



WCN Opto Group Co., Limited

Customer Name:

Date:

2024-9-27

Part No:

WCN3S-1030GU-A1

Product Group
Description:

LED Display

Customer Part No:

Approval Date:

Customer
Confirmation

Approved by

William
2024-9-27

Checked by

Athena
2024-9-27

Prepared By

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2024-9-27

Country of Origin: China

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1. Type No./Manufacture's Name

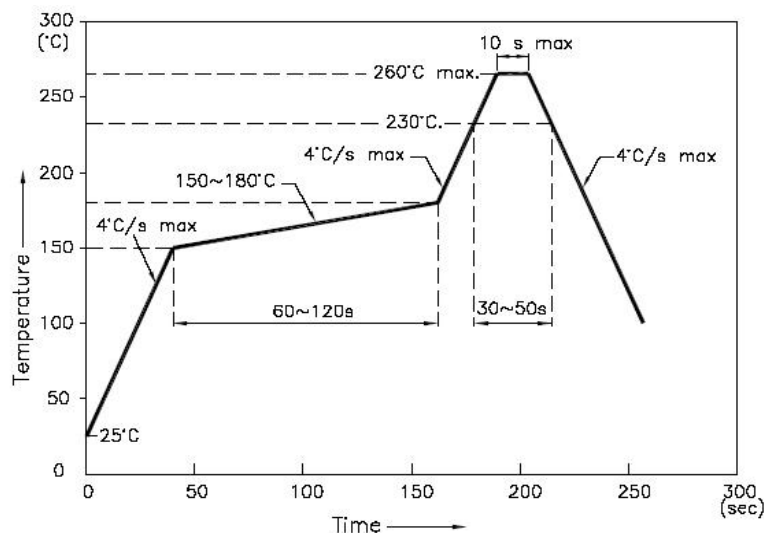
WCN3S-1030GU-A1 / WCN Opto Group Co., Limited.

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:**

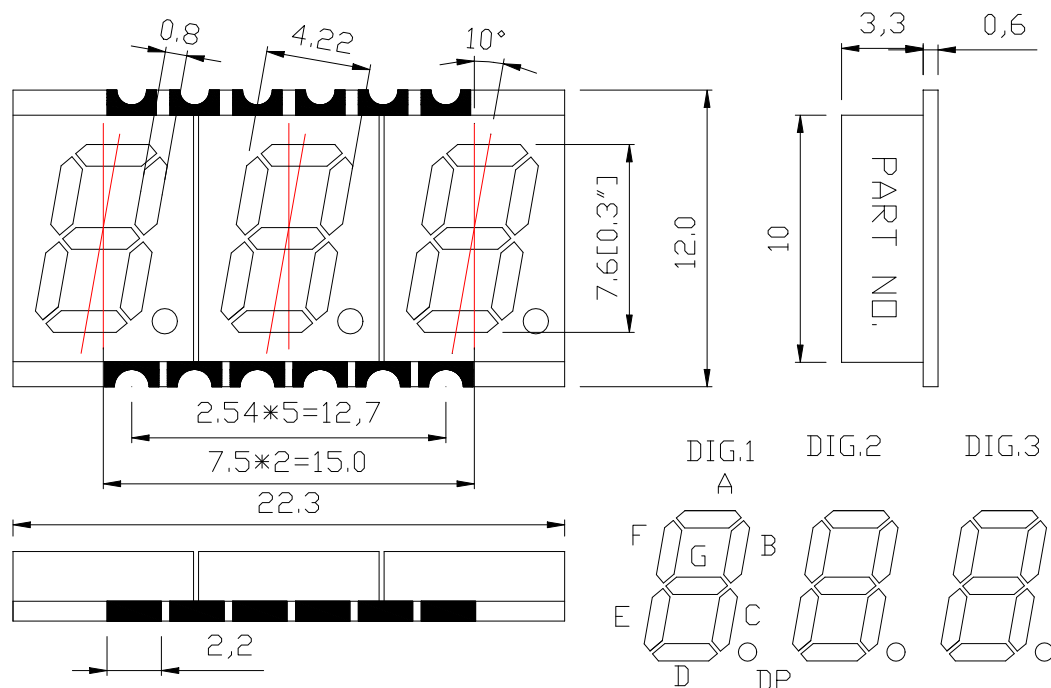
5.1. We recommend the re-flow temperature $245^{\circ}\text{C}(\pm 5^{\circ}\text{C})$. the maximum soldering temperature should be limited to 260°C .

