

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

2016-8-27

Part No:

WCN1S-1020SR-A1

**Product Group
Description:**

LED Display

Customer Part No:**Approval Date:****Customer
Confirmation****Approved by****Checked by**Athena
2016-8-27**Prepared By**Fei
2016-8-27**Country of Origin: China****World Components Network Service Ltd**5th Floor,Block A-2,Xuxingda Ind Zone
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WCN Opto Group Co., Limited

REVISION RECORD

MARKER	Matter for revision	SHEET	DTAE	MAKER	APPOVED SIGN	
	Reason for revision					
A1	P# WCN1S-1020SR-A1	Whole Spec	2016-8-27	Fei	Athena	
	New Version issued					

1. Type No./Manufacture's Name

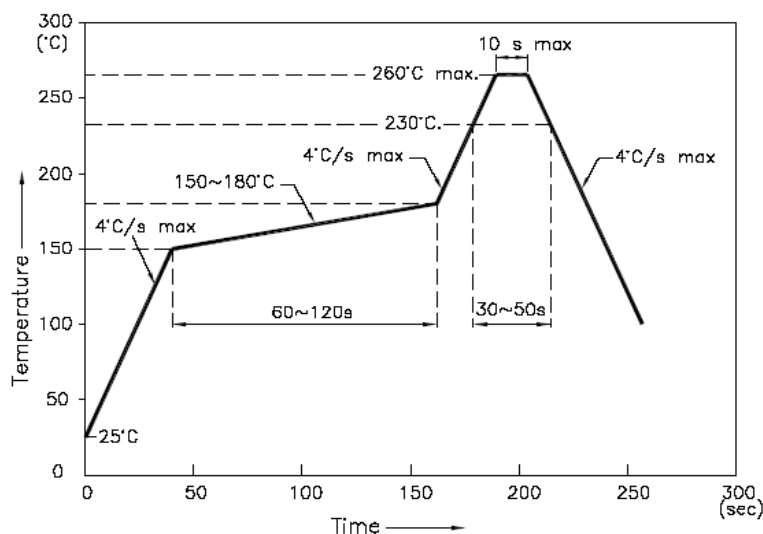
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2. Features:

- 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:**

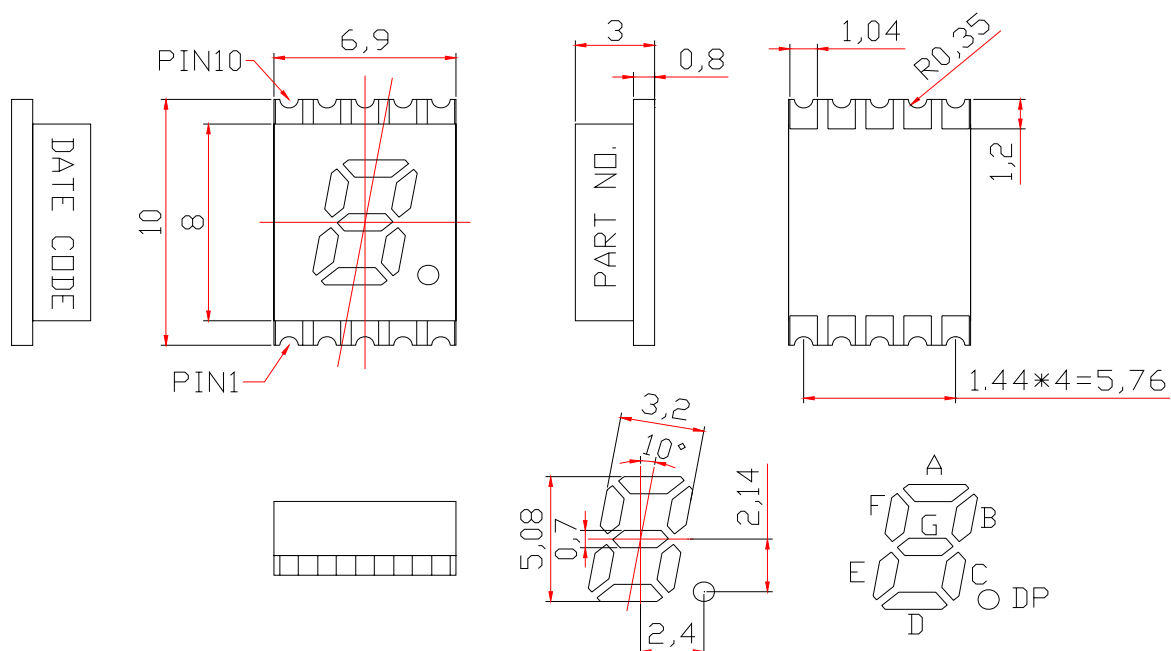
5.1. We recommend the re-flow temperature $245^{\circ}\text{C} (\pm 5^{\circ}\text{C})$. the maximum soldering temperature should be limited to 260°C .

