

**World Components Network Service Ltd****Customer Name:****Date:****2016-1-29****Part No:****WCN1-1056GU-C1****Product Group  
Description:****LED Display****Customer Part No:****Approval Date:****Customer  
Confirmation****Approved by****Checked by****Athena  
2016-1-29****Prepared By****Fei  
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**Table of Contents**

<b>NO.</b>	<b>ITEM</b>	<b>PAGE</b>
1	Cover	1
2	Table of Contents	2
3	Revision Record	3
4	Description	4
5	Outer Dimension and Circuit Diagram	5
6	Absolute Maximum Rating and Electrical/Optical Characteristics Rating	6
7	Typical Electrical/ Optical Characteristic Curves and Spectrometer	7
8	Packaging Data	8
9	Moisture Proof Packaging	9

# World Components Network Service Ltd

## REVISION RECORD

MARKER	Matter for revision	SHEET	DTAE	MAKER	APPOVED SIGN	
	Reason for revision					
A0	<b>P# WCN1-1056GU-C1</b> <hr style="border-top: 1px dashed black;"/> <b>New Version issued</b>	Whole Spec	2013-8-27	LIU	Athena	
A1	<b>Add Package Data</b> <hr style="border-top: 1px dashed black;"/> <b>Improved</b>	Page.5	2015-5-18	Fei	Athena	
A2	<b>Change Outer Dimension</b> <hr style="border-top: 1px dashed black;"/> <b>Improved</b>	Page.2	2015-9-5	Fei	Athena	
A3	<b>Change File's Set Type</b> <hr style="border-top: 1px dashed black;"/> <b>Improved</b>	Whole Spec	2016-1-29	Fei	Athena	

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

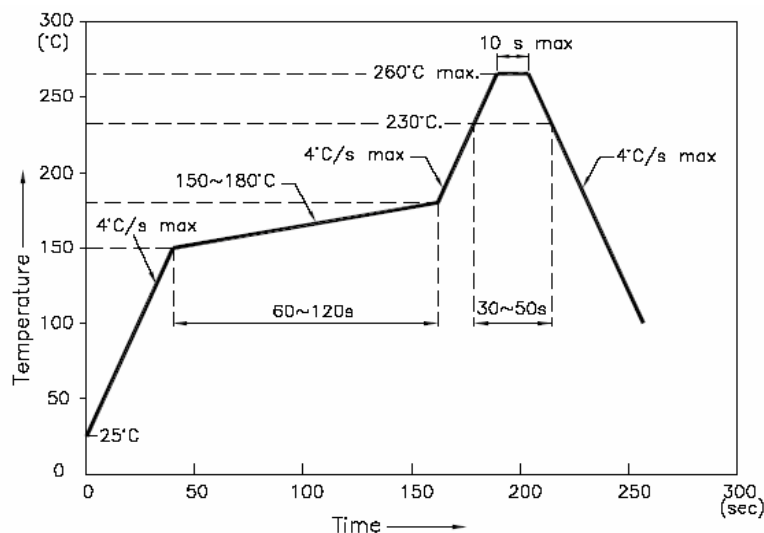
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**2. Features:**