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:

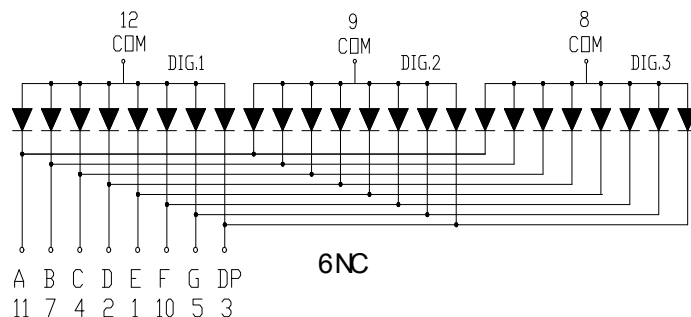
- **Three Digit LED Display**
- **Digit Height: 7.6mm(0.30")**
- **Gray Face and Milky Segment**
- **Color: Yellow Green**

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

ABSOLUTE MAXIMUM RATINGS AT TA=25°C

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment	P _d	—	Yellow Green	65	mW
Forward Current Per Segment	I _F	—	Yellow Green	25	mA
Peak Forward Current Per Segment	I _{FP}	1/10 Duty 1KHz	Yellow Green	100	mA
Reverse Voltage Per Segment	V _R	—	Yellow Green	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	1.80	2.2	2.60	V
Reverse Current	I _R	V _R =5V	Per Chip	—	—	100	μA
Luminous Intensity	I _V	I _F =10mA	Per Chip	2351	4500	7200	ucd
Wave Length	λ _P	I _F =20mA	Per Chip	—	568	—	nm
	λ _D			—	571	—	
Spectral Line Half Width	△λ	I _F =20mA	Per Chip	—	—	20	nm
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
J	J	I _F =10mA	2351	3050	ucd
K	K	I _F =10mA	3051	4000	ucd
L	L	I _F =10mA	4001	5000	ucd
M	M	I _F =10mA	5001	6100	ucd
N	N	I _F =10mA	6101	7200	ucd

Hue Grade: I_F =10mA (Hue:+/-1nm)

