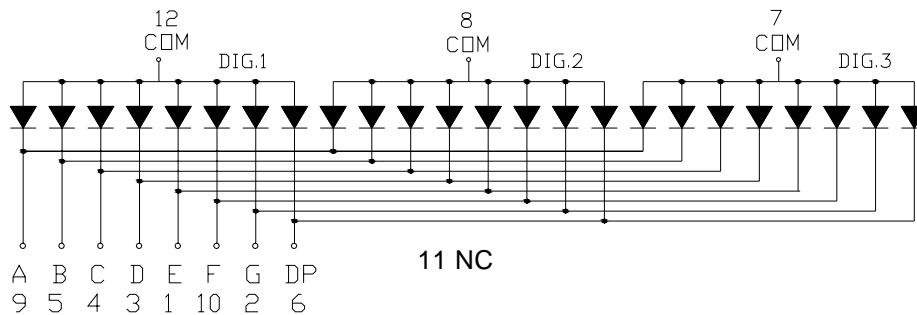
- Three Digit LED Display
- Digit Height: 14.2mm(0.56" )
- Gray Face and Milky Segment
- Color: Red

### 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	7	Common Anode Dig.3
2	Cathode G	8	Common Anode Dig.2
3	Cathode D	9	Cathode A
4	Cathode C	10	Cathode F
5	Cathode B	11	NC
6	Cathode DP	12	Common Anode Dig.1

# WCN Opto Group Co., Limited

## ■ 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	Topr	—	—	-40~+105	°C
Storage Temperature Range	Tstg	—	—	-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	$\mu A$
Luminous Intensity	$I_V$	$I_F=10mA$	Per Chip	10501	16500	26000	ucd
Wave Length	$\lambda_P$	$I_F=20mA$	Per Chip	—	630	—	nm
	$\lambda_D$			—	622	—	
Spectral Line Half Width	$\Delta \lambda$	$I_F=20mA$	Per Segment	—	20		nm
Luminous Intensity Matching Ratio (Segment To Segment)	$I_{v-m}$	$I_F=10mA$				1.2:1	

