World Components Network Service Ltd

Customer Name:	
Date:	**2016-2-24**
Part No:	**WCN2S-1020SR-A1**
Product Group Description:	**LED Display**
Customer Part No:	
Approval Date:	

Customer Confirmation	Approved by	Checked by	Prepared By
		Athena 2016-2-24	Fei 2016-2-24

Country of Origin: China

World Components Network Service Ltd

5th Floor,Block A-2,Xuxingda Ind Zone
Shiyan Town,Bao An District , Shenzhen
Tel : (86)755-29000022
Fax : (86)755-29000023

www . wcnopto.net

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REVISION RECORD

MARKER	Matter for revision / Reason for revision	SHEET	DTAE	MAKER	APPOVED SIGN	
A0	P# WCN2S-1030SR-A1 / New Version issued	Whole Spec	2015-3-19	Fei	Athena	
A1	Add Package Data / Change Out Size Shape	Page.5	2015-12-3	Fei	Athena	
A2	Add Package Data / Change Out Size Shape	Page.5	2015-12-3	Fei	Athena	
A3	Change File's Set Type / Improved	Whole Spec	2016-2-24	Fei	Athena	

1. Type No./Manufacture's Name

WCN2S-1020SR-A1 / World Components Network Service Ltd.

2. Features:

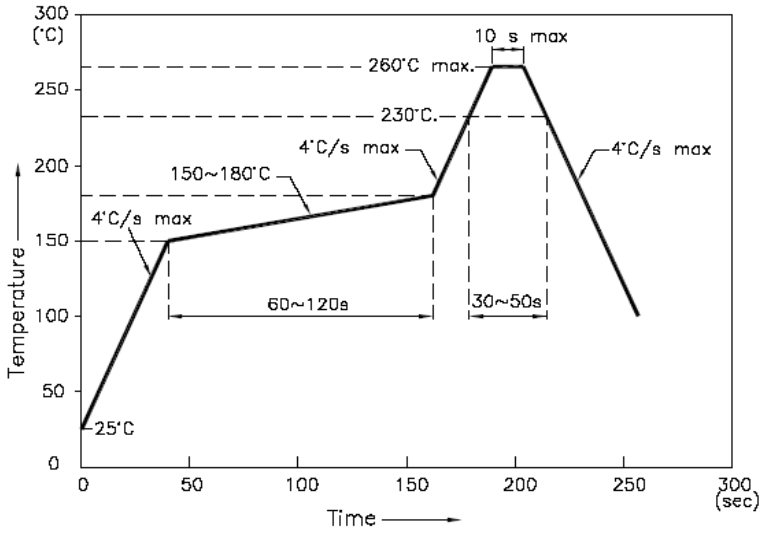
- **High Reliability**
- **Low Power Requirement**
- **Easy Assembly**

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:

