



WCN Opto Group Co., Limited

Customer Name:

Date:

2018-3-28

Part No:

WCN1S-1040R7-A1

**Product Group
Description:**

LED Display

Customer Part No:

Approval Date:

**Customer
Confirmation**

Approved by

William
2018-3-28

Checked by

Athena
2018-3-28

Prepared By

Fei
2018-3-28

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WCN Opto Group Co., Limited

REVISION RECORD

MARKER	Matter for revision	SHEET	DTAE	MAKER	APPOVED SIGN	
	Reason for revision					
A0	P# WCN1S-1040R7-A1	Whole Spec	2018-1-23	Fei	Athena	
	New Version issued					
A1	Change Recommended Soldering Pattern	Page 8	2018-3-28	Fei		
	Improved					

1. Type No./Manufacture's Name

WCN1S-1040R7-A1 / WCN Opto Group Co., Limited.

2. Features:

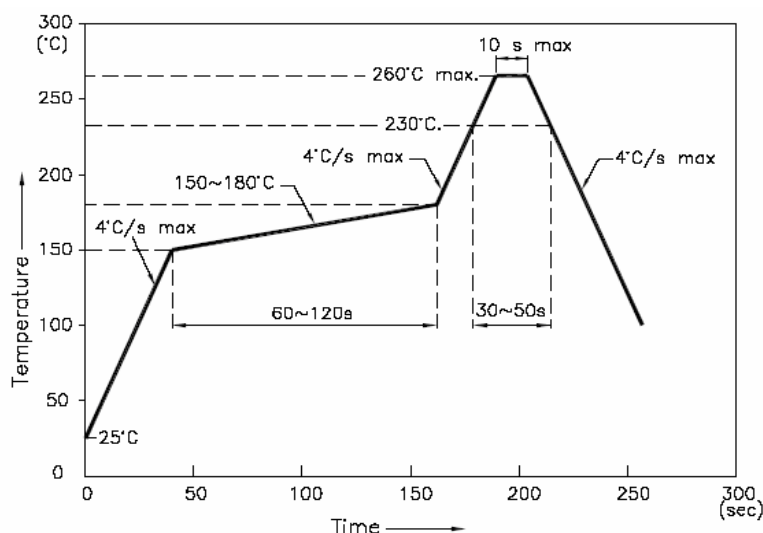
- High Reliability
- Low Power Requirement
- Easy Assembly

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:

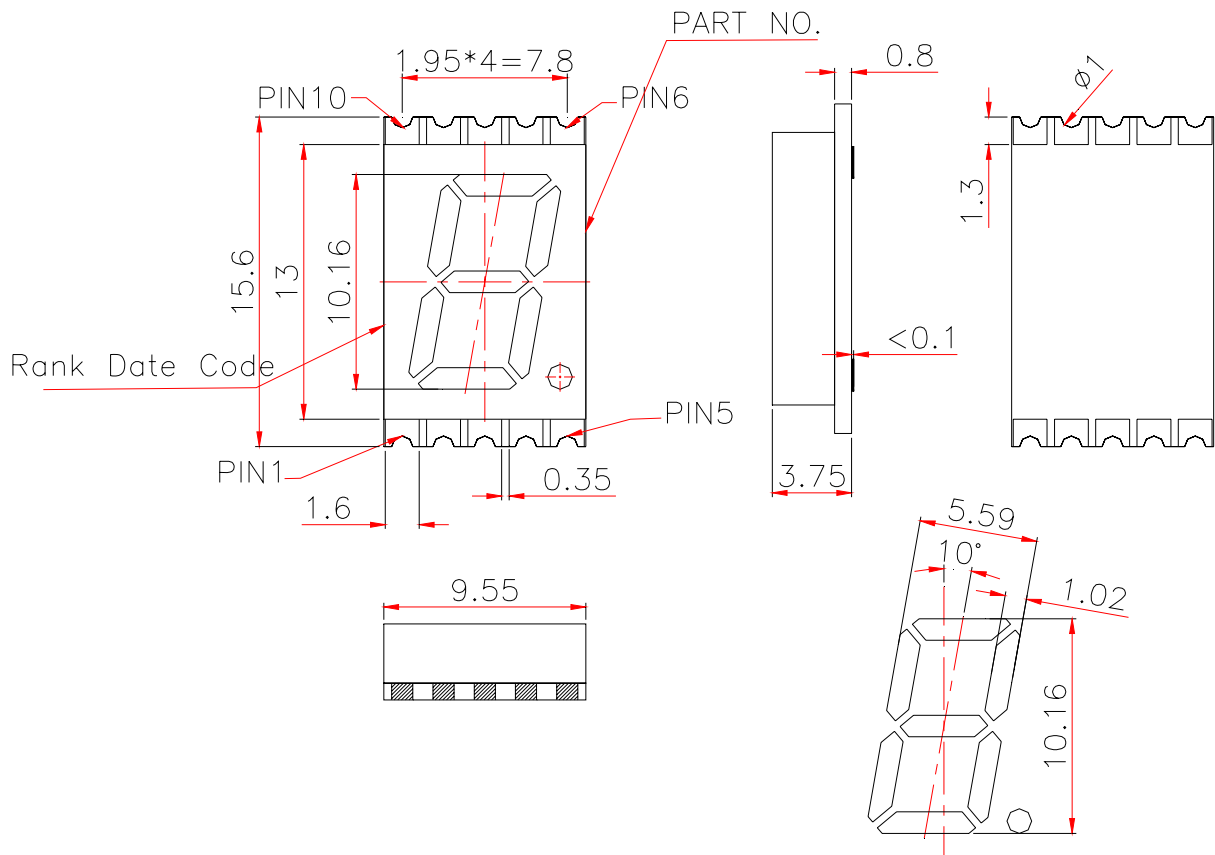
5.1. We recommend the re-flow temperature $245^{\circ}\text{C} (\pm 5^{\circ}\text{C})$. the maximum soldering temperature should be limited to 260°C .