■ **Typical Optical-Electronic Characteristic Curves**

Fig 1. Forward Current vs. Forward Voltage

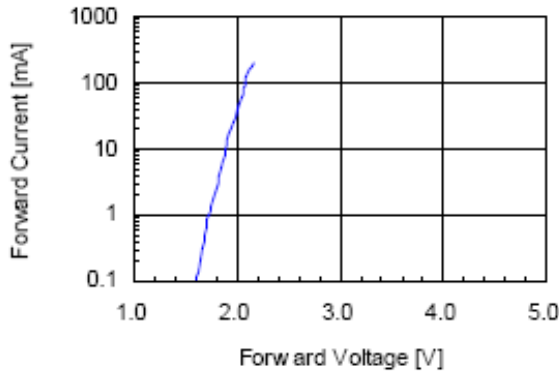


Fig 2. Relative Intensity vs. Forward Current

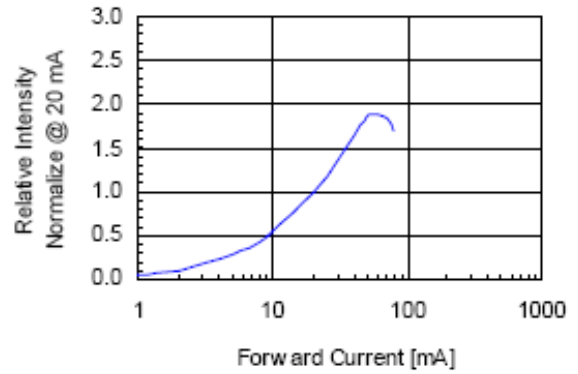


Fig 3. Forward Voltage vs. Temperature

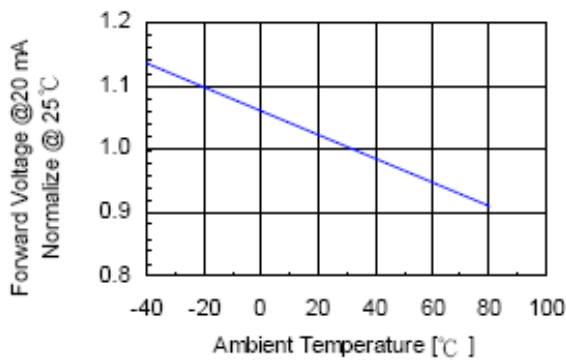


Fig 4. Relative Intensity vs. Temperature

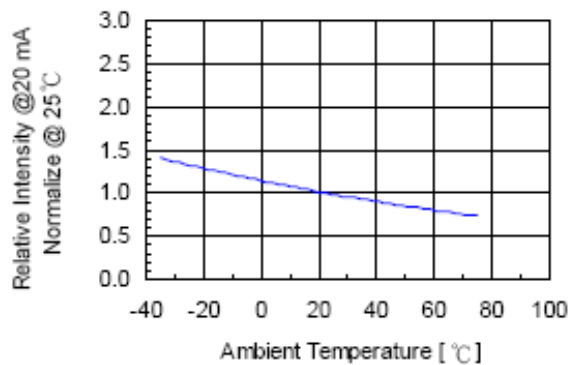
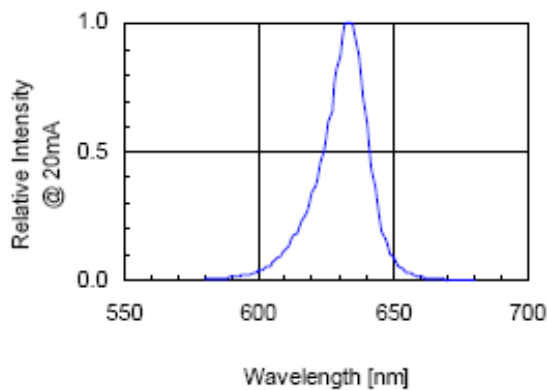
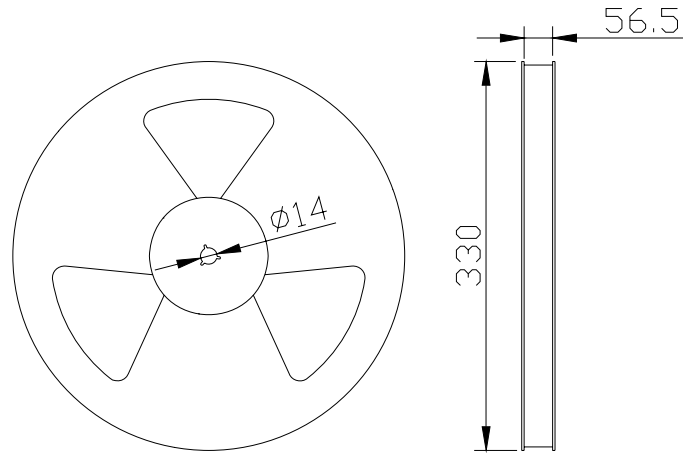


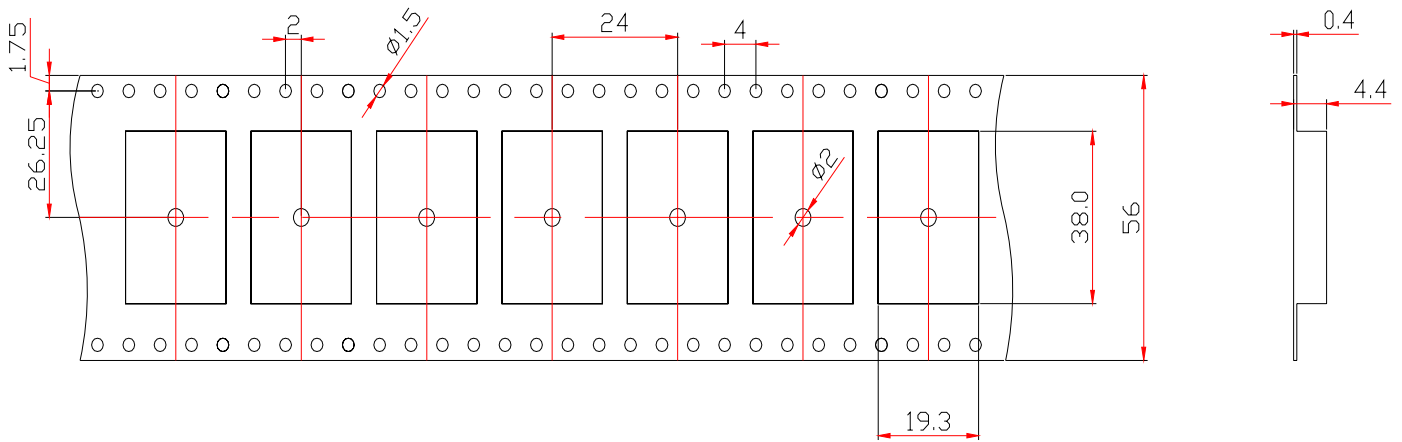
Fig 5. Relative Intensity vs. Wavelength



■ Packing Reel Dimensions(mm):

