

## WCN Opto Group Co., Limited

Customer Name:

Date:

2017-8-16

Part No:

WCN3S-1040WW-A1

Product Group  
Description:

LED Display

Customer Part No:

Approval Date:

Customer  
Confirmation

Approved by

William  
2017-8-16

Checked by

Athena  
2017-8-16

Prepared By

Fei  
2017-8-16



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

**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
10	LED Displays Reliability Test	10



# WCN Opto Group Co., Limited

## REVISION RECORD

MARKER	Matter for revision	SHEET	DTAE	MAKER	APPOVED SIGN	
	Reason for revision					
A0	P# WCN3S-1040WW-A1	Whole Spec	2013-11-22	Fei	Athena	
	New Version issued					
A1	New Version issued	Whole Spec	2017-8-16	Fei	Athena	
	Improved					

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

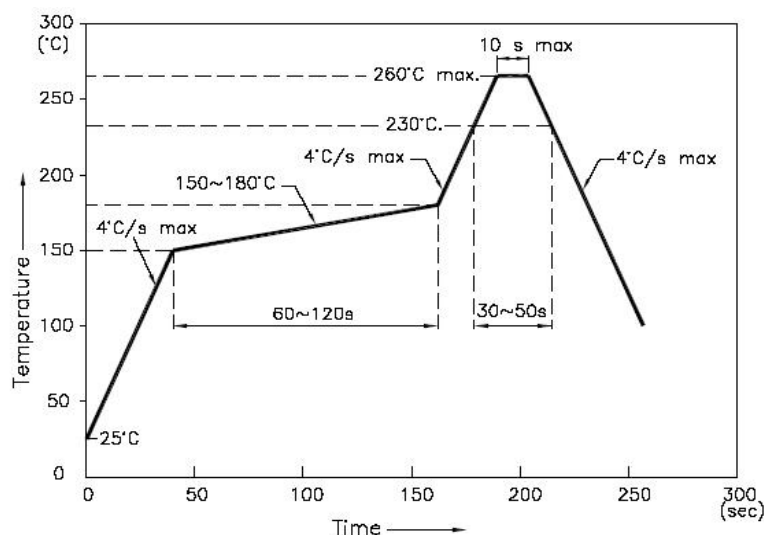
WCN3S-1040WW-A1 / WCN Opto Group Co., Limited.

**2. Features:**

- High Reliability
- Low Power Requirement
- Easy Assembly

**3. Faction: Display Digit Characteristic****4. Soldering Conditions: Soldering Temp.  $260 \pm 5$  °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: 10.16mm(0.40" )
- Gray Face and Milky Segment
- Color: White



**■ ABSOLUTE MAXIMUM RATINGS AT TA=25°C**

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment	$P_d$	—	White	92.5	mW
Forward Current Per Segment	$I_F$	—	White	25	mA
Peak Forward Current Per Segment	$I_{FP}$	1/10 Duty 1KHz	White	100	mA
Reverse Voltage Per Segment	$V_R$	—	White	5	V
Operating Temperature Range	$T_{opr}$	—	—	-40~+105	°C
Storage Temperature Range	$T_{stg}$	—	—	-40~+105	°C

