



# WCN Opto Group Co., Limited

Customer Name:

Date:

2024-10-6

Part No:

WCN3S-1039B7-C1

Product Group  
Description:

LED Display

Customer Part No:

Approval Date:

Customer  
Confirmation

Approved by

William  
2024-10-6

Checked by

Athena  
2024-10-6

Prepared By

Liu  
2024-10-6

Country of Origin: China

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## REVISION RECORD

MARKER	Matter for revision	SHEET	DTAE	MAKER	APPOVED SIGN	
	Reason for revision					
A0	P# WCN3S-1039B7-C1	Whole Spec	2015-10-27	Fei	Athena	William
	New Version issued					
A1	Change Version	Whole Spec	2024-10-6	Liu	Athena	William
	Improved					

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

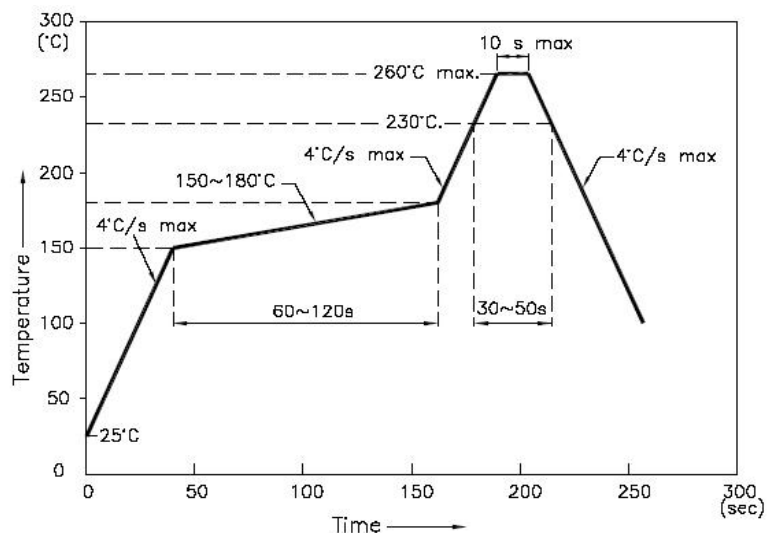
WCN3S-1039B7-C1 / WCN Opto Group Co., Limited.

**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:**

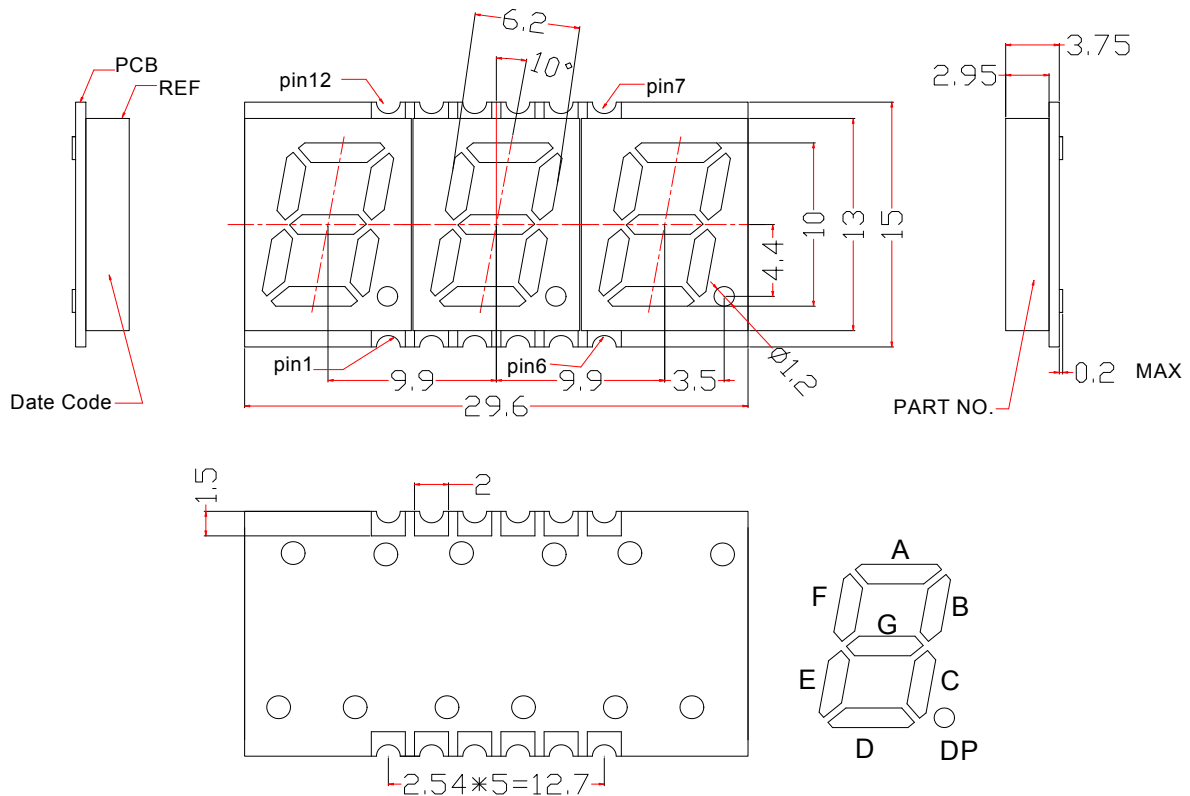
5.1. We recommend the re-flow temperature  $245^{\circ}\text{C}(\pm 5^{\circ}\text{C})$ . the maximum soldering temperature should be limited to  $260^{\circ}\text{C}$ .