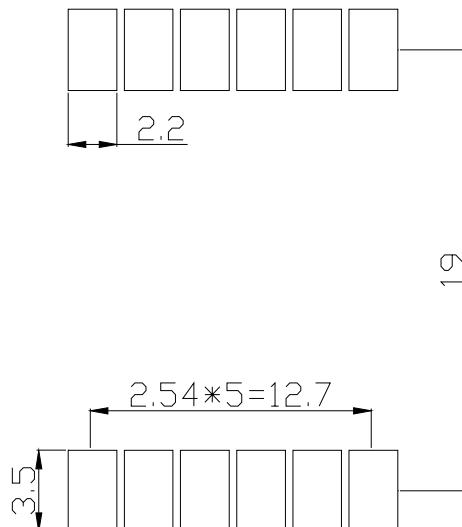


■ Dimensions of Tape (Unit: mm)



■ One Reel contained 600 PCS products:

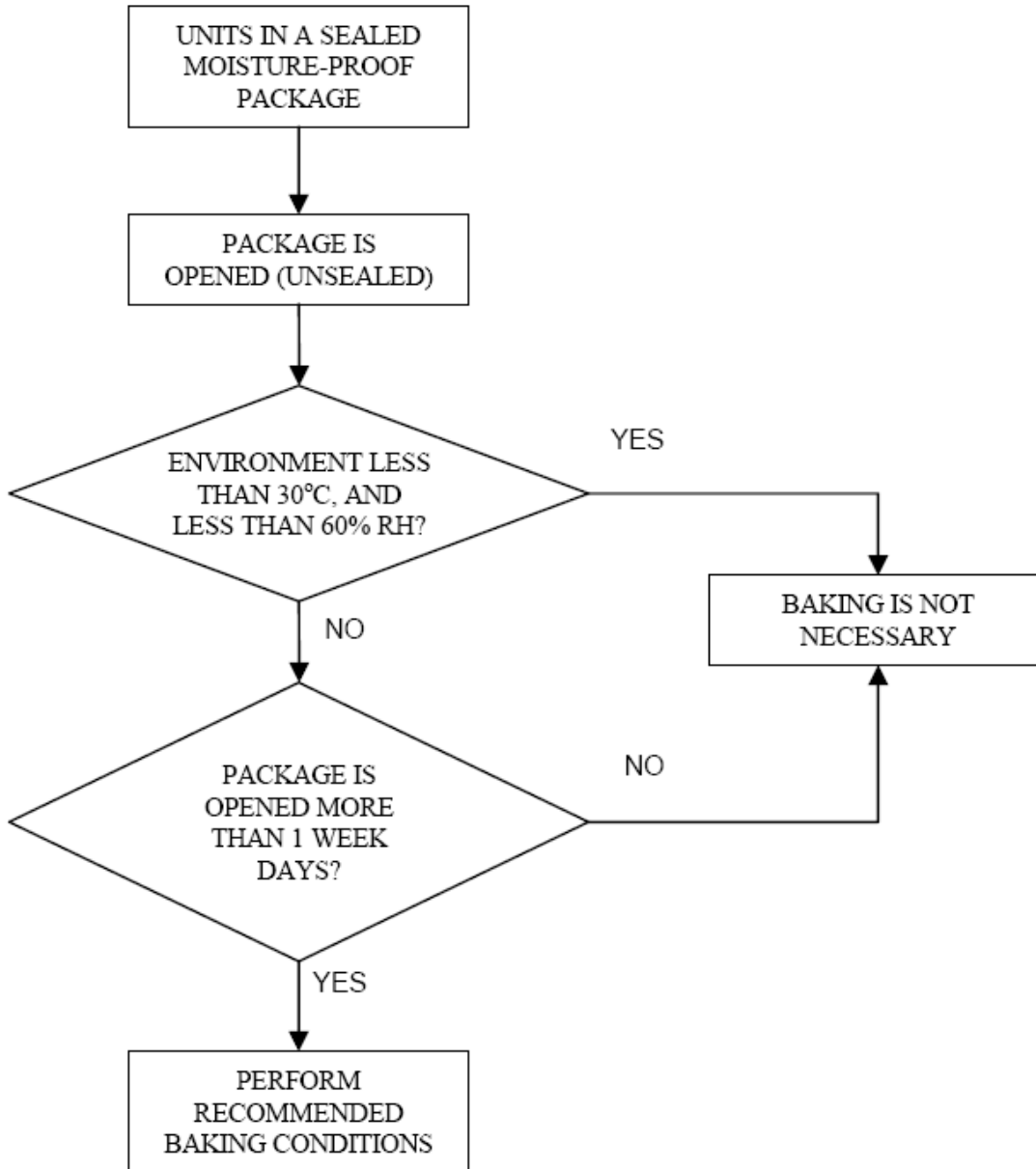
■ Recommended Soldering Pattern:





### 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.