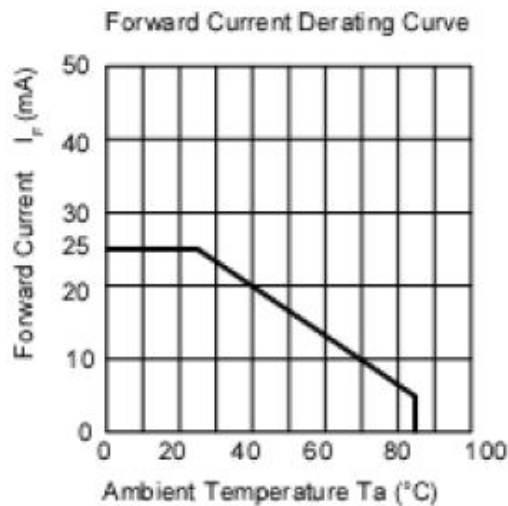
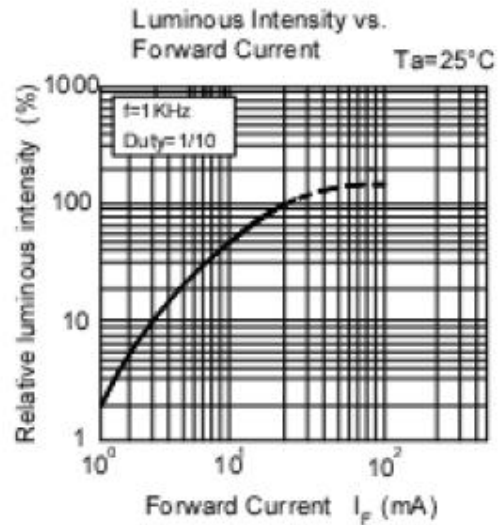
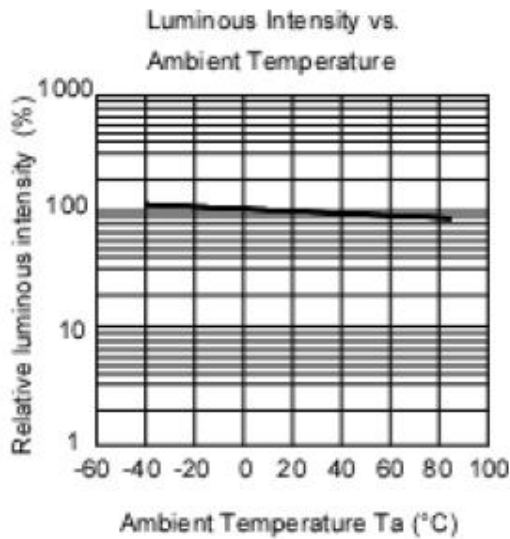
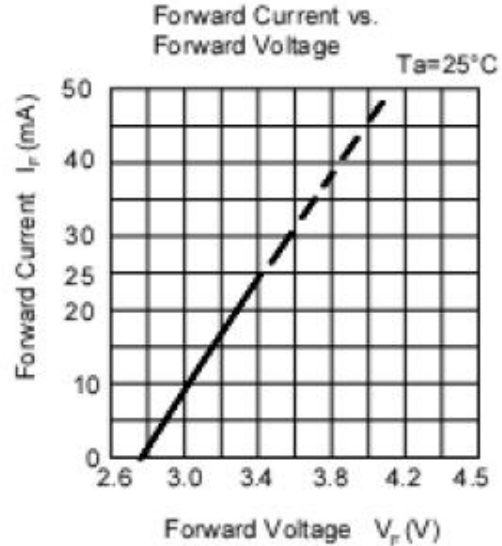
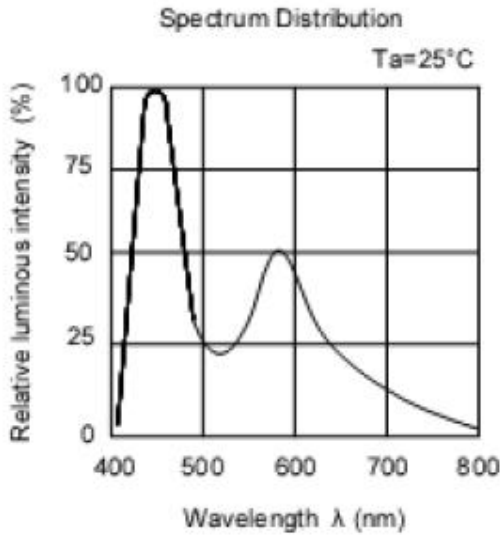
**■ Electrical/Optical Characteristics Rating(Ta=25°C)**

Item	Symbol	Test conditions	Location	Rating			Units
				Min.	Typ.	Max.	
Forward Voltage	$V_F$	$I_F=20mA$	Per Chip	2.6	3.0	3.7	V
Reverse Current	$I_R$	$V_R=5V$	Per Chip	—	—	100	$\mu A$
Luminous Intensity	$I_v$	$I_F=20mA$	Per Chip	500	800	1100	mcd
CIE Coordinate	X	$I_F=20mA$	Per Chip	—	0.2499	—	
	Y			—	0.2403	—	
Luminous Intensity Matching Ratio (Segment To Segment)	$I_{v-m}$	$I_F=10mA$				1.2:1	

