

WCN Opto Group Co., Limited**Customer Name:****Date:**

2024-9-23

Part No:

WCN3S-1020GU-A1

**Product Group
Description:**

LED Display

Customer Part No:**Approval Date:****Customer
Confirmation****Approved by**William
2024-9-23**Checked by**Athena
2024-9-23**Prepared By**Liu
2024-9-23**Country of Origin: China****WCN Opto Group Co., Limited****Buildings 1 and 2, No. 13, Songnan Road,
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REVISION RECORD

MARKER	Matter for revision	SHEET	DTAE	MAKER	APPOVED SIGN	
	Reason for revision					
A0	P# WCN3S-1020GU-A1	Whole Spec	2014-12-3	Zhang	Athena	William
	New Version issued					
A1	Change version template	Whole Spec	2024-9-23	Liu	Athena	William
	Improved					

1. Type No./Manufacture's Name

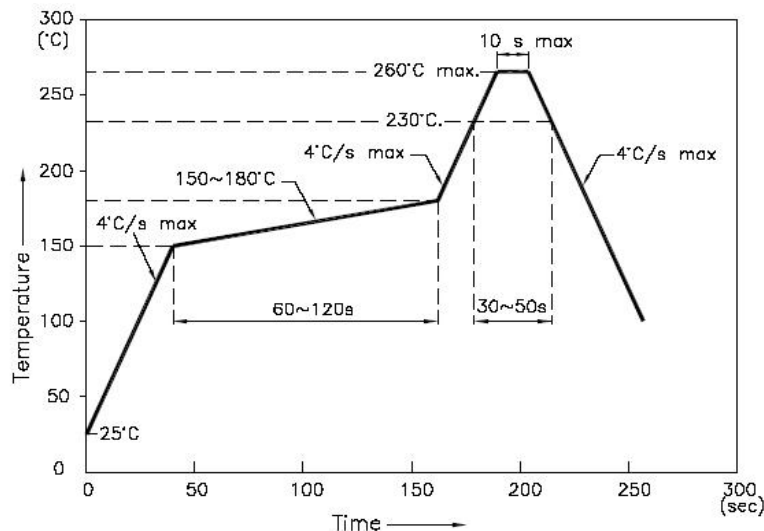
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2. Features:

- 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:**

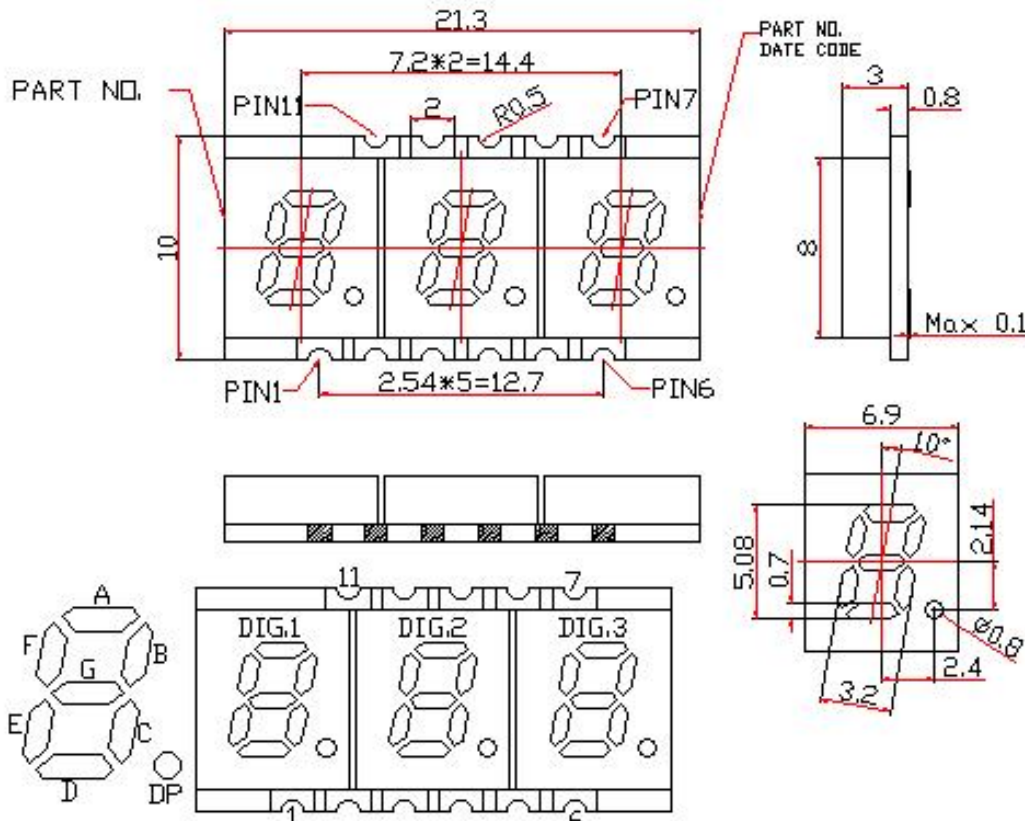
5.1. We recommend the re-flow temperature $245^{\circ}\text{C}(\pm 5^{\circ}\text{C})$. the maximum soldering temperature should be limited to 260°C .