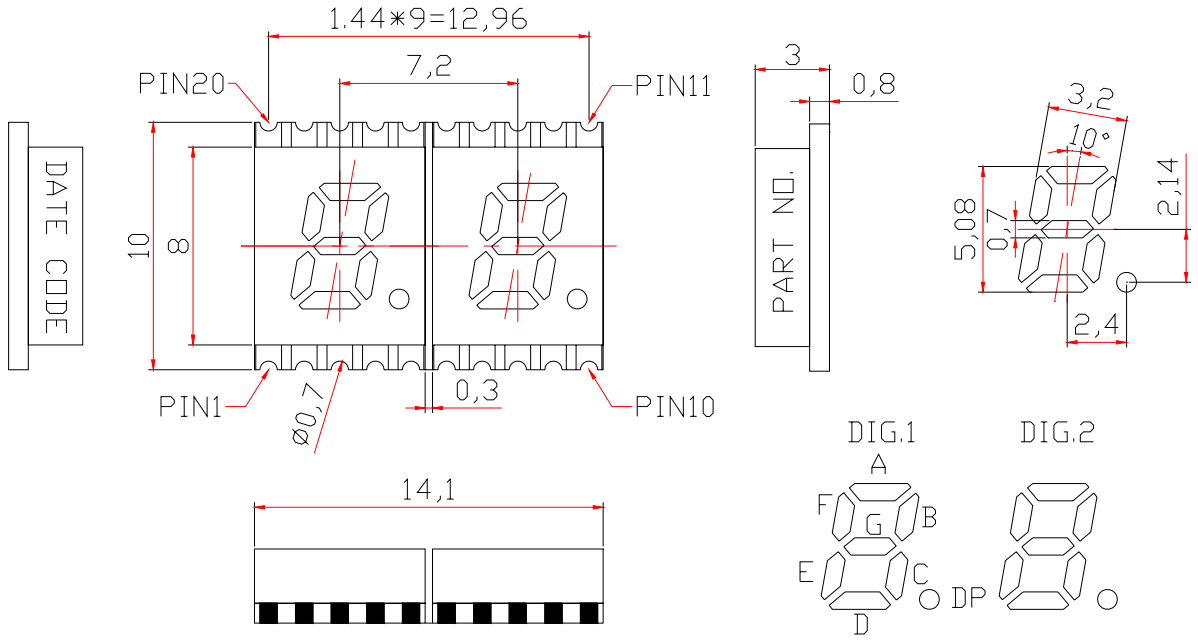
5.1. We recommend the re-flow temperature 245℃(±5℃).the maximum soldering temperature should be limited to 260℃.

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:

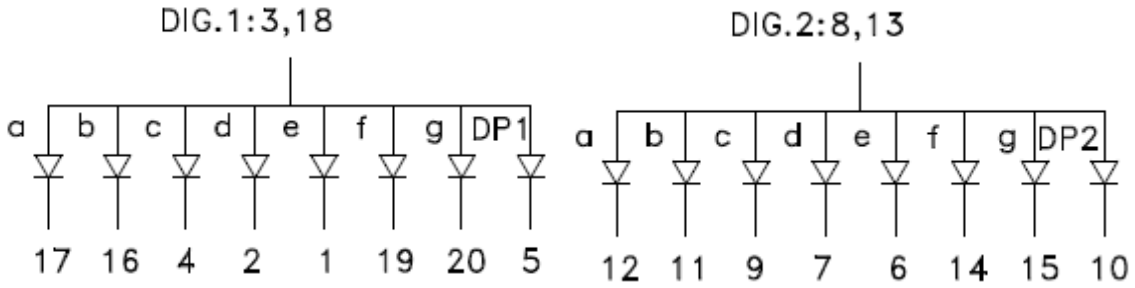
- **Two Digit LED Display**
- **Digit Height:5.08mm(0.20″)**
- **Gray Face and Milky Segment**
- **Color: Red**

■ Outer Dimension:



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

■Circuit Diagram:



■Pin Connection:

PIN NO.	CONNECTION	PIN NO.	CONNECTION
1	Cathode E1	11	Cathode B2
2	Cathode D1	12	Cathode A2
3	Common Anode dig1	13	Common Anode dig2
4	Cathode C1	14	Cathode F2
5	Cathode DP1	15	Cathode G2
6	Cathode E2	16	Cathode B1
7	Cathode D2	17	Cathode A1
8	Common Anode dig2	18	Common Anode dig1
9	Cathode C2	19	Cathode F1
10	Cathode dp2	20	Cathode G1

■ ABSOLUTE MAXIMUM RATINGS AT TA=25℃

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment	P_d	—	Red	62.5	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	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 Chip	1.80	2.00	2.50	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	—	640	—	nm
	λ_D			627	630	633	
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
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 Optical-Electronic Characteristic Curves

