



WCN Opto Group Co., Limited

Customer Name:

Date:

2016-11-15

Part No:

WCN1S-1039SR-A1

**Product Group
Description:**

LED Display

Customer Part No:

Approval Date:

**Customer
Confirmation**

Approved by

Checked by

Athena
2016-11-15

Prepared By

Fei
2016-11-15

Country of Origin: China
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REVISION RECORD

MARKER	Matter for revision	SHEET	DTAE	MAKER	APPOVED SIGN	
	Reason for revision					
A0	P# WCN1S-1039SR-A1	Whole Spec	2014-11-26	LIU	Athena	
	New Version issued					
A1	Add Package Data	Page.5	2015-4-16	LIU	Athena	
	Change Out Size Shape					
A2	Change File's Set Type	Whole Spec	2015-10-5	LIU	Athena	
	Improved					
A3		Whole Spec	2016-11-15	Fei	Athena	
	New Version issued					

1. Type No./Manufacture's Name

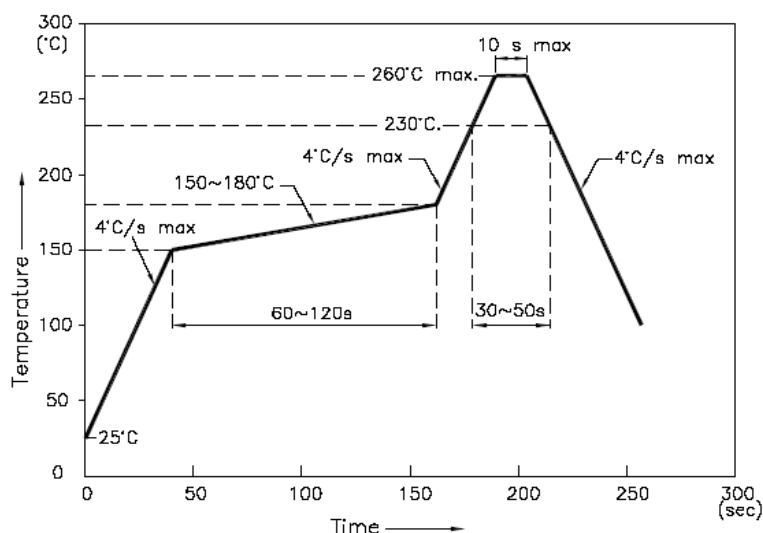
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2. Features:

- 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:**

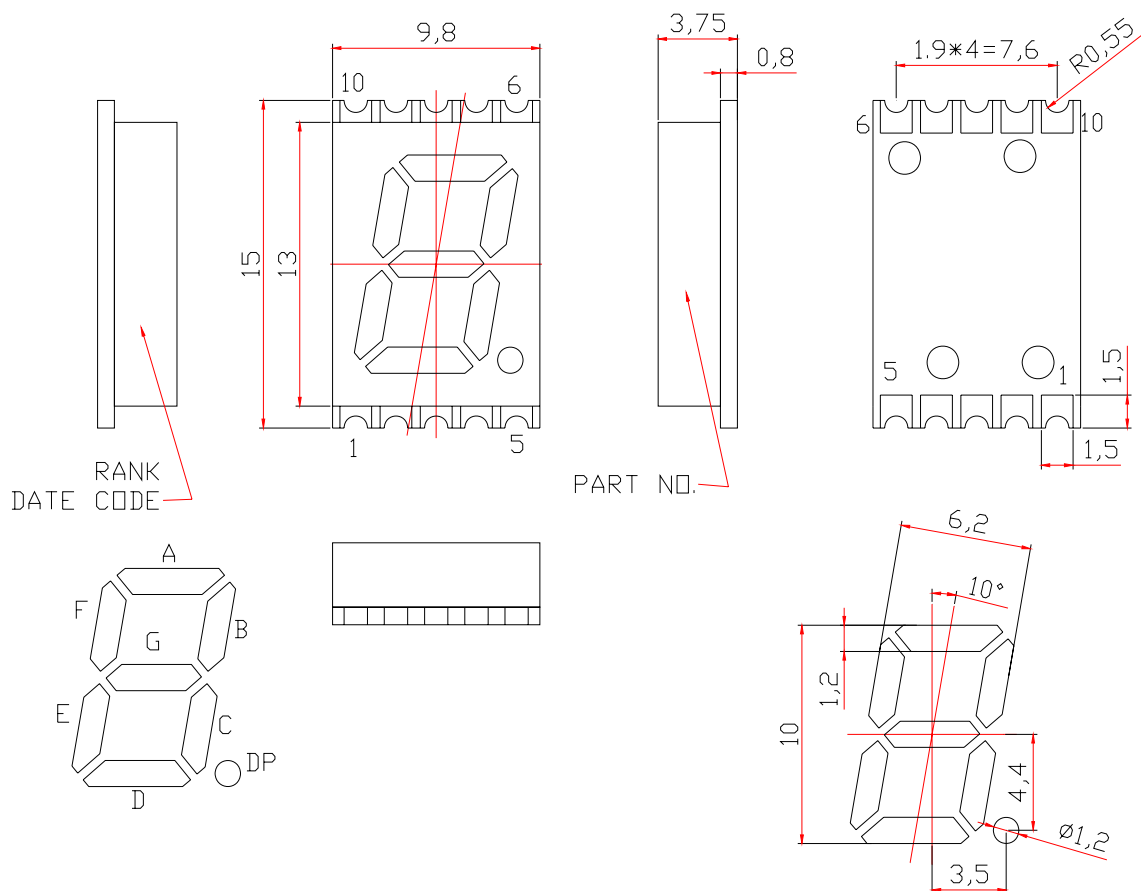
5.1. We recommend the re-flow temperature $245^{\circ}\text{C} (\pm 5^{\circ}\text{C})$. the maximum soldering temperature should be limited to 260°C .