Rank	Symbol	Hue Range	Units
3	3	568.1~570.0	nm
4	4	570.1~572.0	nm

Typical Optical-Electronic Characteristic Curves

Fig 1. Forward Current vs. Forward Voltage

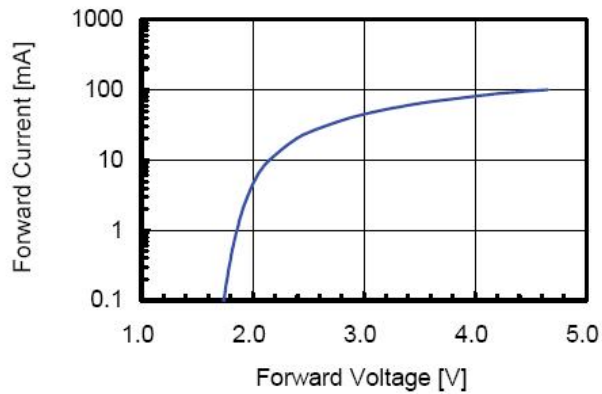


Fig 2. Relative Intensity vs. Forward Current

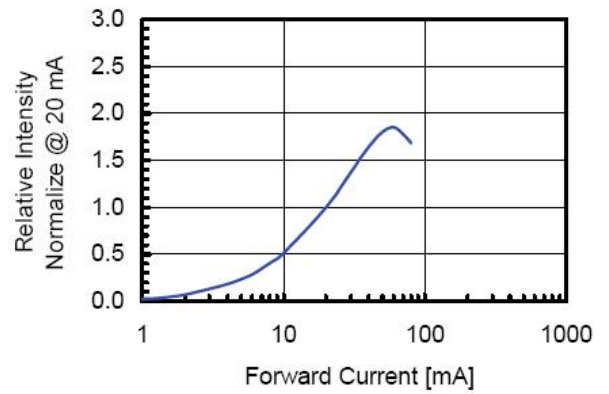


Fig 3. Forward Voltage vs. Temperature

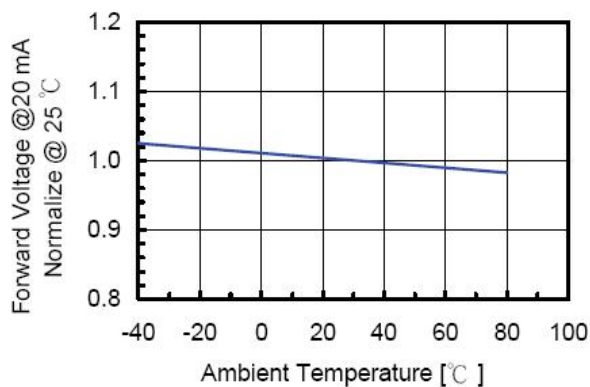


Fig 4. Relative Intensity vs. Temperature

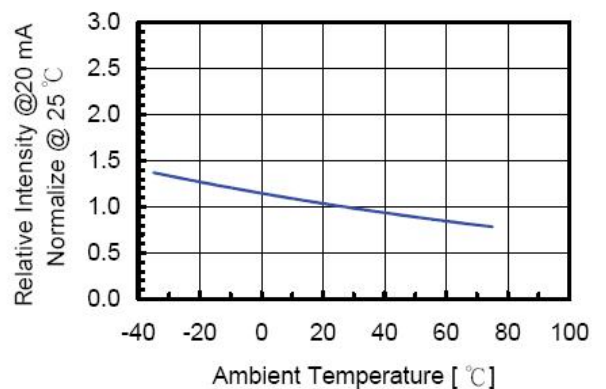
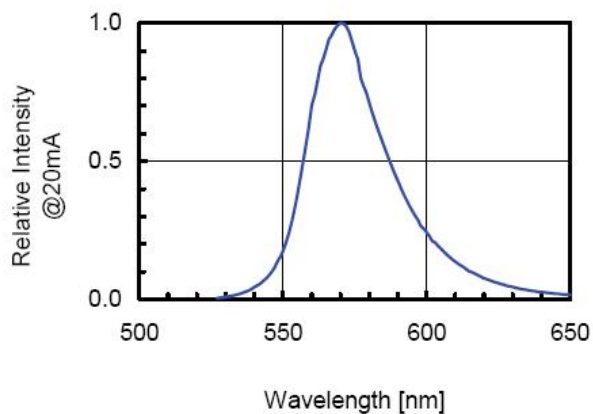
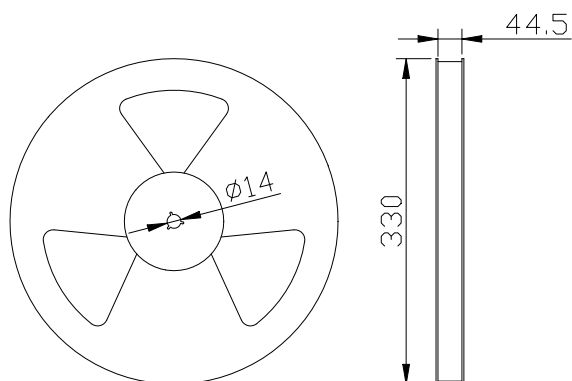


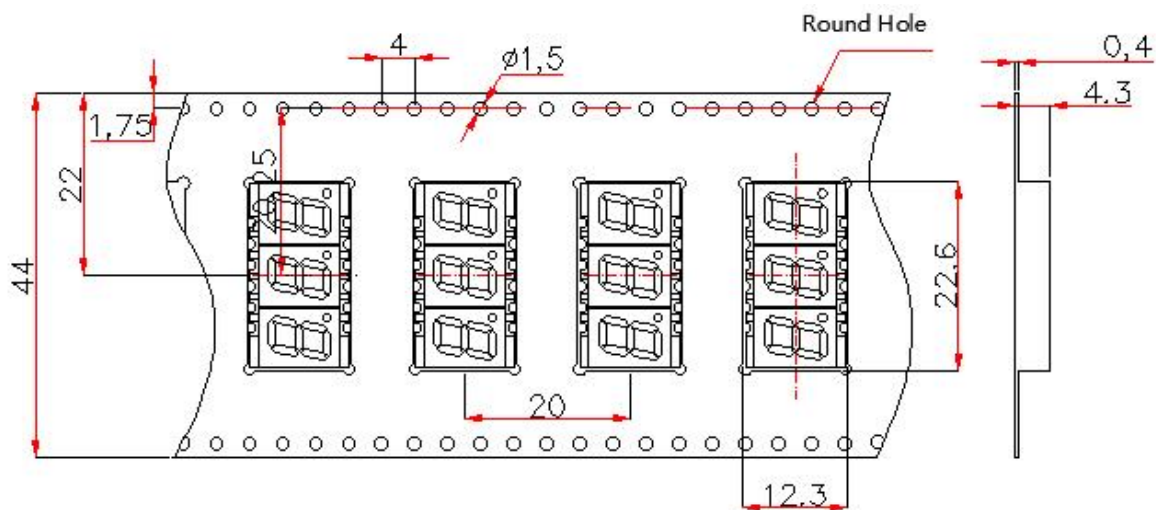
Fig 5. Relative Intensity vs. Wavelength



■ Packing Reel Dimensions(mm):