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:**

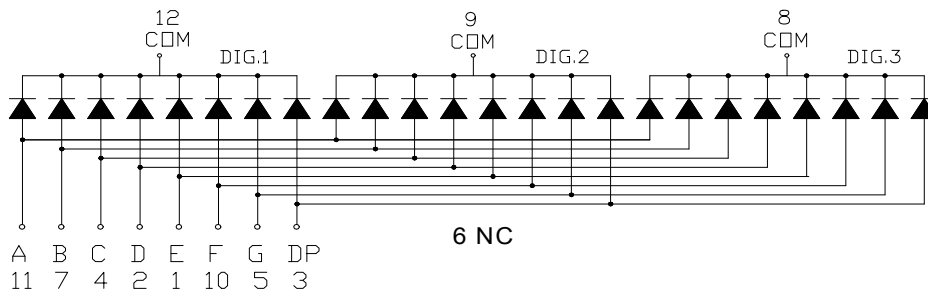
- Three Digit LED Display
- Digit Height: 10.0mm(0.39" )
- Gray Face and Milky Segment
- Color: Blue

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

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## ABSOLUTE MAXIMUM RATINGS AT TA=25°C

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment	P <sub>d</sub>	—	Blue	85	mW
Forward Current Per Segment	I <sub>F</sub>	—	Blue	25	mA
Peak Forward Current Per Segment	I <sub>FP</sub>	1/10 Duty 1KHz	Blue	100	mA
Reverse Voltage Per Segment	V <sub>R</sub>	—	Blue	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 <sub>F</sub>	I <sub>F</sub> =20mA	Per Segment	2.6	3.0	3.4	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	Per Segment	—	—	100	μA
Luminous Intensity	I <sub>V</sub>	I <sub>F</sub> =10mA	Per Segment	12.8	19.5	31.0	mcd
Wave Length	λ <sub>P</sub>	I <sub>F</sub> =20mA	Per Segment	—	460	—	nm
	λ <sub>D</sub>			—	465	—	
Spectral Line Half Width	△λ	I <sub>F</sub> =20mA	Per Segment	—	—	20	nm
Luminous Intensity Matching Ratio (Segment To Segment)	I <sub>v-m</sub>	I <sub>F</sub> =10mA				1.2:1	

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

Rank	Symbol	Condition	Min	Max	Unit
R	R	I <sub>F</sub> =10mA	12.801	15.250	mcd
S	S	I <sub>F</sub> =10mA	15.251	18.000	mcd
T	T	I <sub>F</sub> =10mA	18.001	21.500	mcd
U	U	I <sub>F</sub> =10mA	21.501	26.000	mcd
V	V	I <sub>F</sub> =10mA	26.001	31.000	mcd