- 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:**

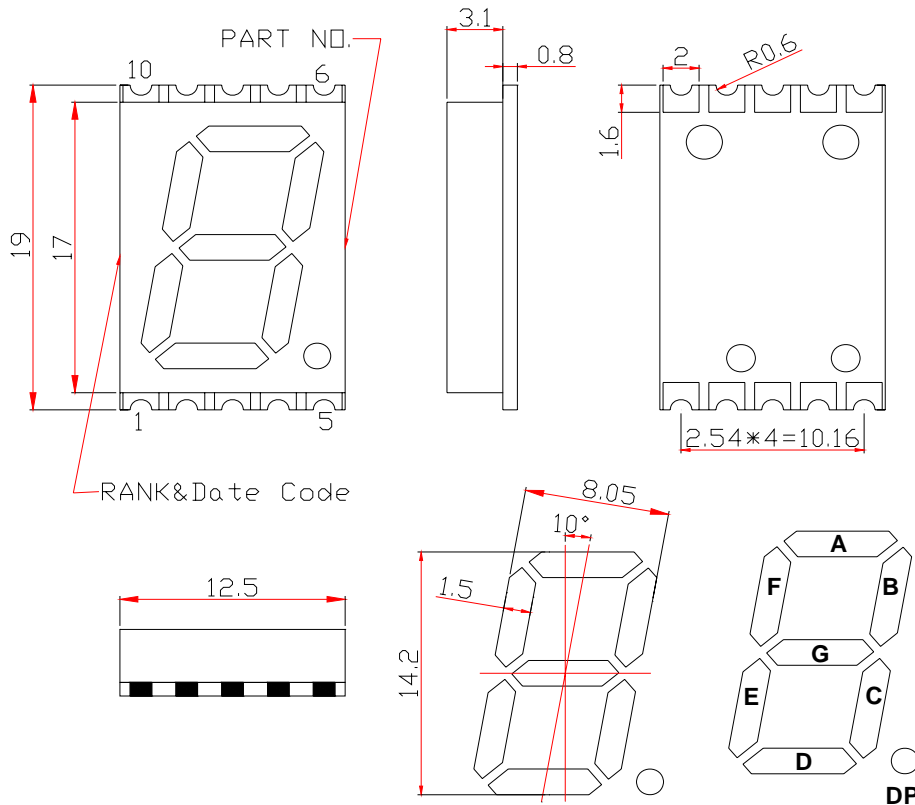
5.1. We recommend the re-flow temperature  $245^{\circ}\text{C}(\pm 5^{\circ}\text{C})$ . the maximum soldering temperature should be limited to  $260^{\circ}\text{C}$ .

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:**

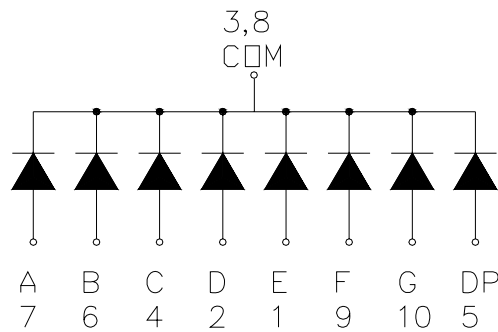
- Single Digit LED Display
- Digit Height: 14.2mm(0.56" )
- Gray Face and Milky Segment
- Color: Yellow Green

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

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## ■ ABSOLUTE MAXIMUM RATINGS AT TA=25°C

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment	$P_d$	—	Yellow Green	65	mW
Forward Current Per Segment	$I_F$	—	Yellow Green	25	mA
Peak Forward Current Per Segment	$I_{FP}$	1/10 Duty 1KHz	Yellow Green	100	mA
Reverse Voltage Per Segment	$V_R$	—	Yellow Green	5	V
Operating Temperature Range	$T_{opr}$	—	—	-35~+85	°C
Storage Temperature Range	$T_{stg}$	—	—	-35~+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	1.80	2.20	2.60	V
Reverse Current	$I_R$	$V_R=5V$	Per Chip	—	—	100	$\mu A$
Luminous Intensity	$I_V$	$I_F=10mA$	Per Chip	3051	5500	—	ucd
Wave Length	$\lambda_P$	$I_F=20mA$	Per Chip	—	565	—	nm
	$\lambda_D$			568	570	572	
Spectral Line Half Width	$\Delta \lambda$	$I_F=20mA$	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
K	K	$I_F=10mA$	3051	4000	ucd
L	L	$I_F=10mA$	4001	5000	ucd
M	M	$I_F=10mA$	5001	6100	ucd
N	N	$I_F=10mA$	6101	7200	ucd
O	O	$I_F=10mA$	7201	8500	ucd