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:

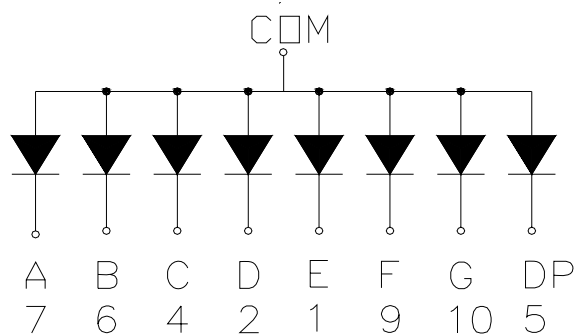
- Single Digit LED Display
- Digit Height: 10.16mm (0.40")
- Gray Face and Milky Segment
- Color: Red

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	6	Cathode B
2	Cathode D	7	Cathode A
3	Common Anode	8	Common Anode
4	Cathode C	9	Cathode F
5	Cathode DP	10	Cathode G

ABSOLUTE MAXIMUM RATINGS AT TA=25°C

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment	P _d	—	Red	65	mW
Forward Current Per Segment	I _F	—	Red	25	mA
Peak Forward Current Per Segment	I _{FP}	1/10 Duty 1KHz	Red	100	mA
Reverse Voltage Per Segment	V _R	—	Red	5	V
Operating Temperature Range	T _{opr}	—	—	-40~+85	°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	1.8	2.0	2.6	V
Reverse Current	I _R	V _R =5V	Per Chip	—	—	100	μA
Luminous Intensity	I _V	I _F =10mA	Per Chip	8501	13500	21500	μcd
Wave Length	λ _P	I _F =20mA	Per Chip	—	630	—	nm
	λ _D			—	622	—	
Spectral Line Half Width	△λ	I _F =20mA	Per Chip	—	—	20	nm

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

Rank	Symbol	Condition	Min	Max	Unit
P	P	I _F =10mA	8501	10500	μcd
Q	Q	I _F =10mA	10501	12800	μcd
R	R	I _F =10mA	12801	15250	μcd
S	S	I _F =10mA	15251	18000	μcd
T	T	I _F =10mA	18001	21500	μcd