## ■ Typical Elector-Optical Characteristics Curve:

Fig1. Forward Current vs. Forward Voltage:

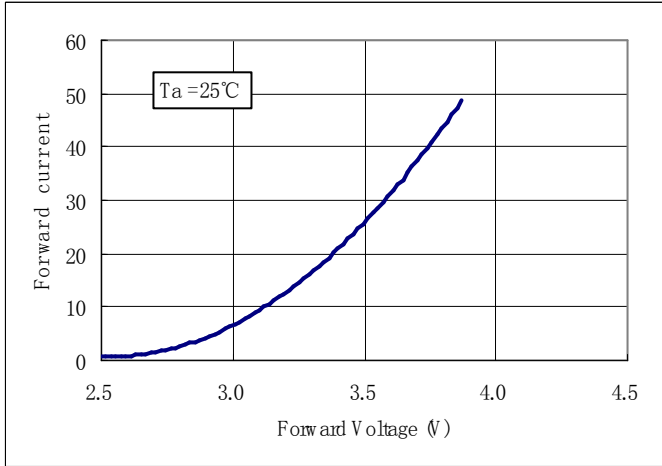


Fig2. Forward Current vs. Relative Intensity:

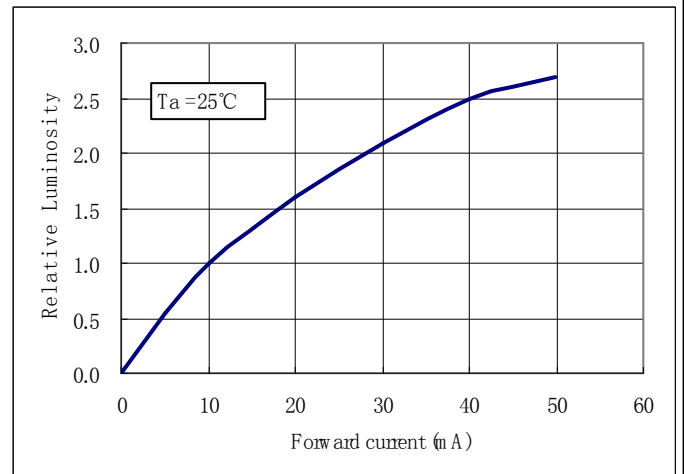


Fig3. Forward Current vs. Relative wavelength:

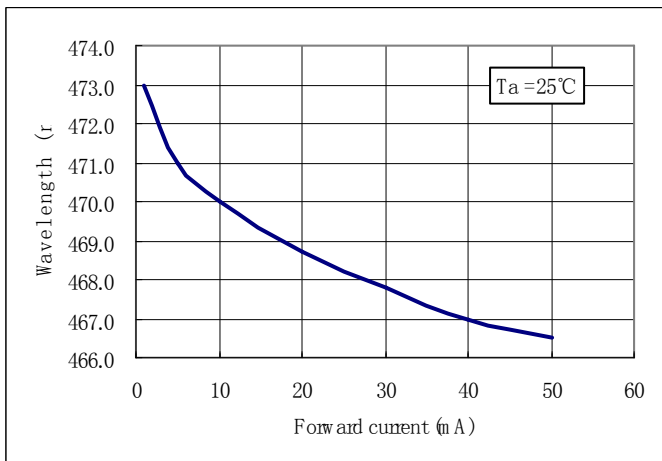
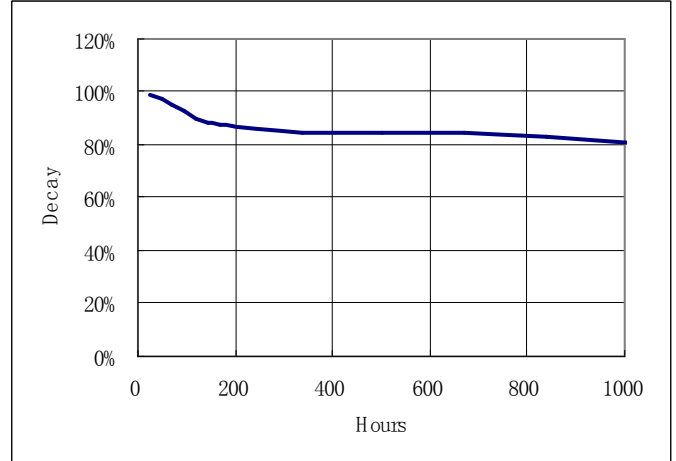
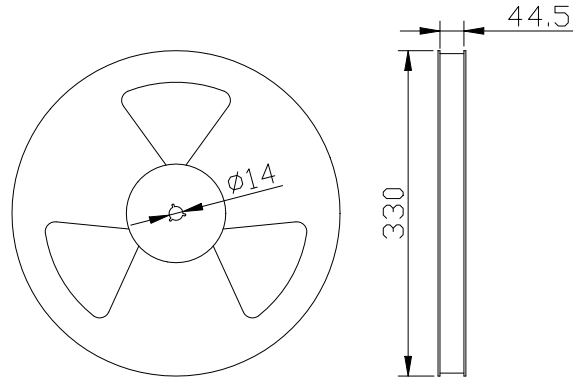