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:

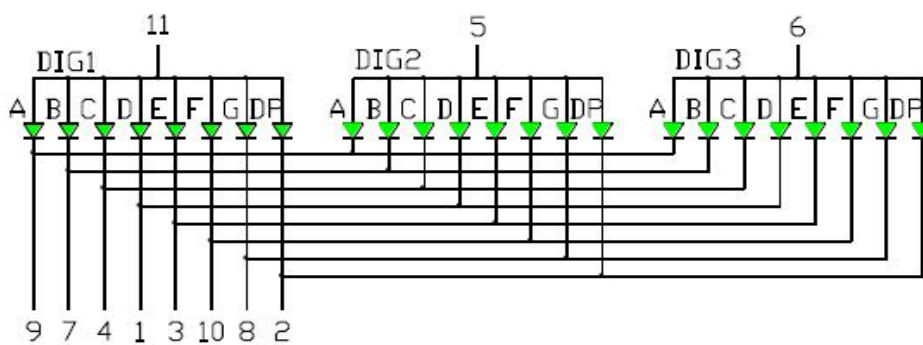
- Three LED Display
- Digit Height: 5.08mm(0.20")
- Gray Face and Milky Segment
- Color: Yellow Green

■ 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 D	7	Cathode B
2	Cathode DP	8	Cathode G
3	Cathode E	9	Cathode A
4	Cathode C	10	Cathode F
5	Common Anode dig2	11	Common Anode dig1
6	Common Anode dig3		

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■ ABSOLUTE MAXIMUM RATINGS AT TA=25°C

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment	P _d	—	Yellow Green	52	mW
Forward Current Per Segment	I _F	—	Yellow Green	20	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	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 Segment	—	2.25	2.60	V
Reverse Current	I _R	V _R =5V	Per Segment	—	—	100	μA
Luminous Intensity	I _V	I _F =10mA	Per Segment	1351	3000	—	μcd
Wave Length	λ _P	I _F =20mA	Per Segment	—	568	—	nm
	λ _D			568	570	572	
Spectral Line Half Width	△λ	I _F =20mA	Per Segment	—	30	—	nm
Luminous Intensity Matching Ratio	I _{v-m}	I _F =10mA				1.2:1	

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

Rank	Symbol	Condition	Min	Max	Unit
H	H	I _F =10mA	1351	1750	μcd
I	I	I _F =10mA	1751	2350	μcd
J	J	I _F =10mA	2351	3050	μcd
K	K	I _F =10mA	3051	4000	μcd
L	L	I _F =10mA	4001	5000	μcd

■ 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

■ Soldering Conditions: Soldering Temp. ≤+260°C, Soldering Time. ≤3sec
(at 2mm Distance from The Case of Reflector Edge)