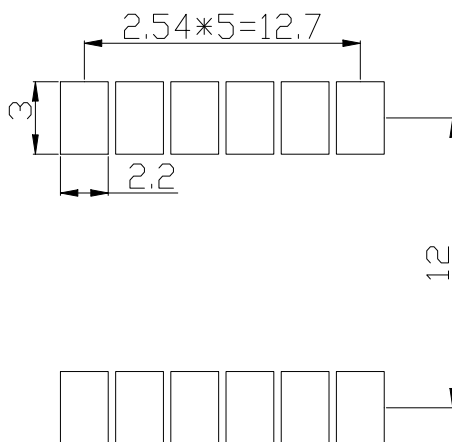


■ Dimensions of Tape (Unit: mm)



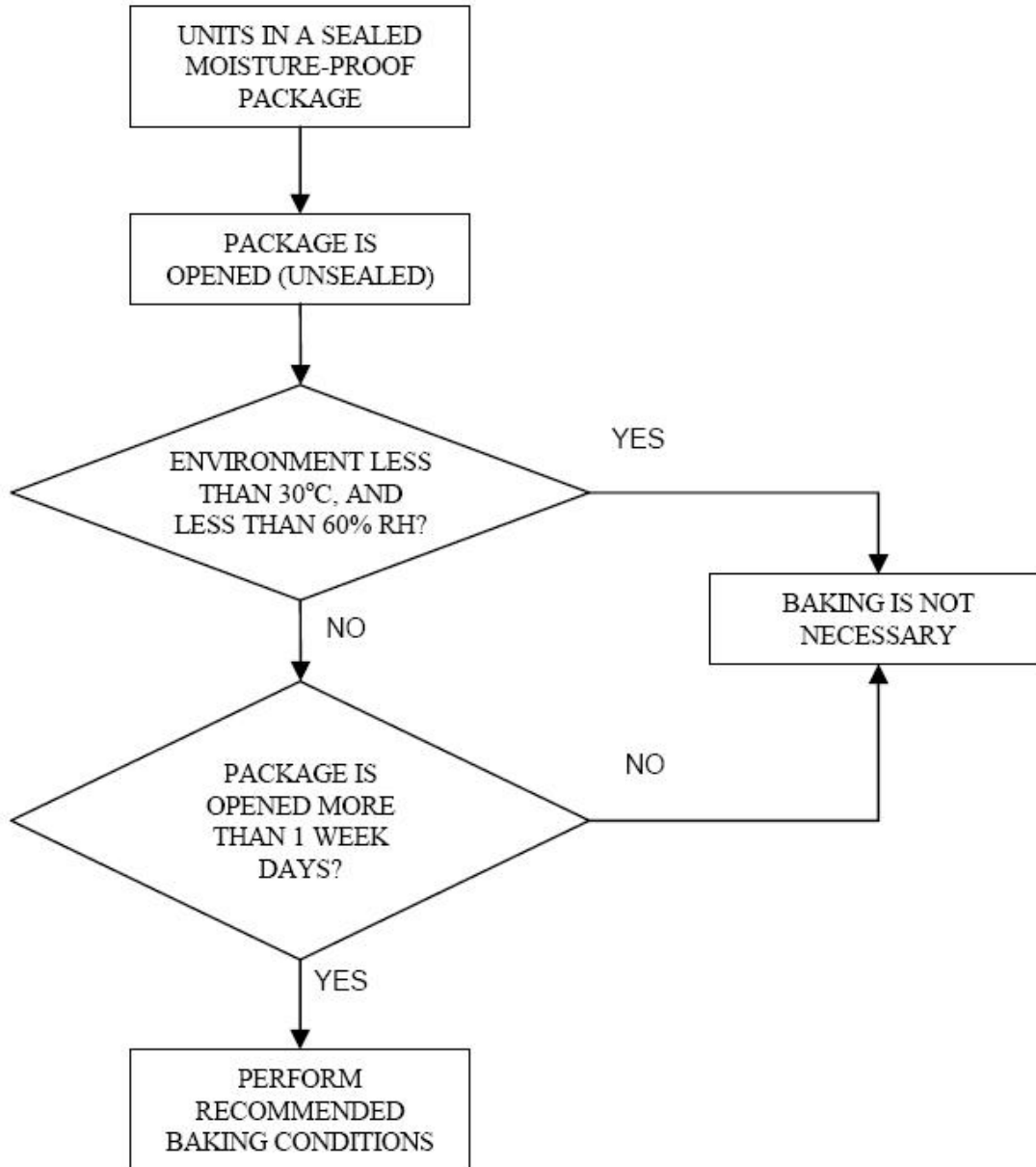
■ One Reel contained 800 PCS products:

■ 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.