Fig4. Life Test at 20mA R.T. 1000hrs:

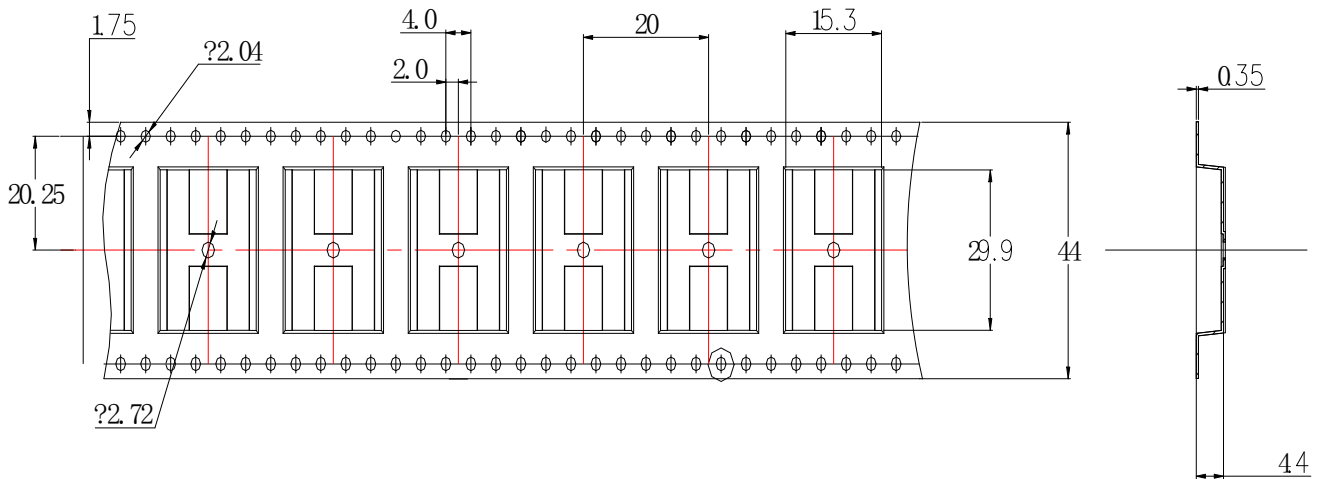


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■ Packing Reel Dimensions(mm):

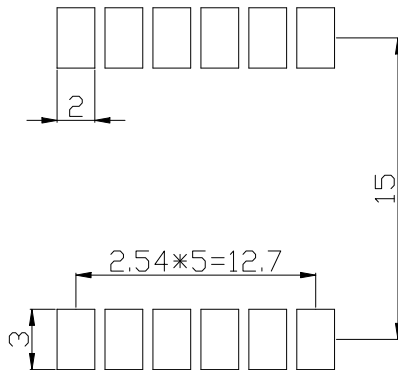


■ Dimensions of Tape (Unit: mm)