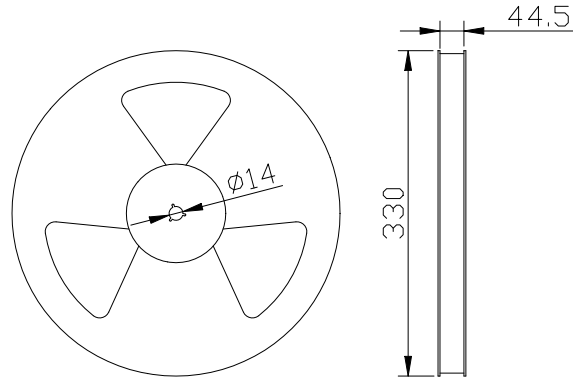
**■ Luminous Intensity Sorting: (Luminous intensity tolerance :+/-10%)**

Rank	Symbol	Condition	Min	Max	Unit
G	G	$I_F=20mA$	500	600	mcd
H	H	$I_F=20mA$	600	800	mcd
I	I	$I_F=20mA$	800	1100	mcd

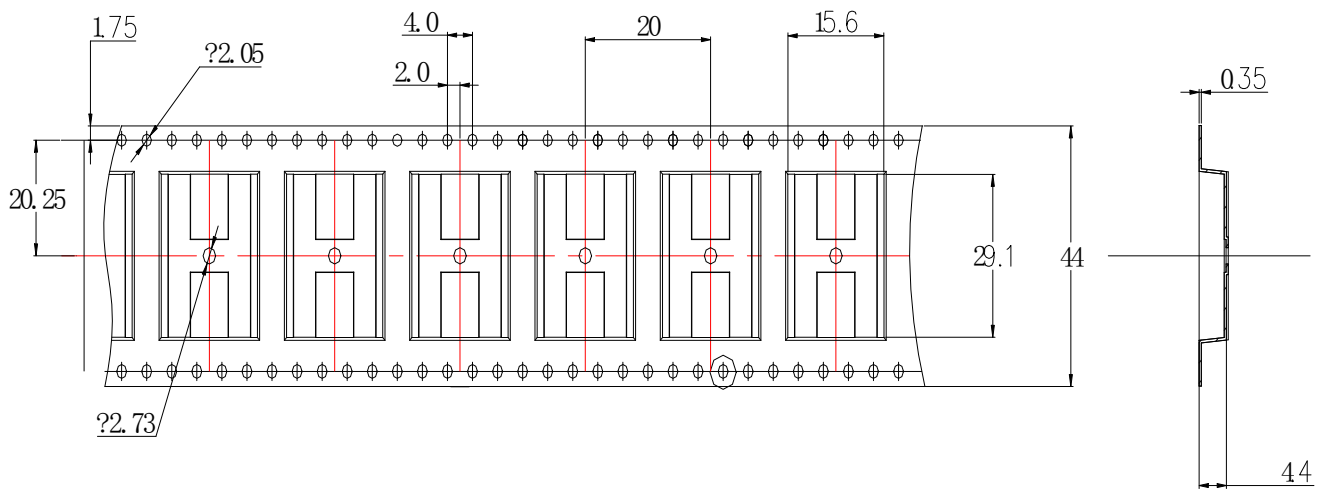
■ Typical Elector-Optical Characteristics Curve:



■ Packing Reel Dimensions(mm):

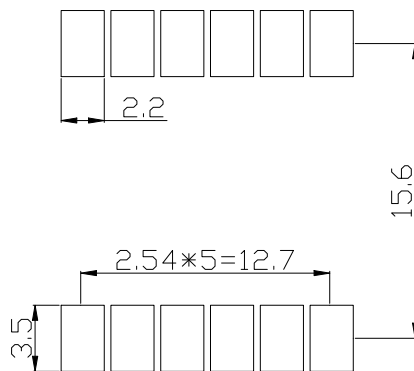


■ Dimensions of Tape (Unit: mm)