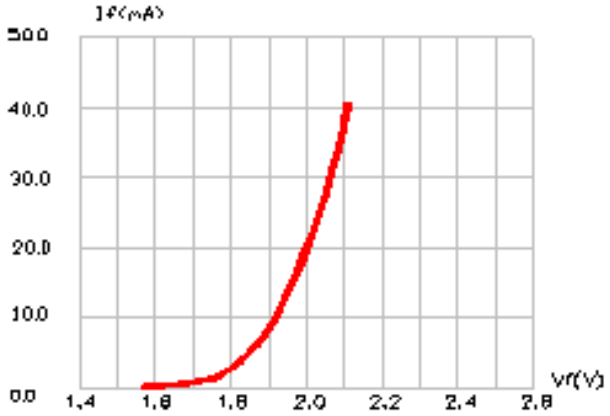


FIG.1 FOEWARD CURRENT VS. FORWARD VOLTAGE

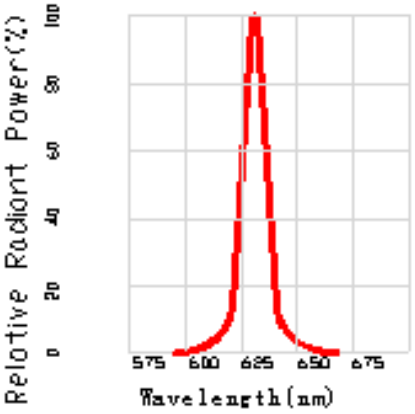


Fig.2 Relative Radiant Power vs. Wavelength

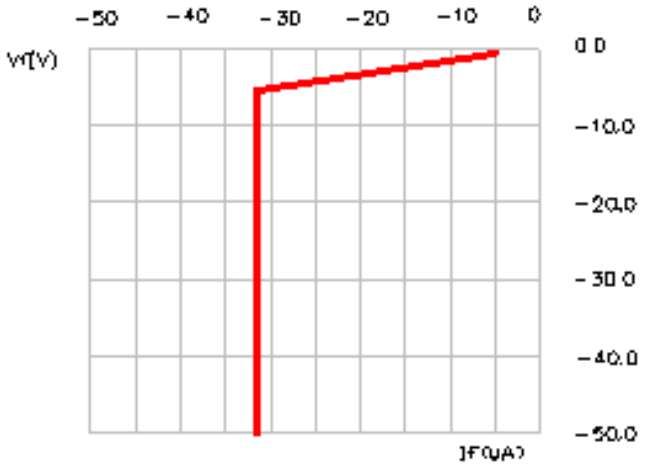


FIG.3 REVERSE CURRENT VS. REVERSE VOLTAGE.

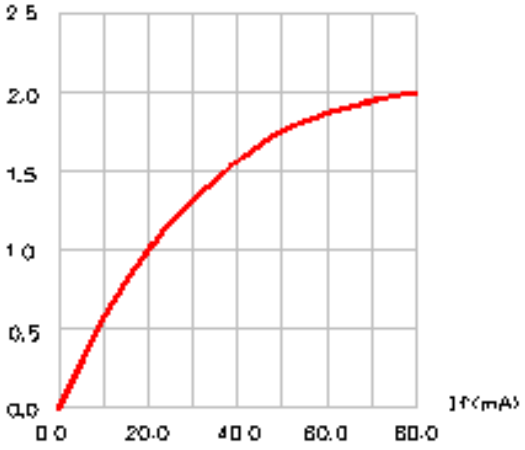


FIG.4 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT.

