WCN Opto Group Co., Limited

Customer Name:	
Date:	**2024-8-16**
Part No:	**WCN3S-1039PG-C1**
Product Group Description:	**LED Display**
Customer Part No:	
Approval Date:	

Customer Confirmation	Approved by	Checked by	Prepared By
	William 2024-8-16	Athena 2024-8-16	Liu 2024-8-16

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RoHS

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REVISION RECORD

MARKER	Matter for revision / Reason for revision	SHEET	DTAE	MAKER	APPOVED SIGN	
A0	P# WCN3S-1039PG-C1 / New Version issued	Whole Spec	2024-8-16	Liu	Athena	William

1. Type No./Manufacture's Name

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

2. Features:

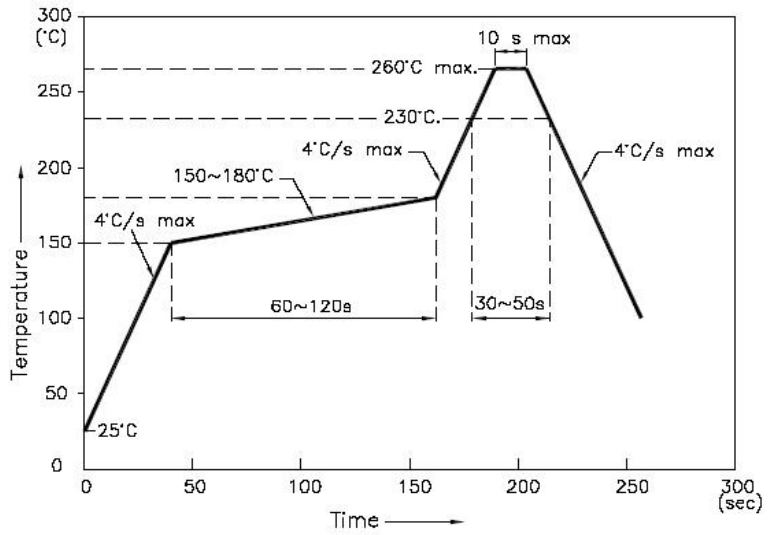
- **High Reliability**
- **Low Power Requirement**
- **Easy Assembly**

3. Faction: Display Digit Characteristic

4. Soldering Conditions: Soldering Temp. 260±5 ℃, Soldering Time. 3~5 sec.

Soldering Power <30 W.

5. Re-flow Temp/Time



NOTES:

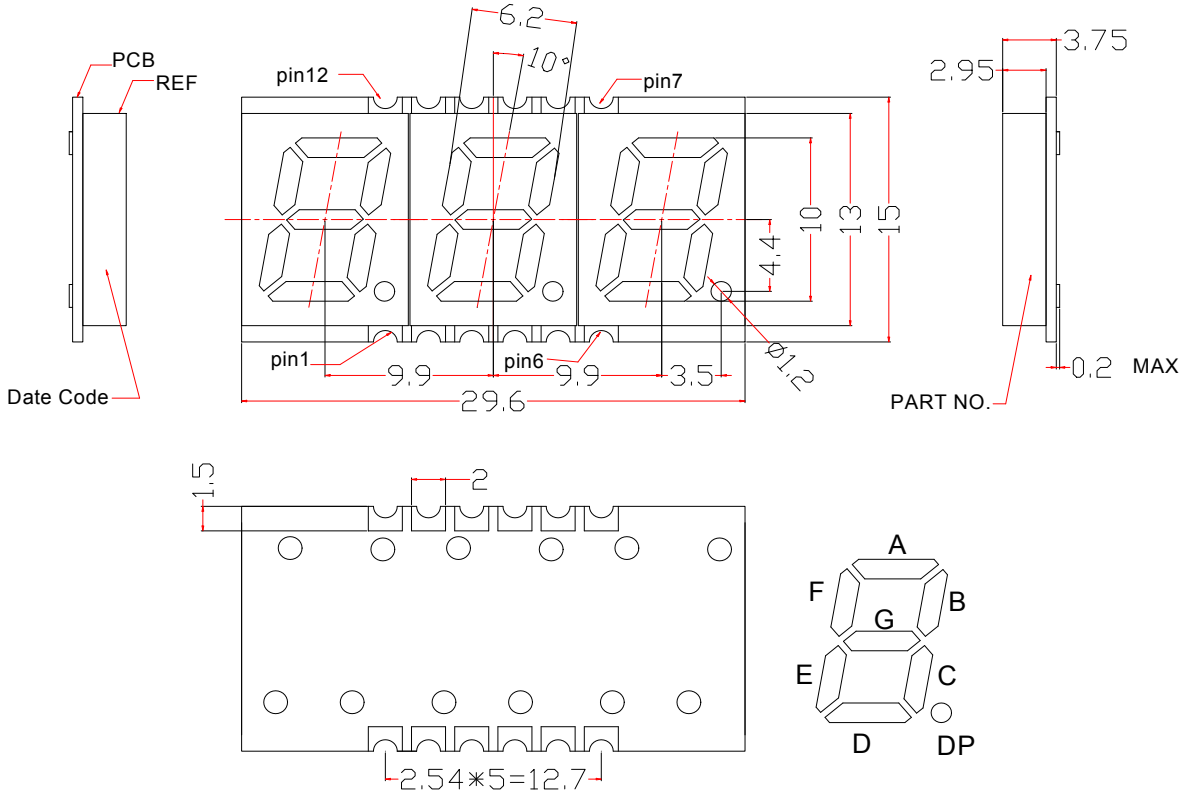
5.1. We recommend the re-flow temperature 245℃(±5℃).the maximum soldering temperature should be limited to 260℃.

