

**World Components Network Service Ltd****Customer Name:****Date:****2016-2-23****Part No:****WCN3S-1020HY-A1****Product Group  
Description:****LED Display****Customer Part No:****Approval Date:****Customer  
Confirmation****Approved by****Checked by****Athena  
2016-2-23****Prepared By****Fei  
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# World Components Network Service Ltd

## REVISION RECORD

MARKER	Matter for revision	SHEET	DTAE	MAKER	APPOVED SIGN	
	Reason for revision					
A0	<b>P# WCN3S-1020HY-A1</b> <hr style="border-top: 1px dashed black;"/> <b>New Version issued</b>	Whole Spec	2016-2- 23	Fei	Athena	

**1. Type No./Manufacture's Name**

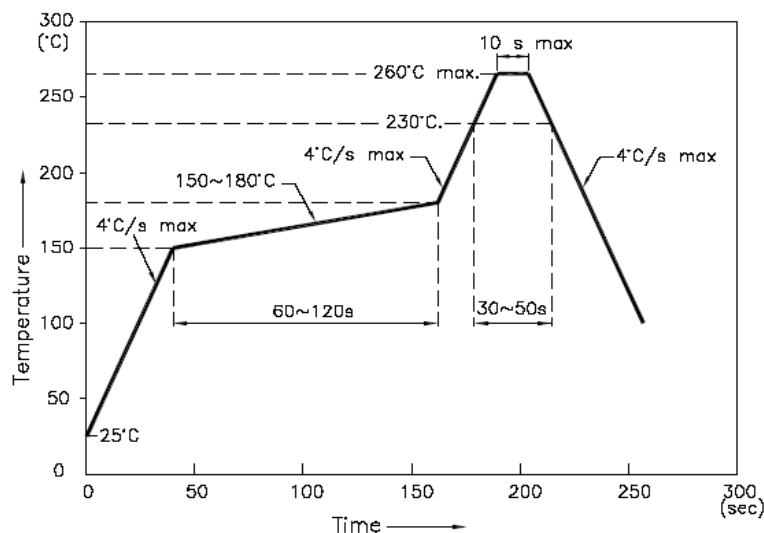
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**2. Features:**

- High Reliability
- Low Power Requirement
- Easy Assembly

**3. Faction: Display Digit Characteristic****4. Soldering Conditions: Soldering Temp.  $260 \pm 5$  °C, Soldering Time. 3~5 sec.**

Soldering Power <30 W.

**5. Re-flow Temp/Time****NOTES:**

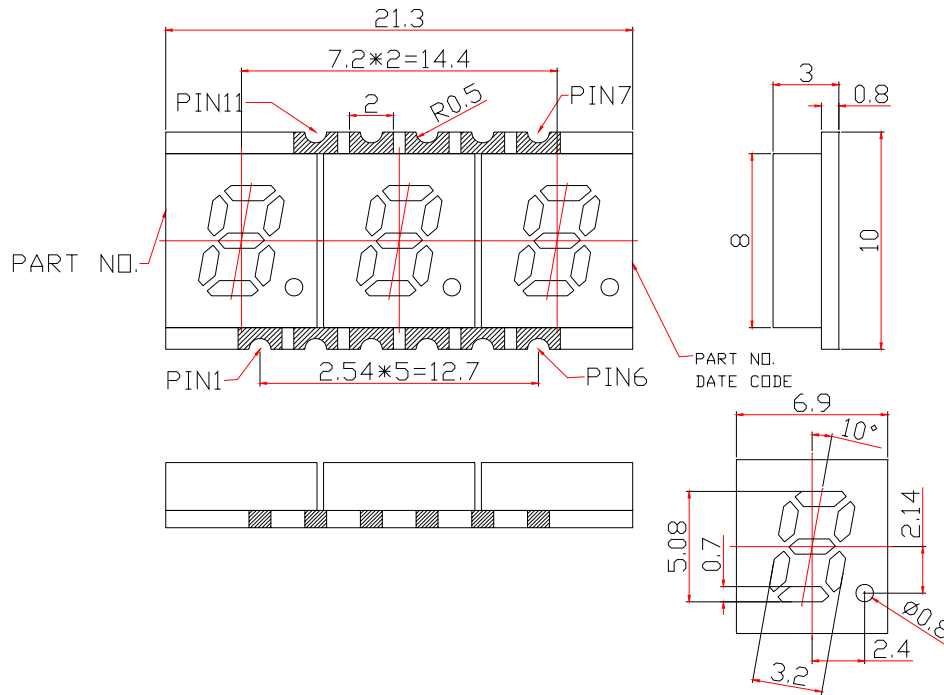
**5.1. We recommend the re-flow temperature  $245^{\circ}\text{C}(\pm 5^{\circ}\text{C})$ .the maximum soldering temperature should be limited to  $260^{\circ}\text{C}$ .**