## ■ Hue Grade: $I_F=10mA$ (Hue:+/-1nm)

Rank	Symbol	Hue Range	Units
3	3	568.1~570.0	nm
4	4	570.1~572.0	nm

■ **Typical Optical-Electronic Characteristic Curves**

Fig 1. Forward Current vs. Forward Voltage

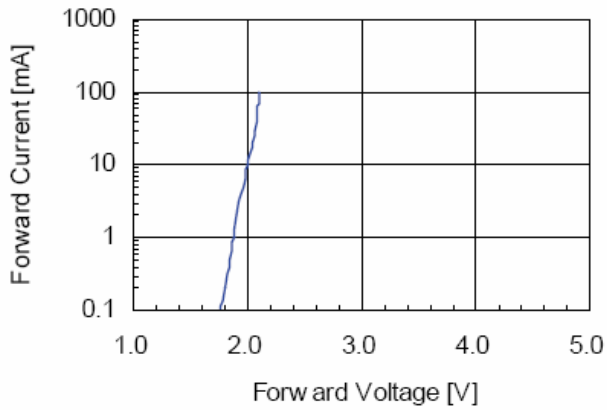


Fig 2. Relative Intensity vs. Forward Current

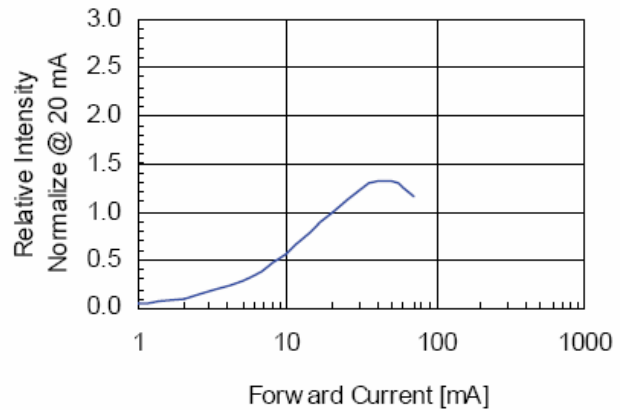


Fig 3. Forward Voltage vs. Temperature

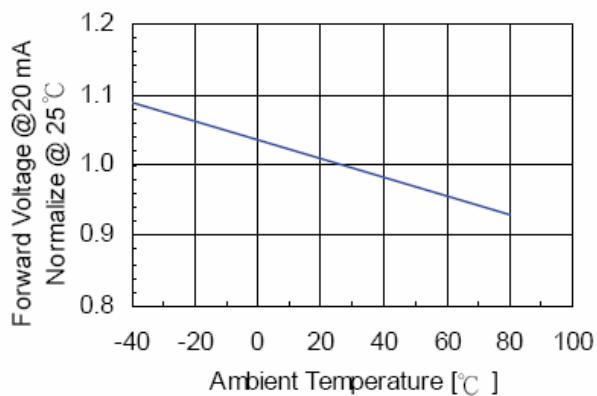


Fig 4. Relative Intensity vs. Temperature

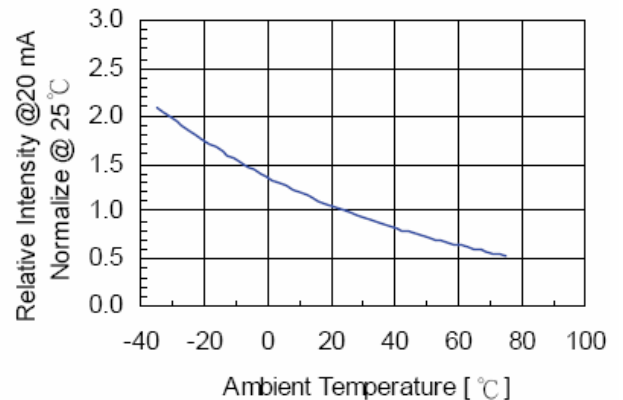
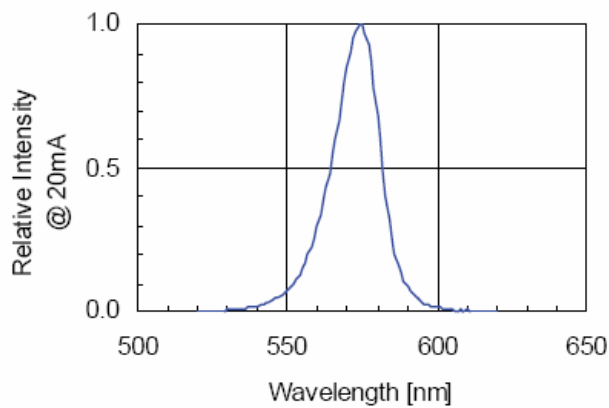