■ One Reel contained 700PCS products:

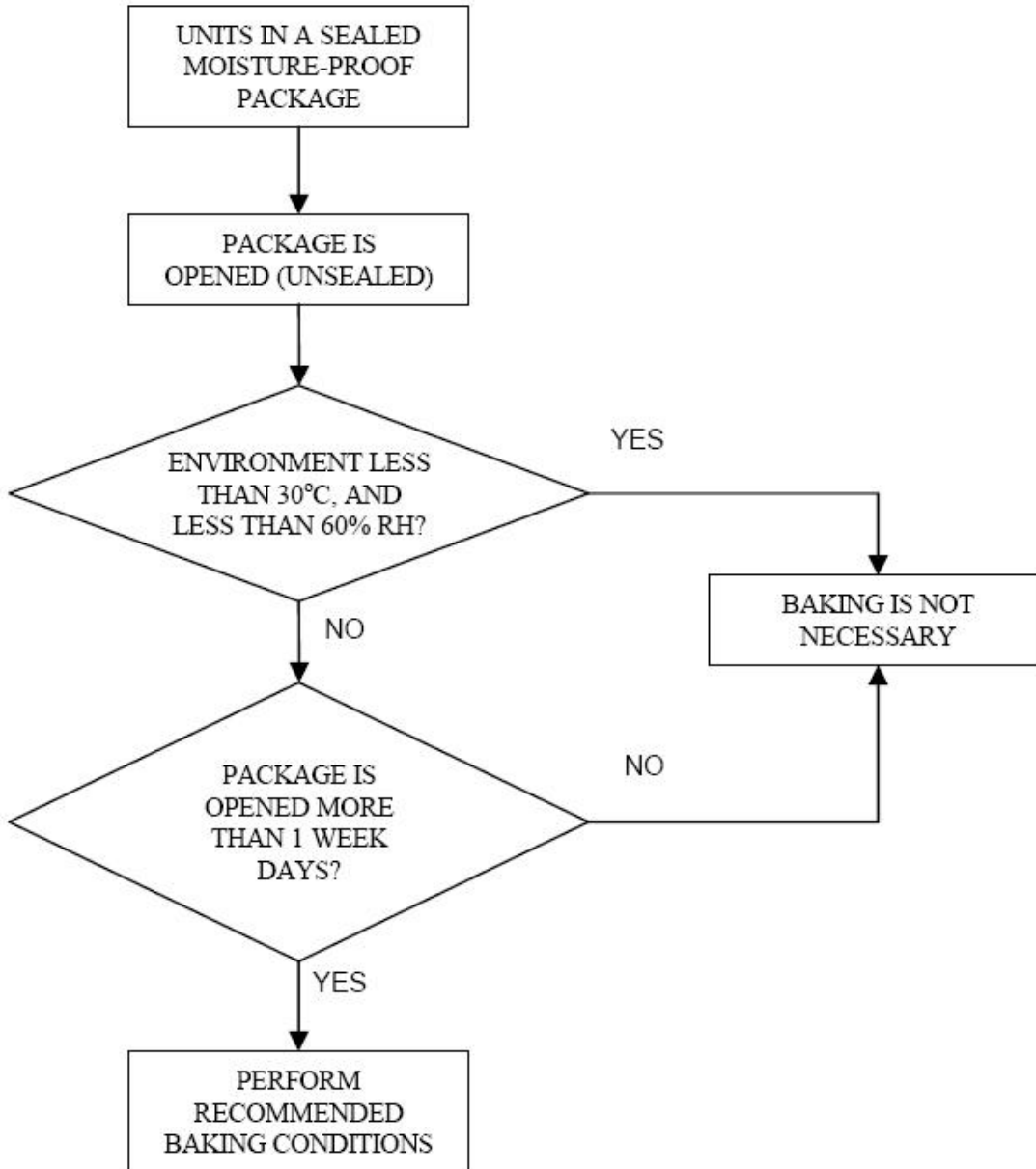
■ Recommended Soldering Pattern:





## 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.