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:

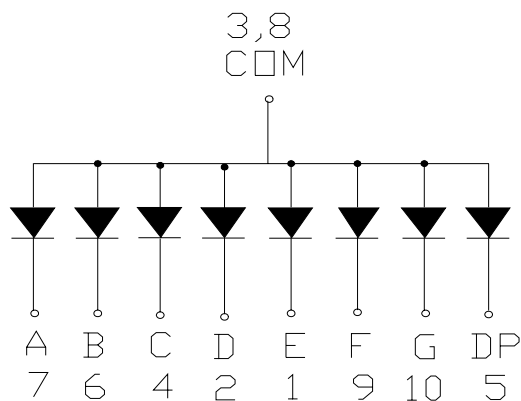
- Single Digit LED Display
- Digit Height: 5.08mm (0.20")
- Gray Face and Milky Segment
- Color: Red

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℃

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~+105	℃
Storage Temperature Range	T _{stg}	—	—	-40~+105	℃

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

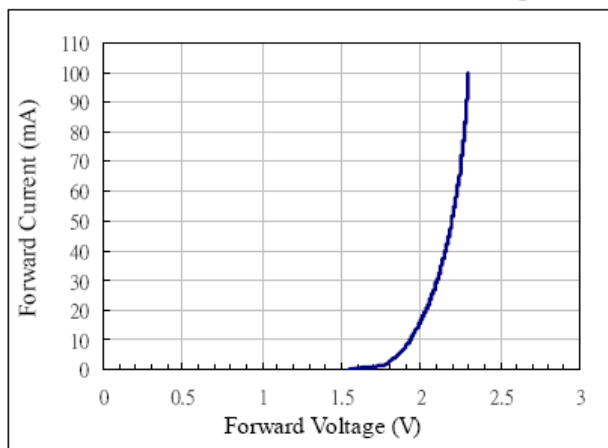
Item	Symbol	Test conditions	Location	Rating			Units
				Min.	Typ.	Max.	
Forward Voltage	V _F	I _F =20mA	Per Chip	1.8	2.0	2.6	V
Reverse Current	I _R	V _R =5V	Per Chip	—	—	100	μA
Luminous Intensity	I _V	I _F =10mA	Per Chip	3051	5500	8500	μcd
Wave Length	λ _P	I _F =20mA	Per Chip	—	635	—	nm
	λ _D			627	630	633	
Luminous Intensity Matching Ratio (Segment To Segment)	I _{v-m}	I _F =10mA				1.2:1	

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

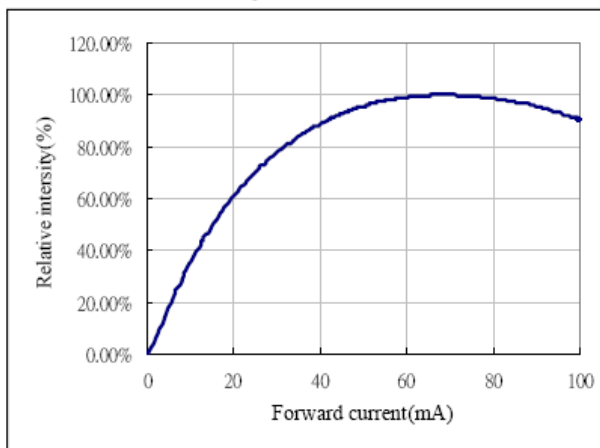
Rank	Symbol	Condition	Min	Max	Unit
K	K	I _F =10mA	3051	4000	μcd
L	L	I _F =10mA	4001	5000	μcd
M	M	I _F =10mA	5001	6100	μcd
N	N	I _F =10mA	6101	7200	μcd
O	O	I _F =10mA	7201	8500	μcd

Typical Elector-Optical Characteristics Curve:

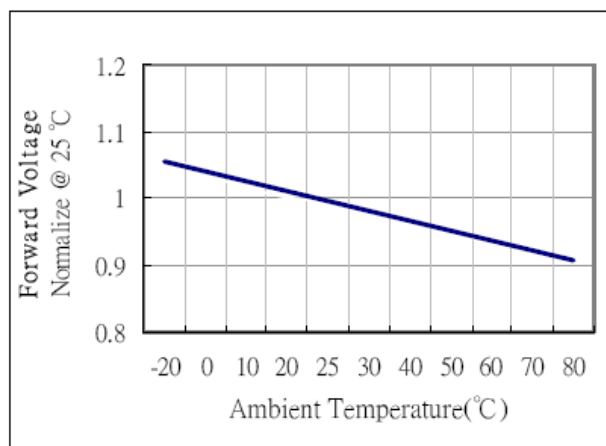
Forward current vs. Forward voltage



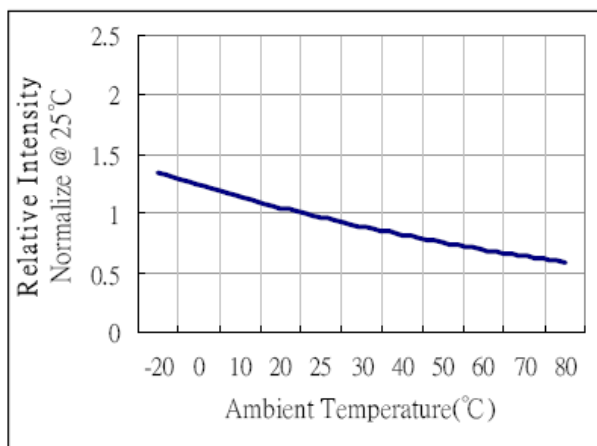
Relative intensity vs. Forward current



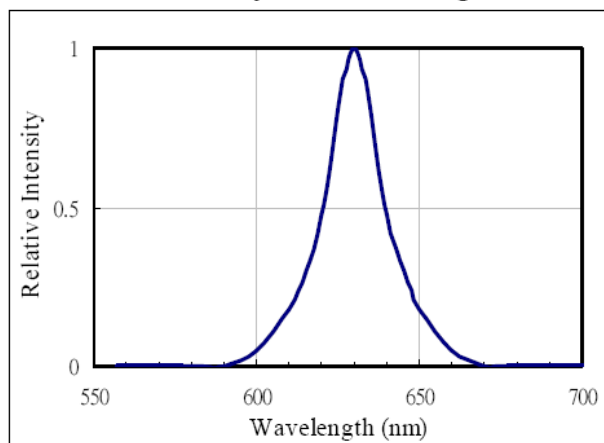
Forward voltage vs. Temperature



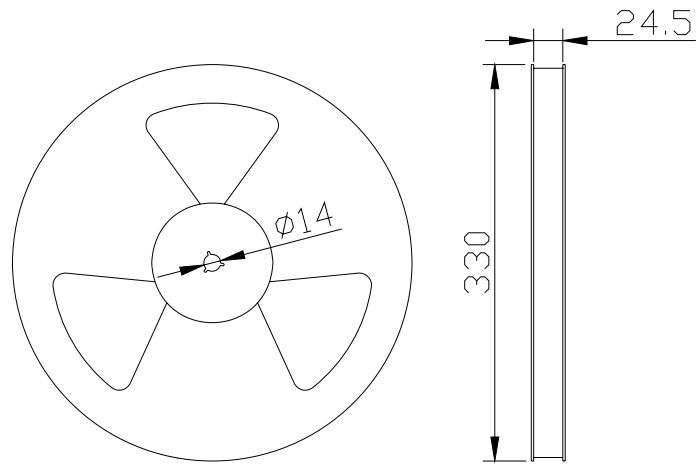
Relative intensity vs. Temperature