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:

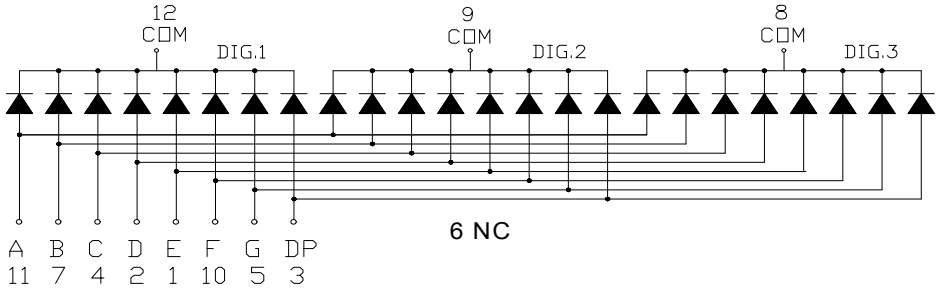
- **Three Digit LED Display**
- **Digit Height:10.0mm(0.39″)**
- **Gray Face and Milky Segment**
- **Color: Pure Green**

■ Outer Dimension:



Notes: Unless otherwise stated, the tolerance is ±0.25mm.

■ 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

■ ABSOLUTE MAXIMUM RATINGS AT TA=25℃

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment	P_d	—	Pure Green	85	mW
Forward Current Per Segment	I_F	—	Pure Green	25	mA
Peak Forward Current Per Segment	I_{FP}	1/10 Duty 1KHz	Pure Green	100	mA
Reverse Voltage Per Segment	V_R	—	Pure Green	5	V
Operating Temperature Range	Topr	—	—	-40～+105	℃
Storage Temperature Range	Tstg	—	—	-40～+105	℃

■ Electrical/Optical Characteristics Rating(Ta=25℃)

Item	Symbol	Test conditions	Location	Rating			Units
				Min.	Typ.	Max.	
Forward Voltage	V_F	I_F=20mA	Per Segment	2.6	3.0	3.4	V
Reverse Current	I_R	V_R=5V	Per Segment	—	—	100	μA
Luminous Intensity	I_V	I_F=10mA	Per Segment	26	40	58	mcd
Wave Length	λ_P	I_F=20mA	Per Segment	—	—	—	nm
	λ_D			—	525	—	
Spectral Line Half Width	△λ	I_F=20mA	Per Segment	—	—	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
V	V	I_F=10mA	26	31	mcd
W	W	I_F=10mA	31	37	mcd
X	X	I_F=10mA	37	43	mcd
Y	Y	I_F=10mA	43	50	mcd
Z	T	I_F=10mA	50	58	mcd

■ Typical Elector-Optical Characteristics Curve:

Fig.1-Relative Luminous Intensity vs. Forward Current

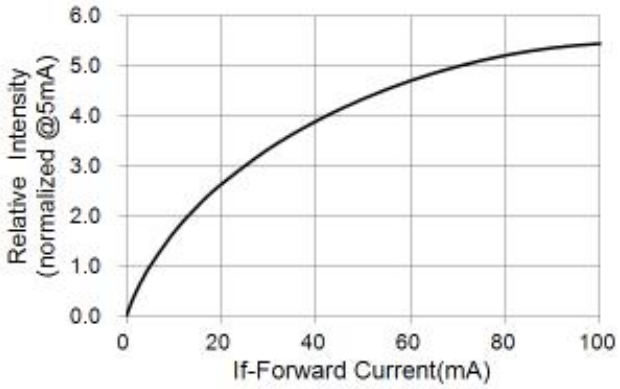


Fig.2-Forward Current vs. Forward Voltage

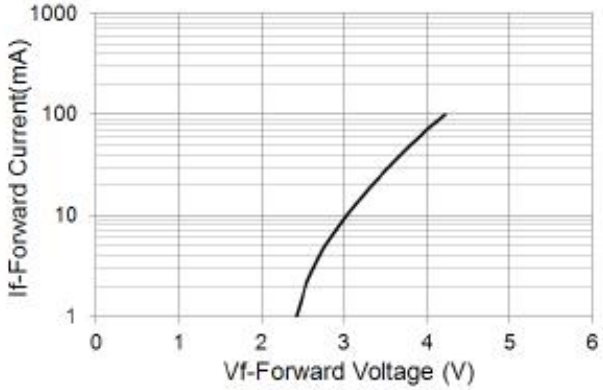


Fig.3-Relative Intensity(@5mA) vs. Ambient Temperature

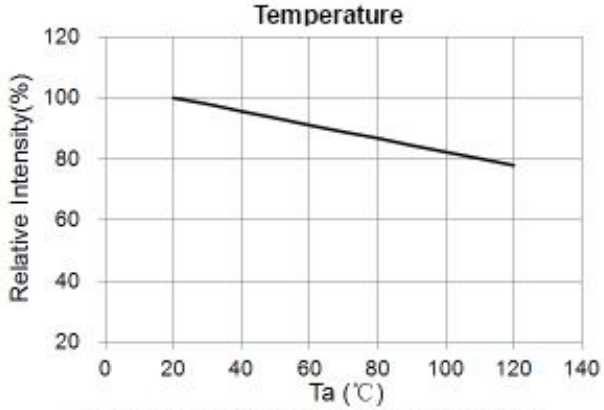


Fig.4- Forward Voltage (@5mA) vs. Ambient Temperature