**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:**

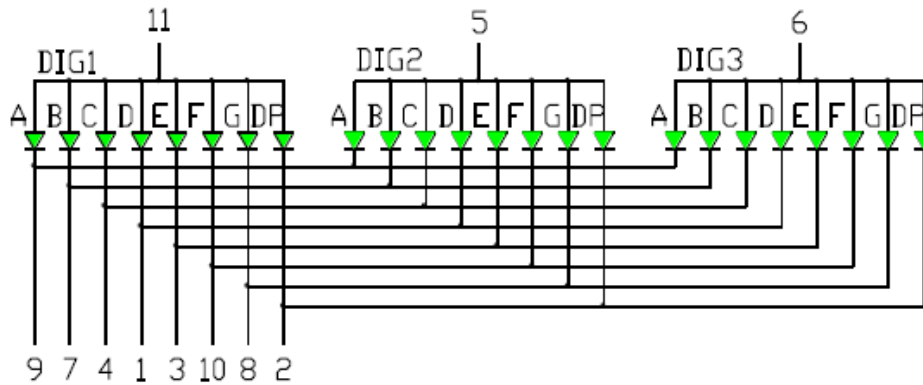
- Three Digit LED Display
- Digit Height:5.08mm(0.20" )
- Gray Face and Milky Segment
- Color: Yellow

### 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 <sub>a</sub>	—	Yellow	65	mW
Forward Current Per Segment	I <sub>F</sub>	—	Yellow	25	mA
Peak Forward Current Per Segment	I <sub>FP</sub>	1/10 Duty 1KHz	Yellow	100	mA
Reverse Voltage Per Segment	V <sub>R</sub>	—	Yellow	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 <sub>F</sub>	I <sub>F</sub> =20mA	Per Chip	1.80	2.00	2.60	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	Per Chip	—	—	100	μA
Luminous Intensity	I <sub>v</sub>	I <sub>F</sub> =10mA	Per Chip	3051	5500	8500	ucd
Wave Length	λ <sub>P</sub>	I <sub>F</sub> =20mA	Per Chip	—	595	—	nm
	λ <sub>D</sub>			586	589	592	
Spectral Line Half Width	Δλ	I <sub>F</sub> =20mA	Per Chip	—	—	20	nm
Luminous Intensity Matching Ratio (Segment To Segment)	I <sub>v-m</sub>	I <sub>F</sub> =10mA				1.2:1	

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

Rank	Symbol	Condition	Min	Max	Unit
K	K	I <sub>F</sub> =10mA	3051	4000	ucd
L	L	I <sub>F</sub> =10mA	4001	5000	ucd
M	M	I <sub>F</sub> =10mA	5001	6100	ucd
N	N	I <sub>F</sub> =10mA	6101	7200	ucd
O	O	I <sub>F</sub> =10mA	7201	8500	ucd