Typical Optical-Electronic Characteristic Curves

Fig 1. Forward Current vs. Forward Voltage

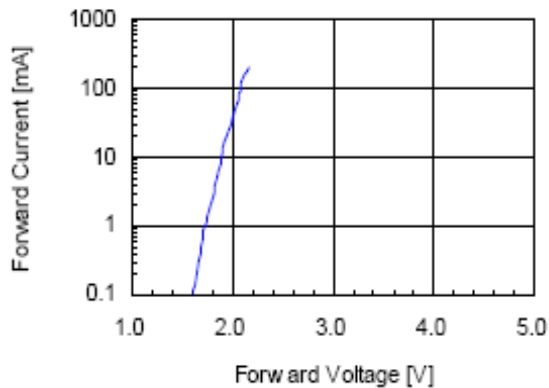


Fig 2. Relative Intensity vs. Forward Current

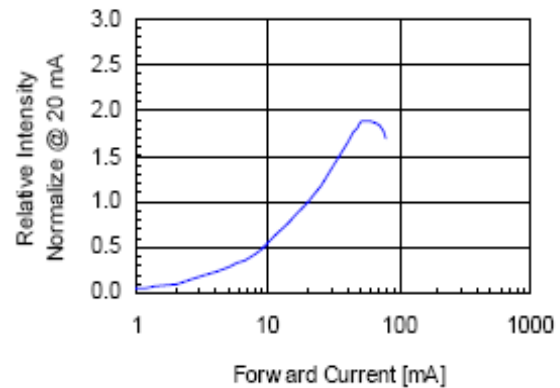


Fig 3. Forward Voltage vs. Temperature

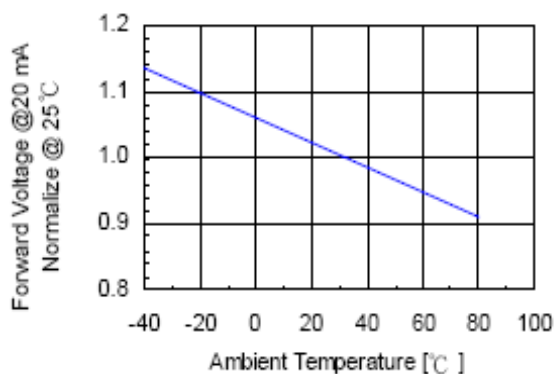


Fig 4. Relative Intensity vs. Temperature

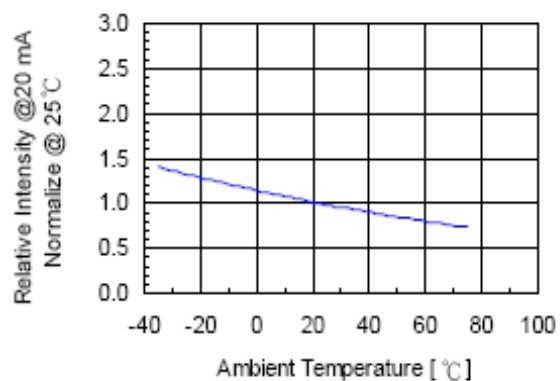
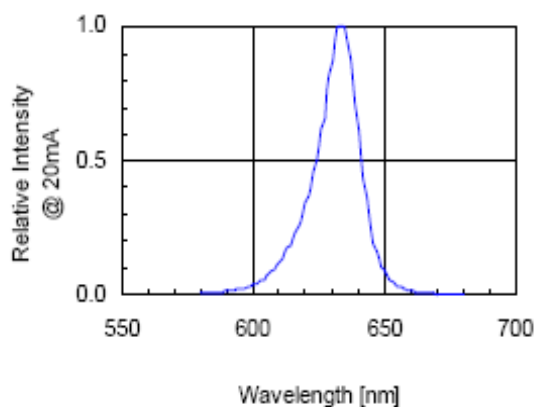
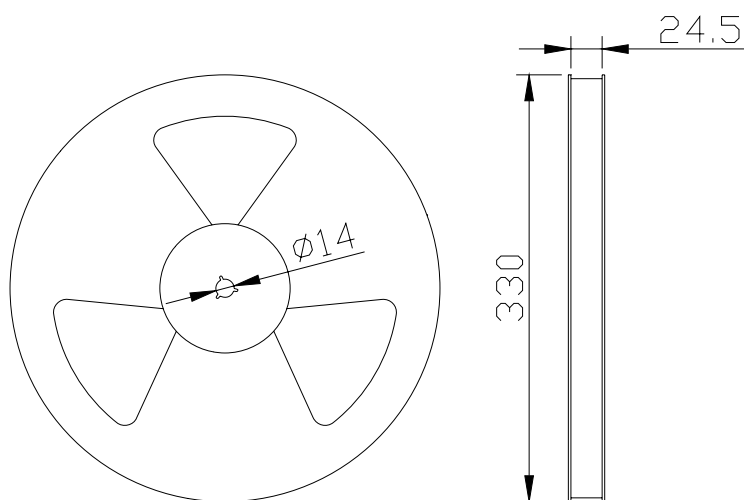


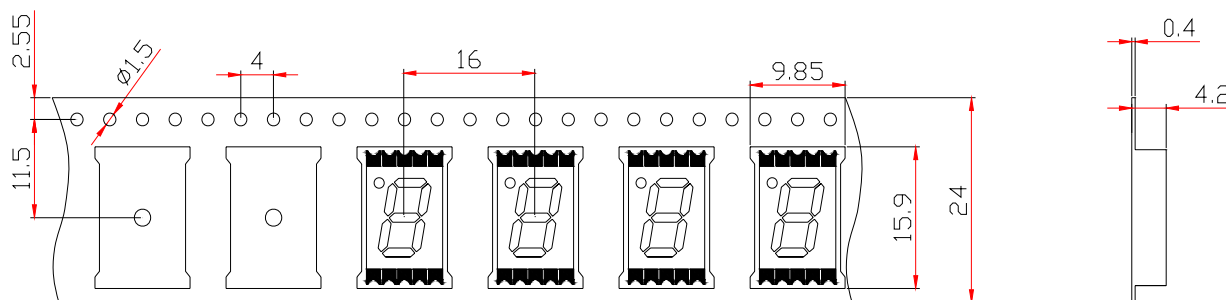
Fig 5. Relative Intensity vs. Wavelength