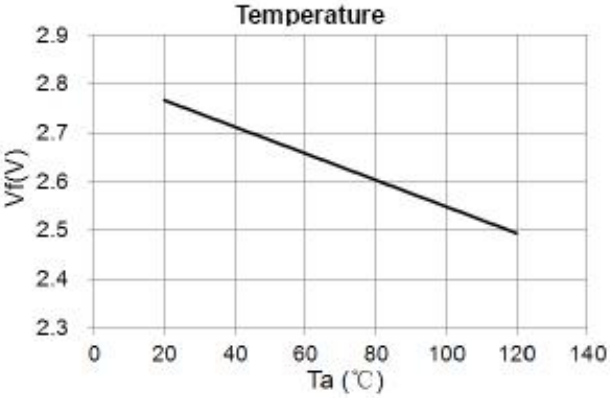


Fig.5- Dominant Wavelength (@5mA) vs. Ambient Temperature

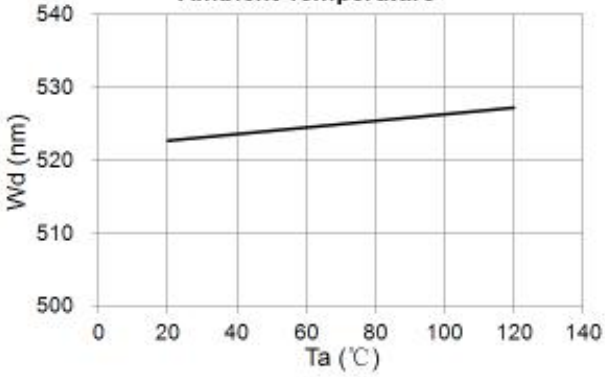
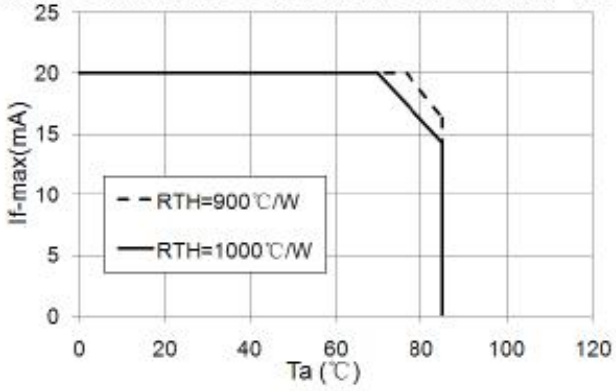
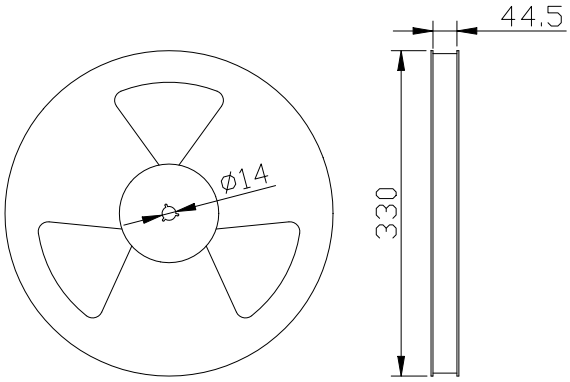


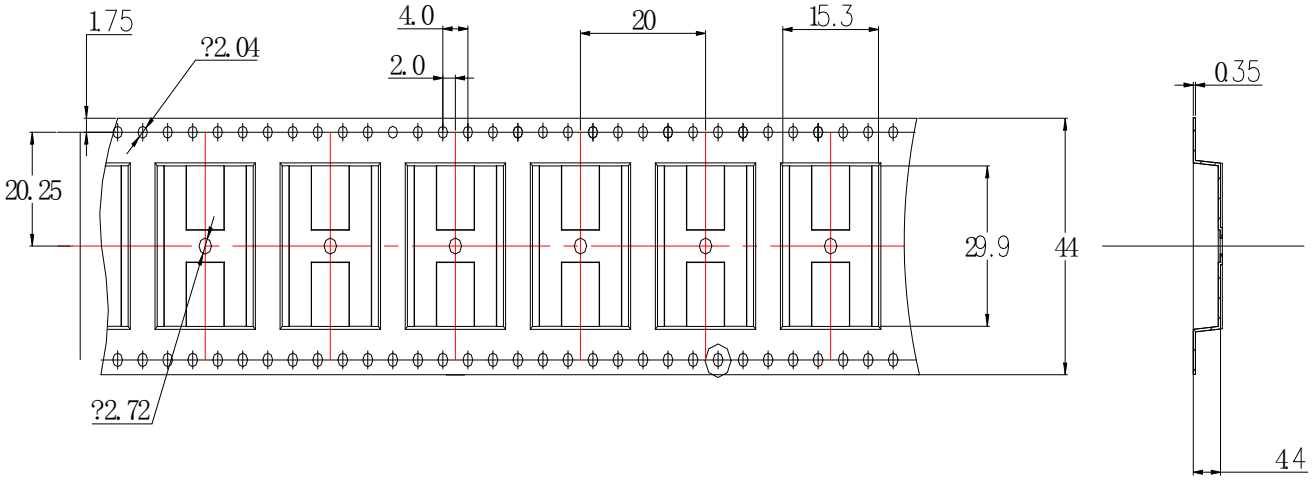
Fig.6-Maximum Driving Forward DC Current vs. Ambient Temperature (Derating based on Tj max=125℃)