**Typical Optical-Electronic Characteristic Curves**

光电特性曲线

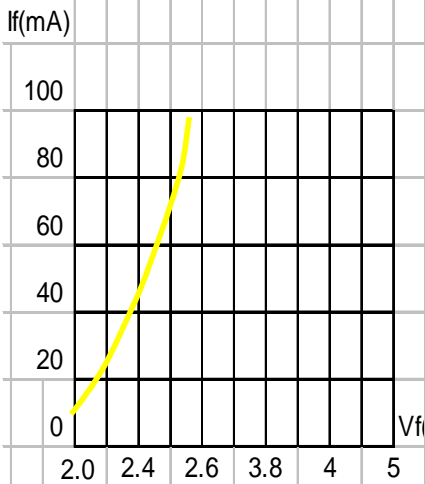


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

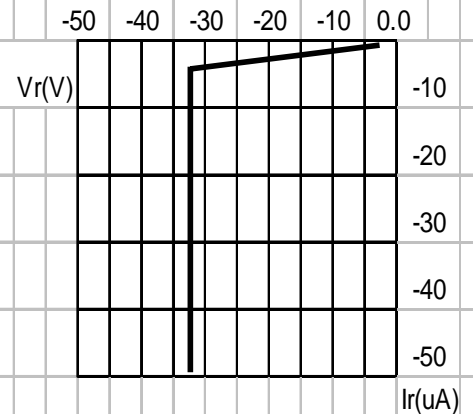
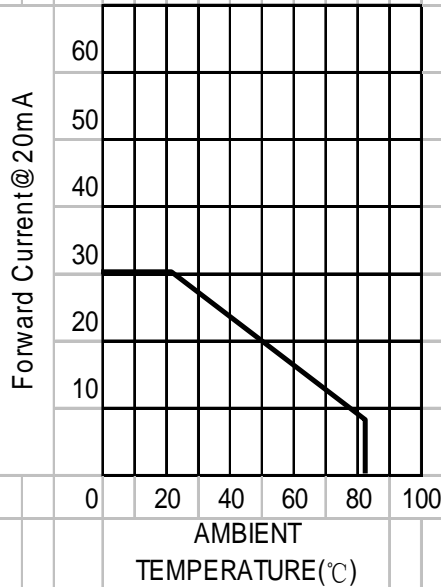
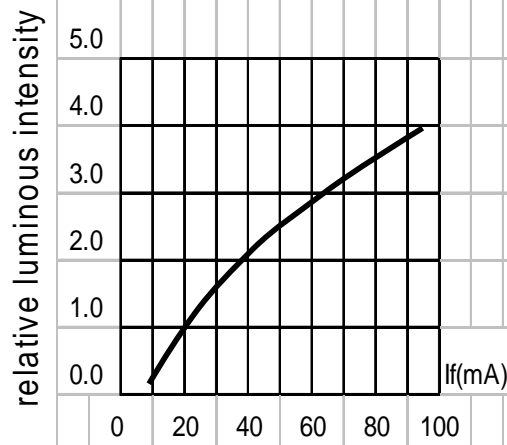
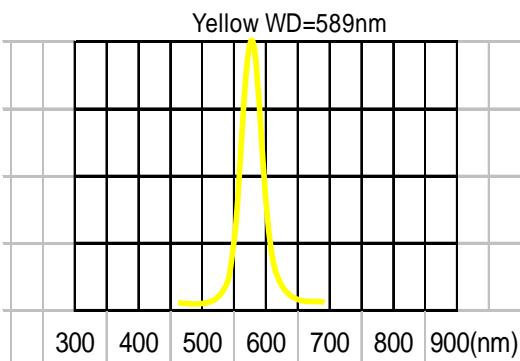
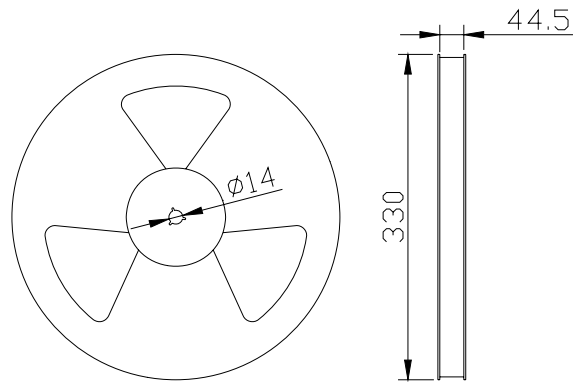


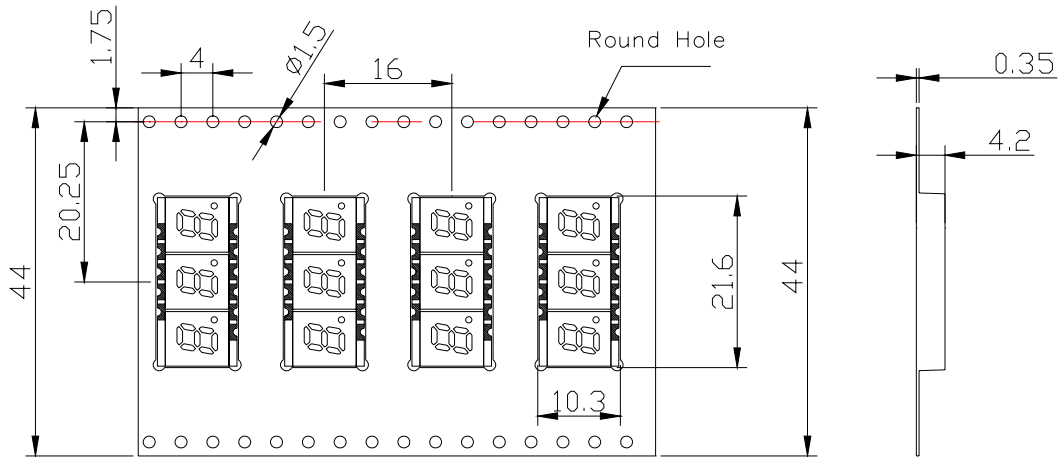
Fig.2 REVERSE CURRENT VS. REVERSE VOLTAGE.