■ Typical Optical-Electronic Characteristic Curves

Fig 1. Forward Current vs. Forward Voltage

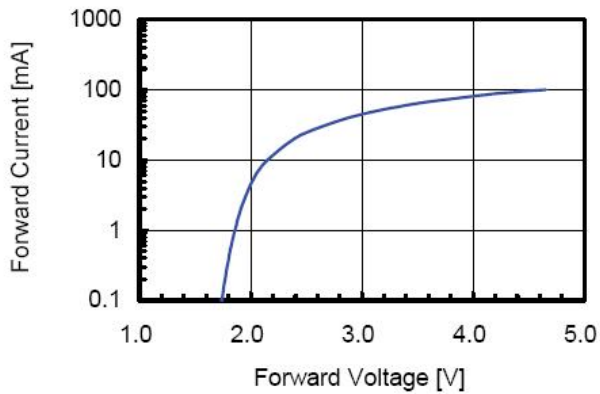


Fig 2. Relative Intensity vs. Forward Current

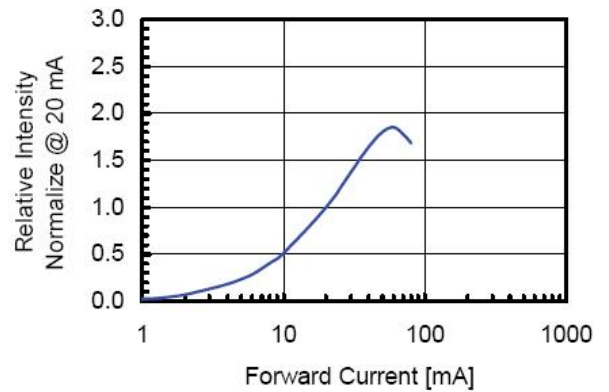


Fig 3. Forward Voltage vs. Temperature

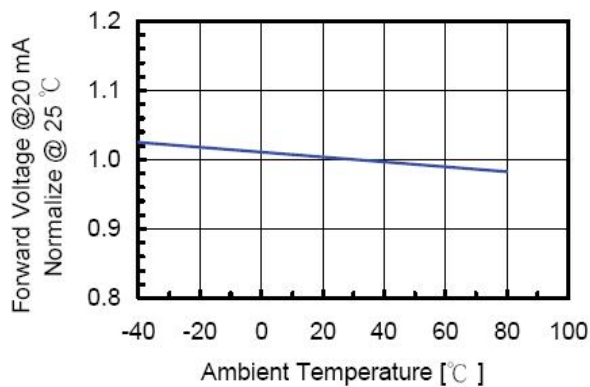


Fig 4. Relative Intensity vs. Temperature

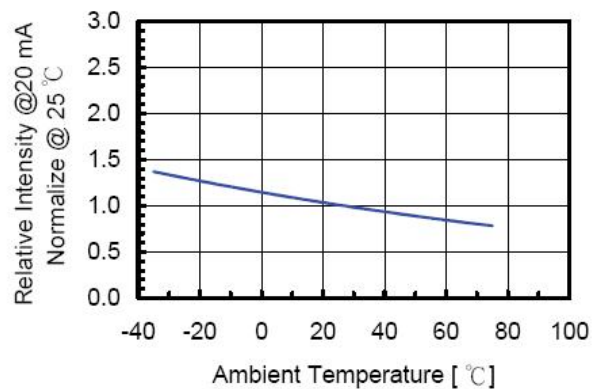
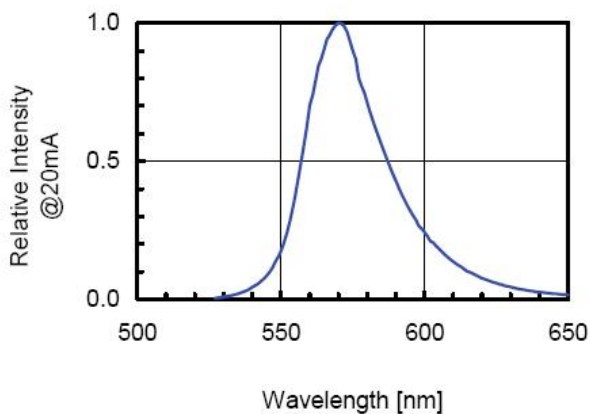
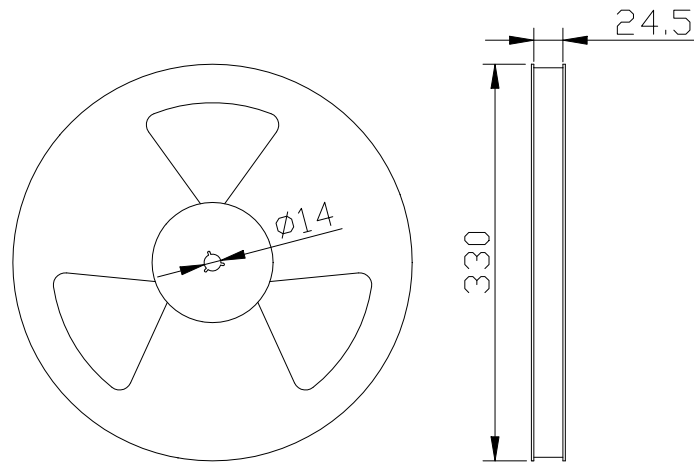