■ **Packing Reel Dimensions(mm)：**

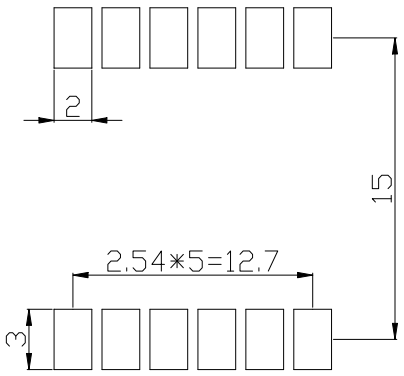


■ **Dimensions of Tape (Unit: mm)**



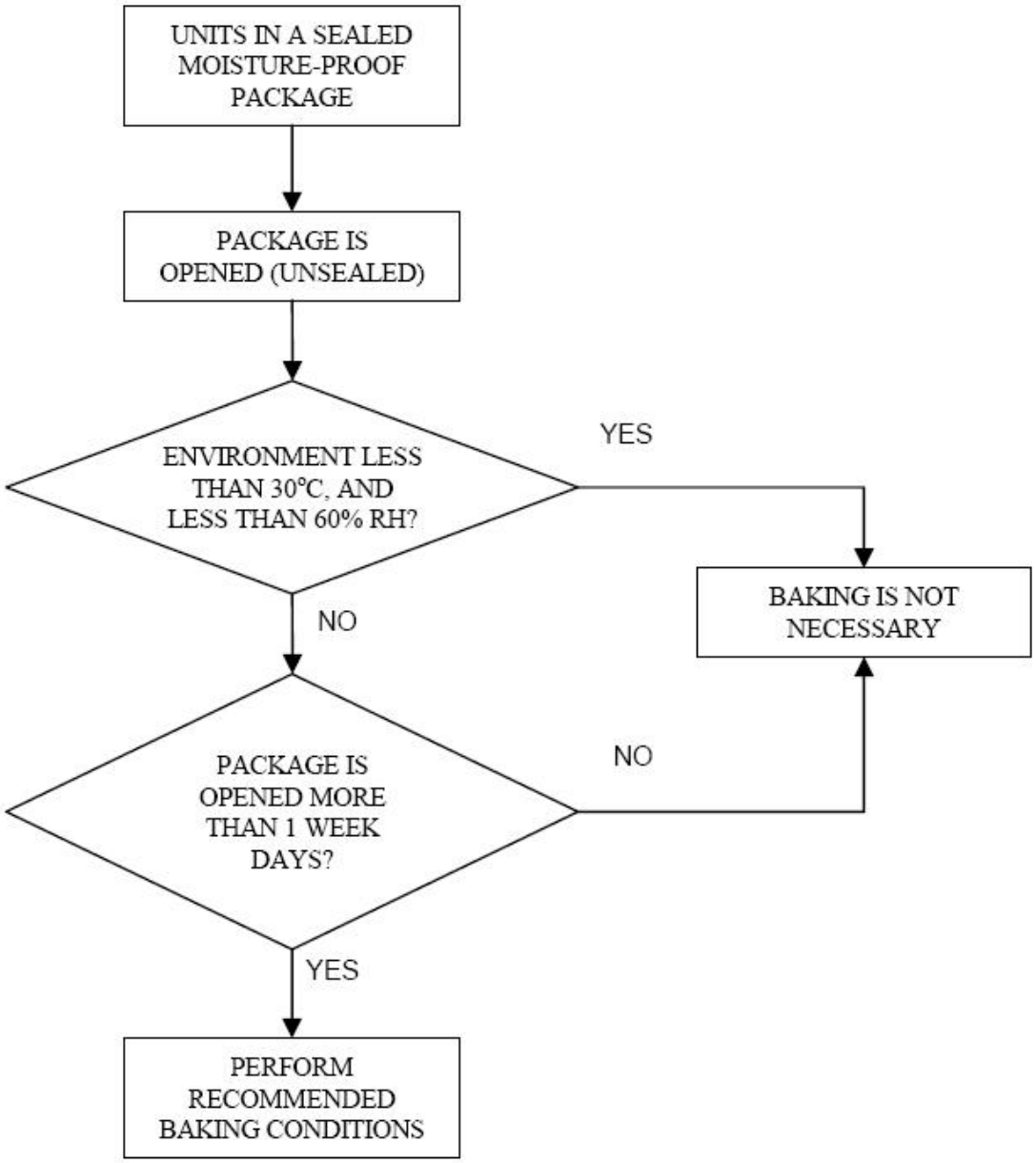
■ **One Reel contained700PCS products:**

■ **Recommended Soldering Pattern:**



■ **Moisture Proof Packaging：**

All N/D SMD displays are shipped in moisture proof package. The displays should be stored at 30℃ 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.**