■ One Reel contained 780 PCS products:

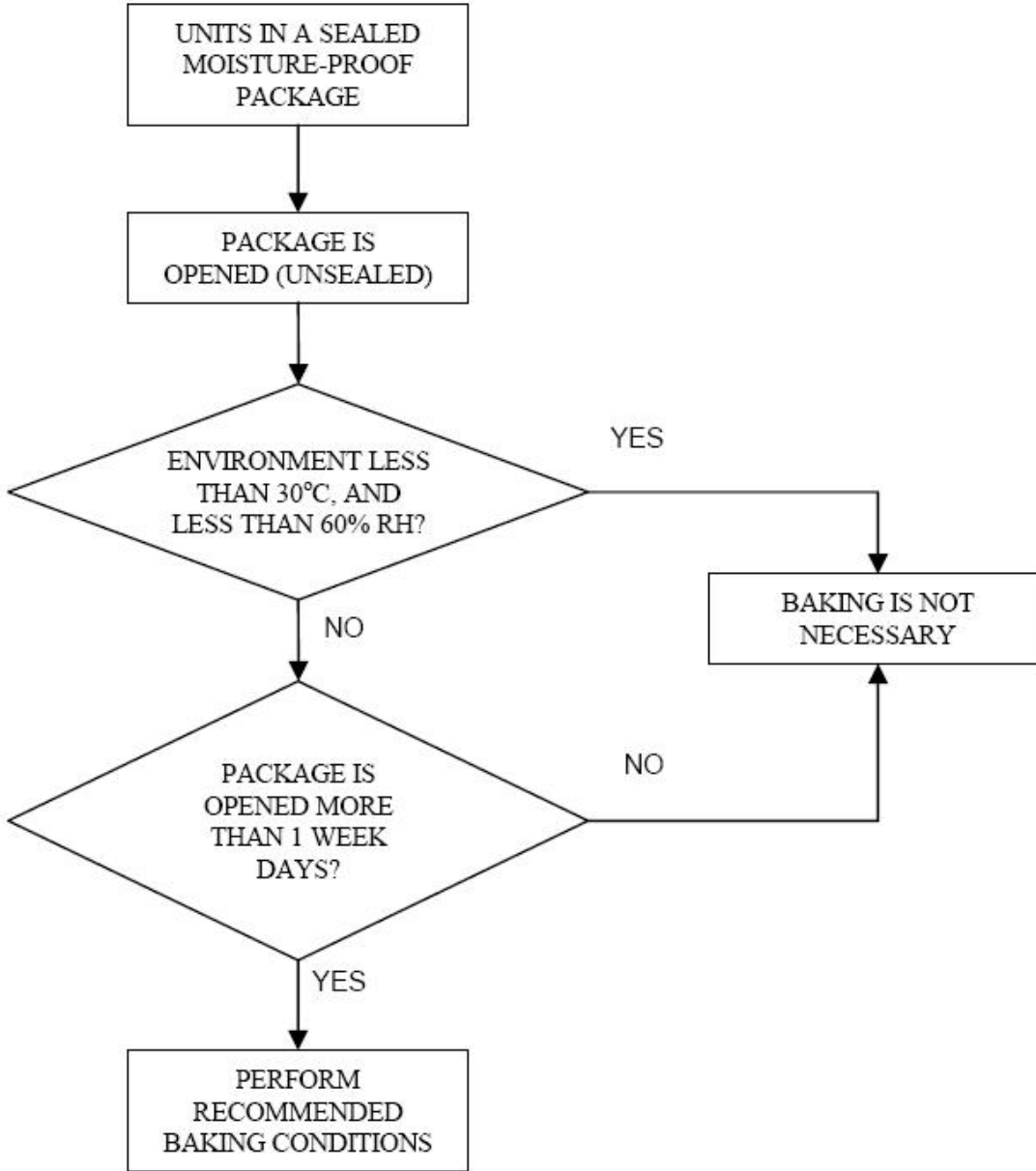
■ Recommended Soldering Pattern:





■ **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.**