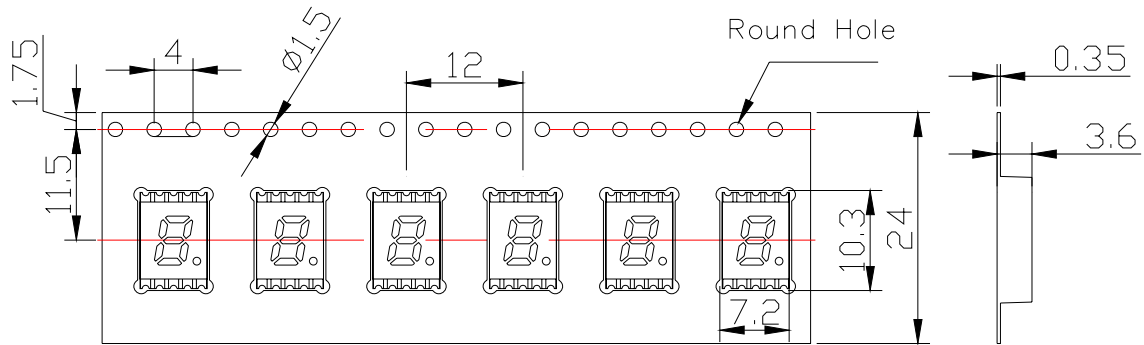
Relative intensity vs. Wavelength



■ **Packing Reel Dimensions(mm):**

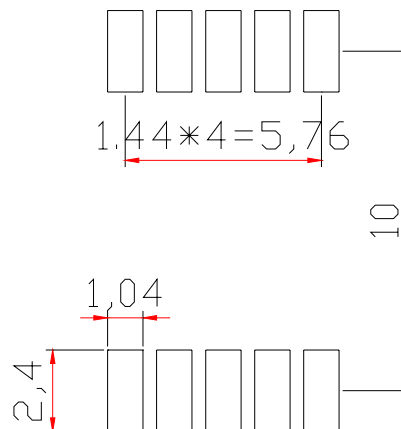


■ **Dimensions of Tape (Unit: mm)**



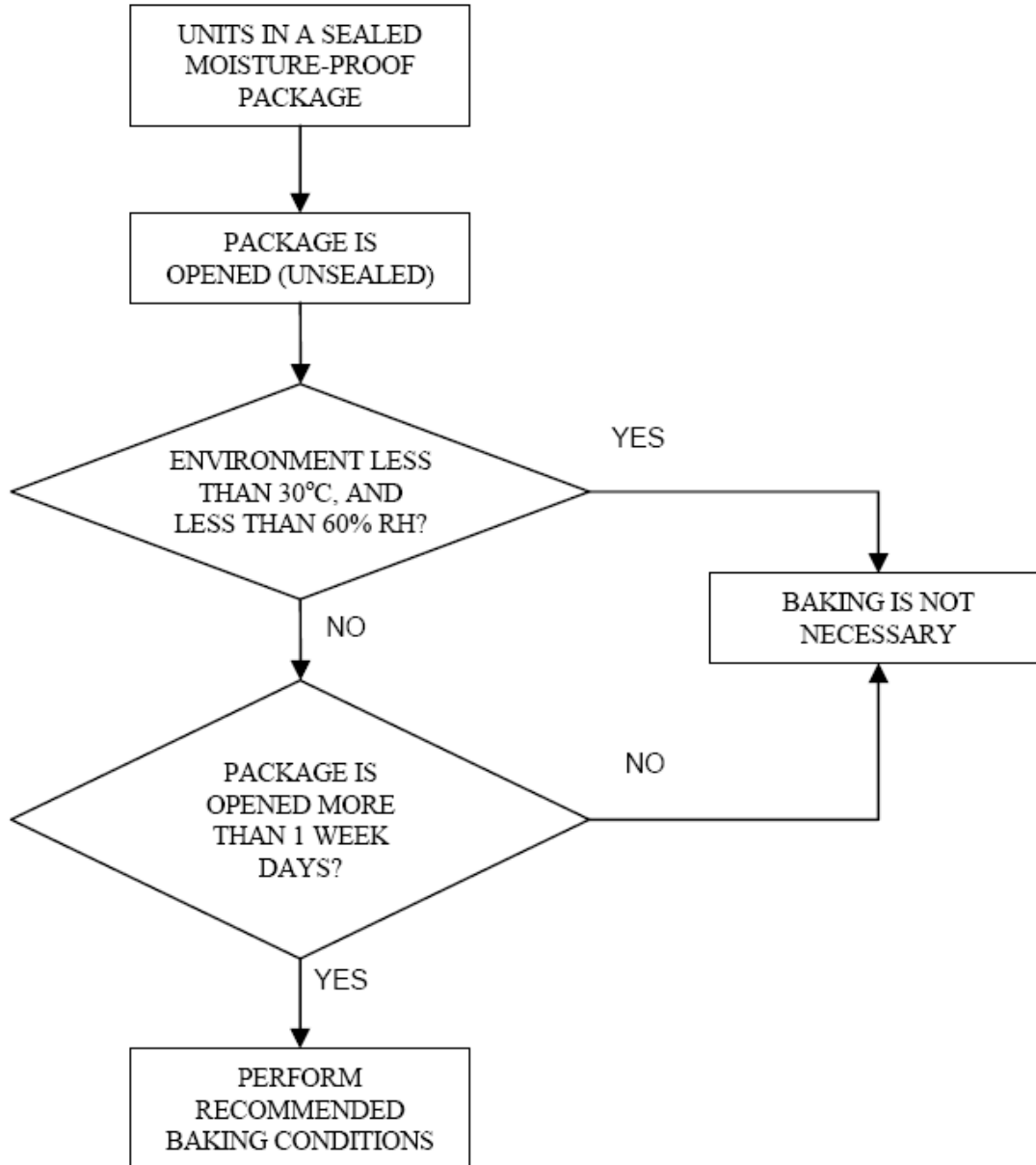
■ **One Reel contained 1480 PCS products:**

■ **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.