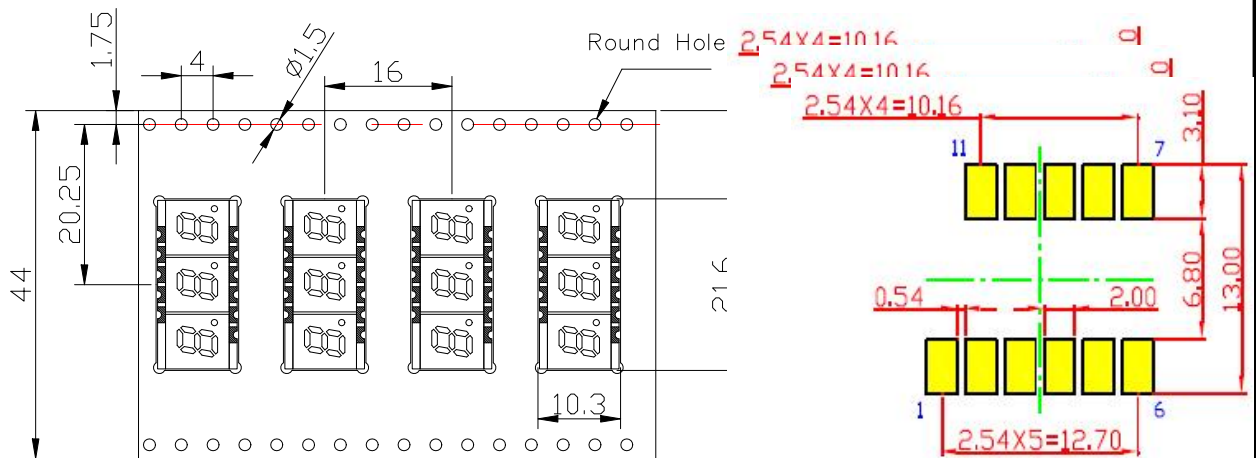
Fig 5. Relative Intensity vs. Wavelength



■ Packing Reel Dimensions(mm):

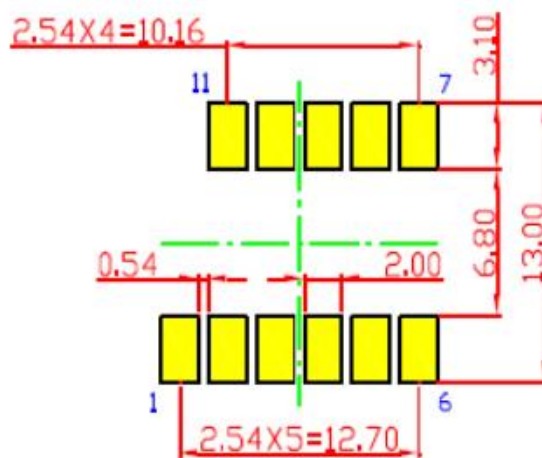


■ Dimensions of Tape (Unit: mm)