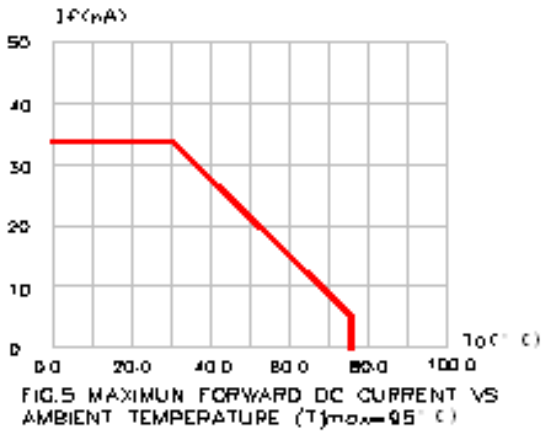
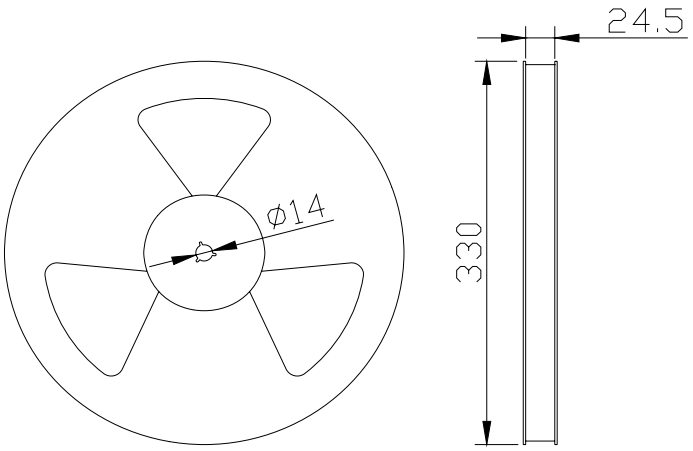
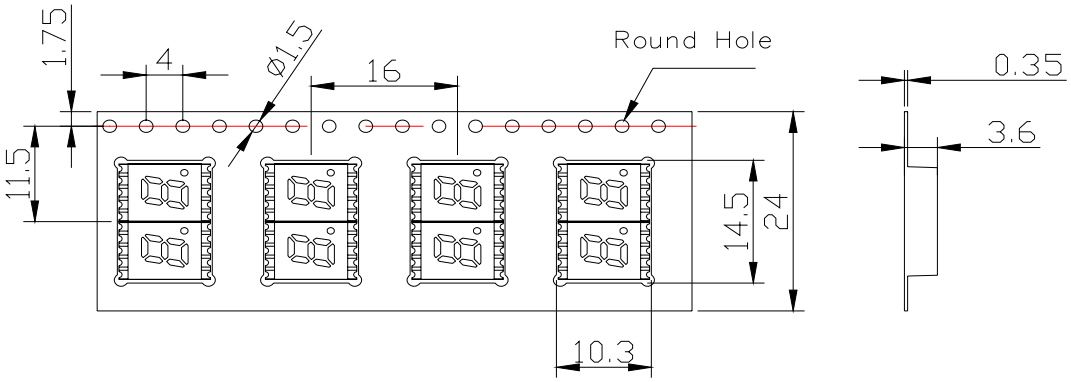


FIG.5 MAXIMUN FORWARD DC CURRENT VS AMBIENT TEMPERATURE (Tjmax=95°C)