Fig 5. Relative Intensity vs. Wavelength

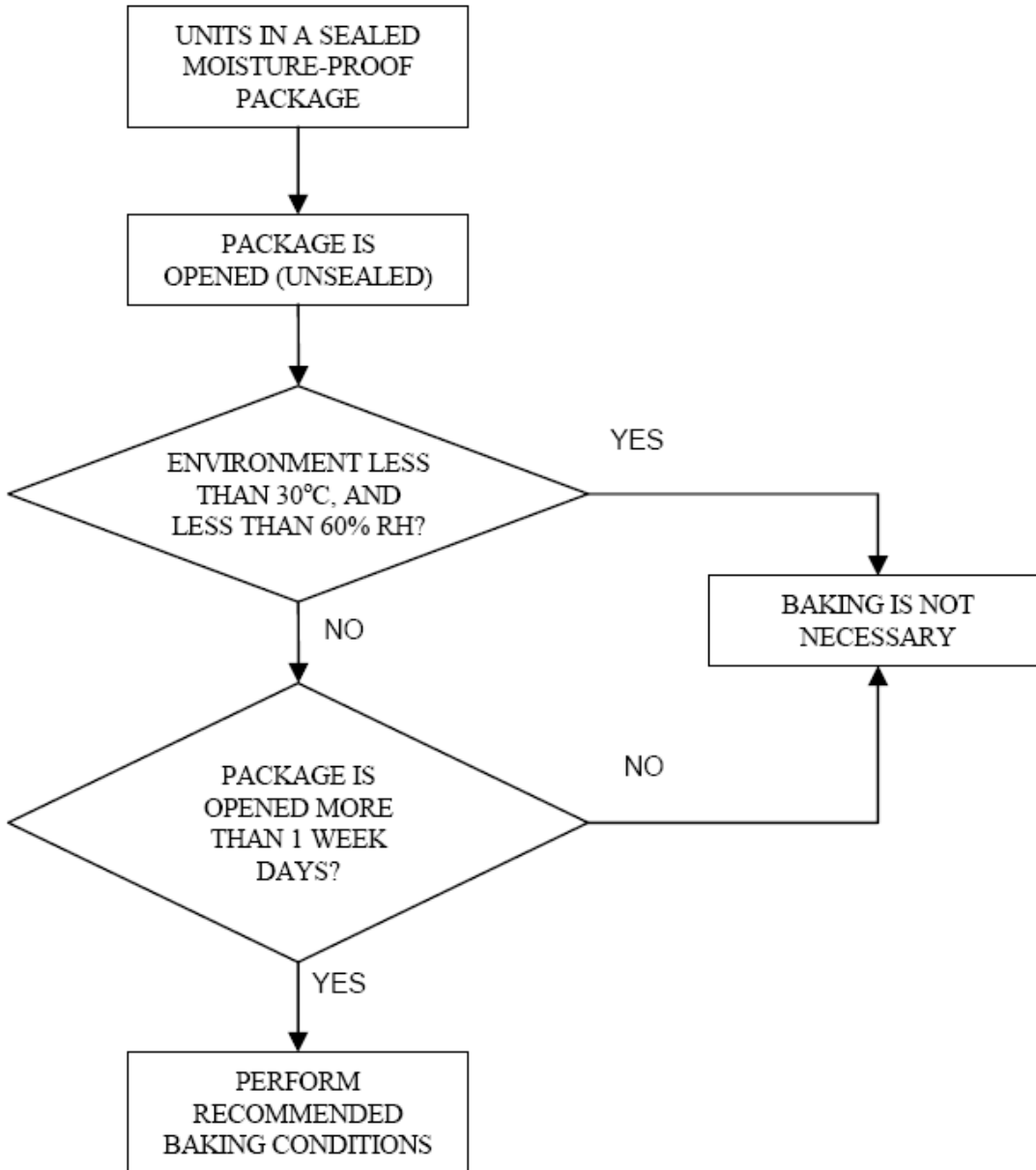






■ **Moisture Proof Packaging:**

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.**