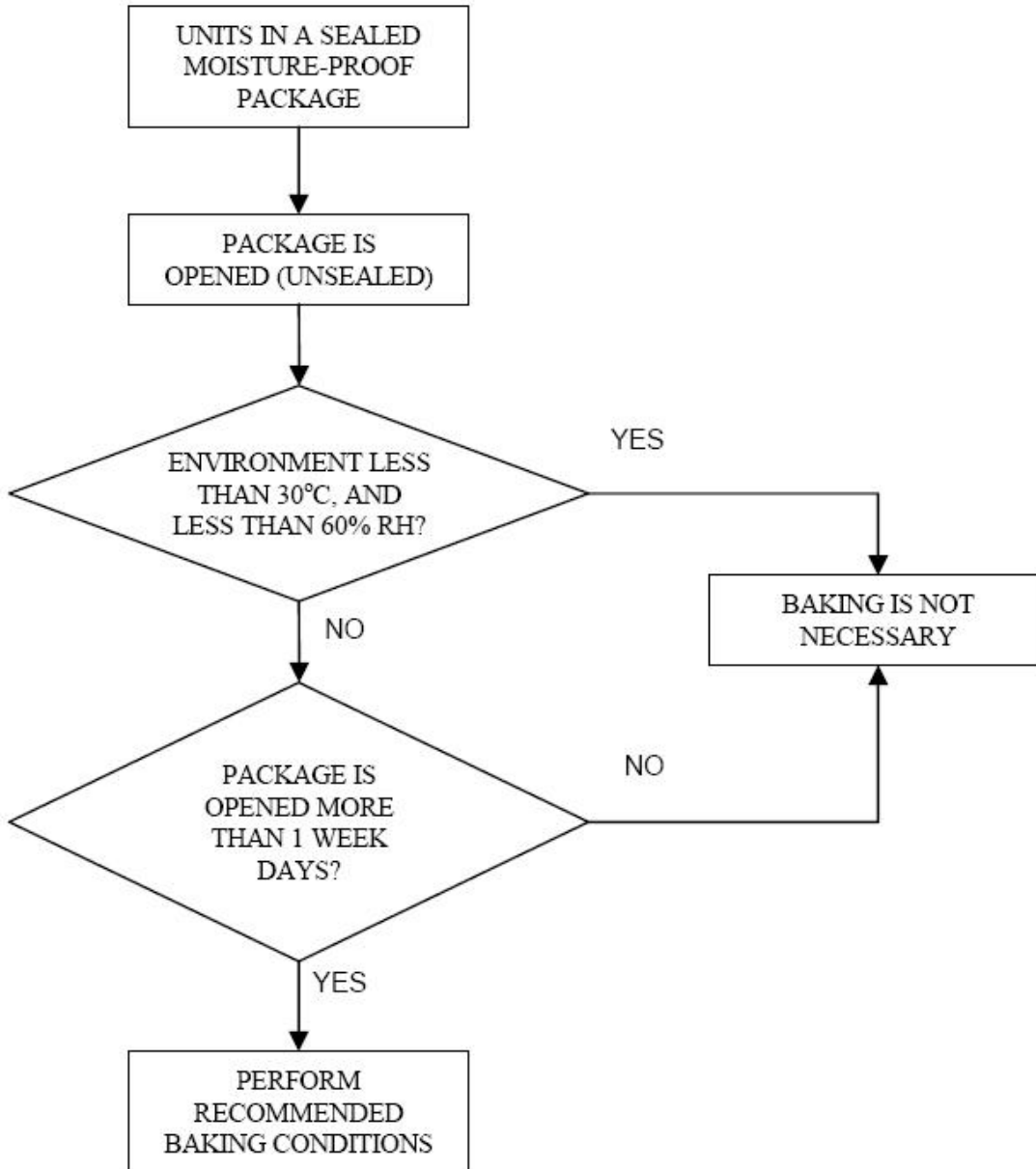
■ One Reel contained 1000 PCS products:

■ 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.