■ **Packing Reel Dimensions(mm)：**

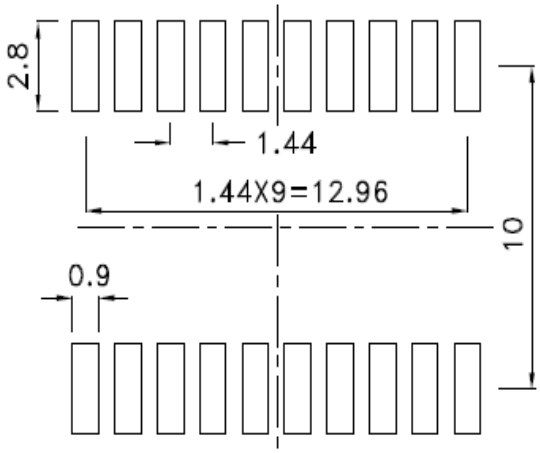


■ **Dimensions of Tape (Unit: mm)**



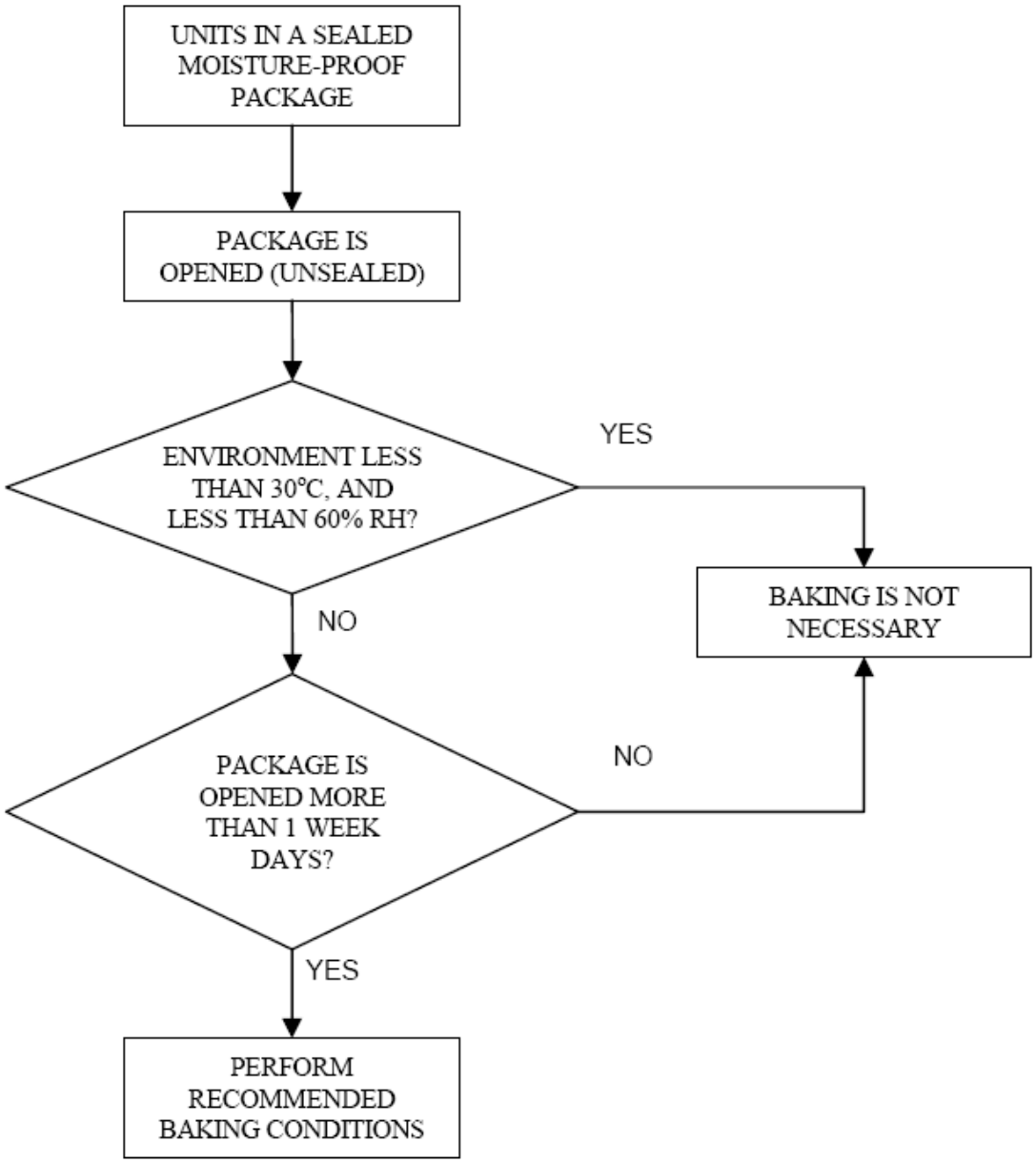
■ **One Reel contained 1100 PCS products:**

■ **Recommended Soldering Pattern:**



■ **Moisture Proof Packaging：**

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