■ Packing Reel Dimensions(mm):

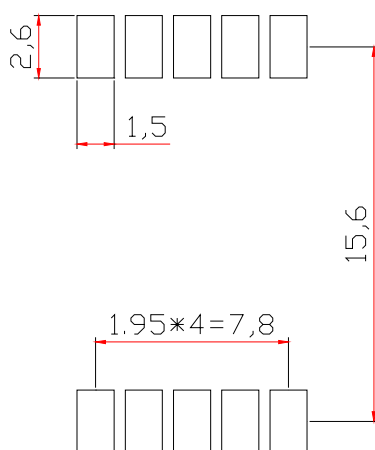


■ Dimensions of Tape (Unit: mm)



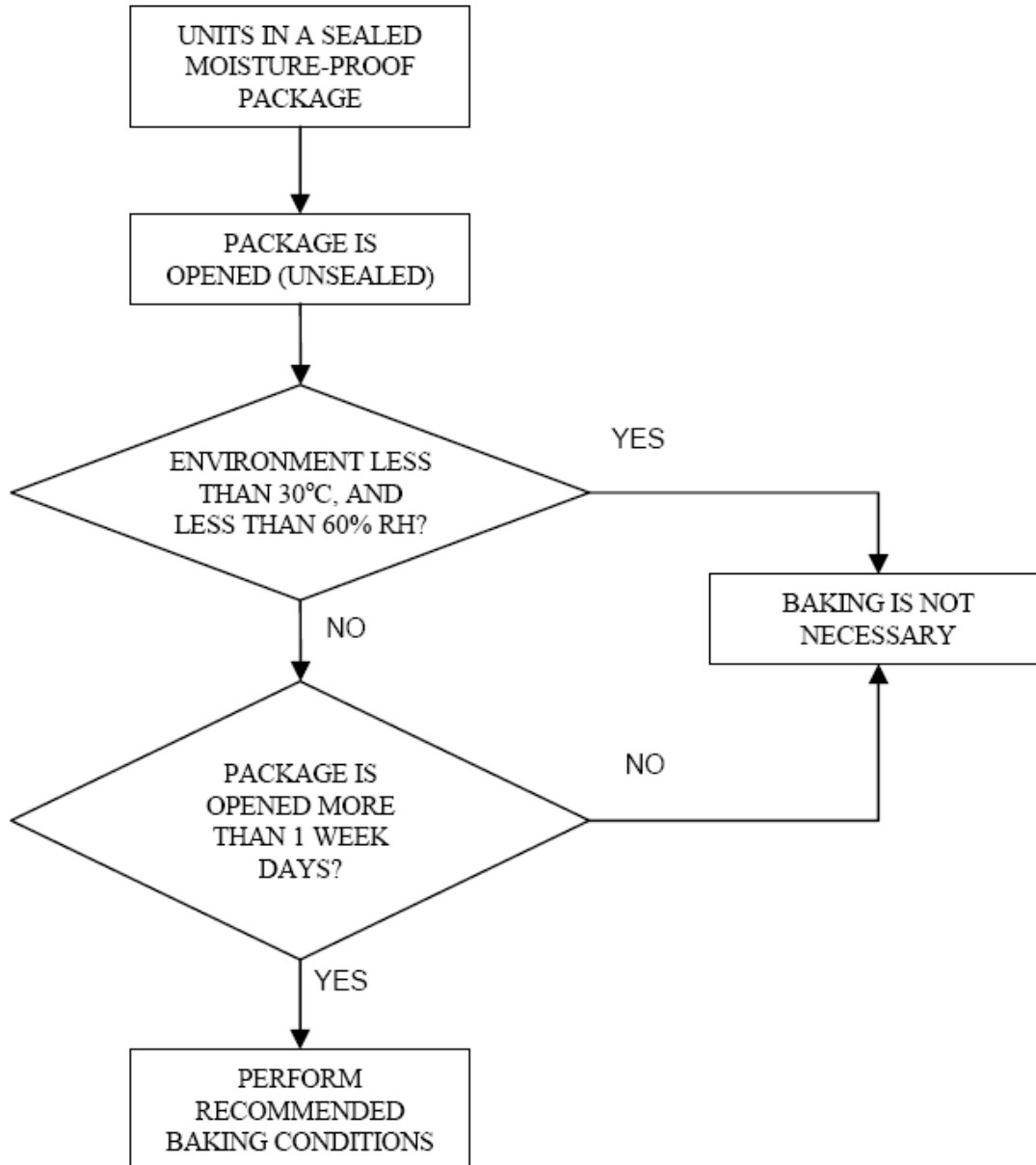
■ One Reel contained 930 PCS products:

■ 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.