■ **Packing Reel Dimensions(mm):**

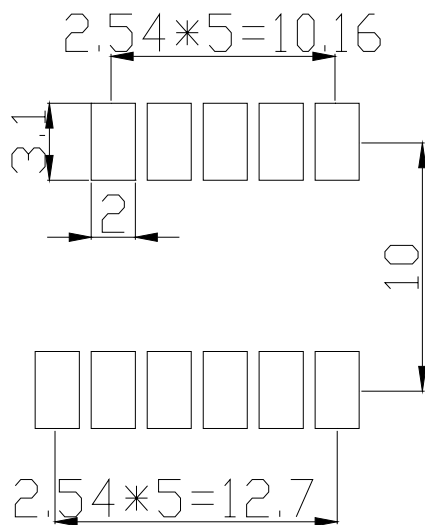


■ **Dimensions of Tape (Unit: mm)**



■ **One Reel contained 1000 PCS products:**

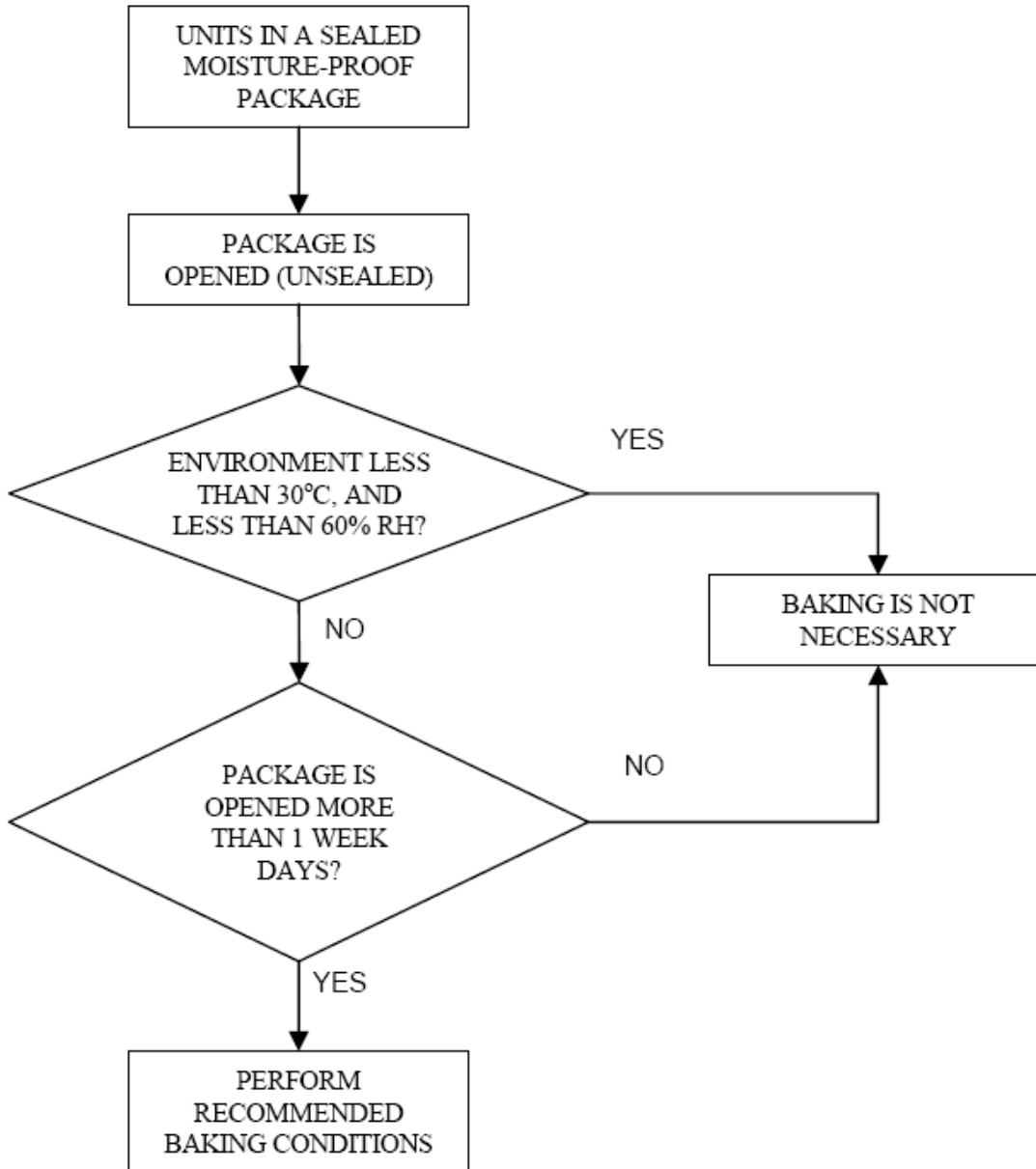
■ **Recommended Soldering Pattern:**





■ **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.**