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:

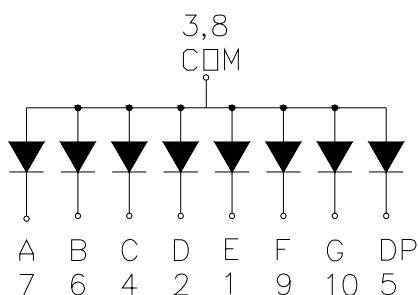
- Single Digit LED Display
- Digit Height: 10.0mm(0.39")
- Gray Face and Milky Segment
- Color: Red

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



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■ 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~+105	°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	6101	9500	15250	ucd
Wave Length	λ _P	I _F =20mA	Per Chip	—	640	—	nm
	λ _D			—	630	—	
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
N	N	I _F =10mA	6101	7200	ucd
O	O	I _F =10mA	7201	8500	ucd
P	P	I _F =10mA	8501	10500	ucd
Q	Q	I _F =10mA	10501	12800	ucd
R	R	I _F =10mA	12801	15250	ucd

Typical Elector-Optical Characteristics Curve:

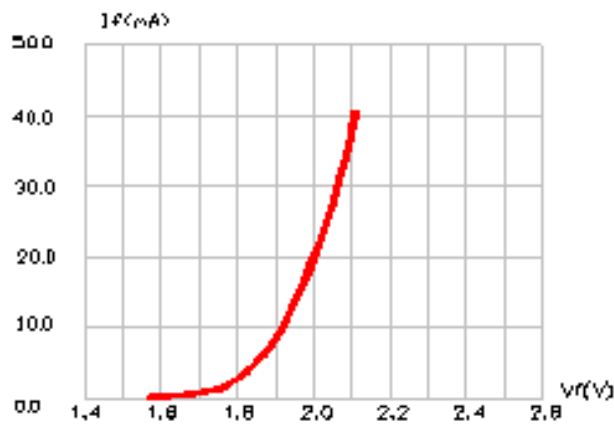


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE

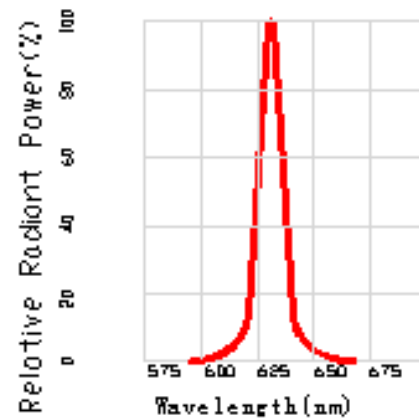


Fig.2 Relative Radiant Power vs. Wavelength

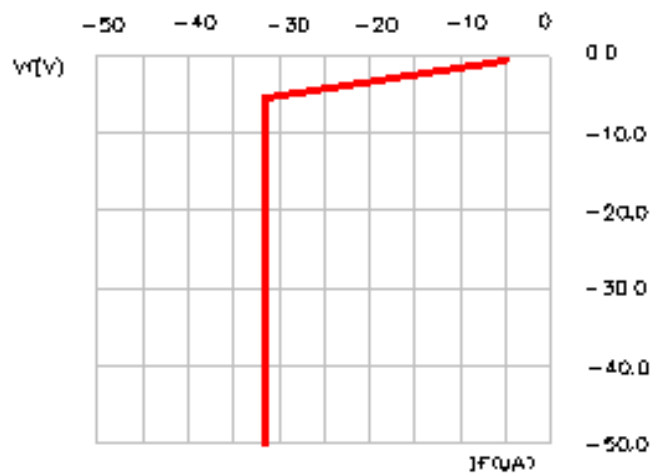


FIG.3 REVERSE CURRENT VS. REVERSE VOLTAGE.

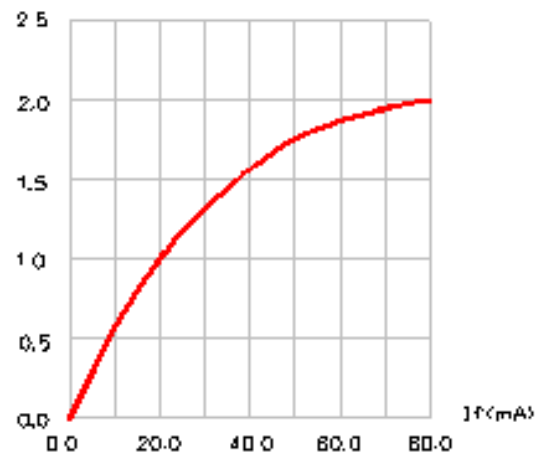


FIG.4 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT.

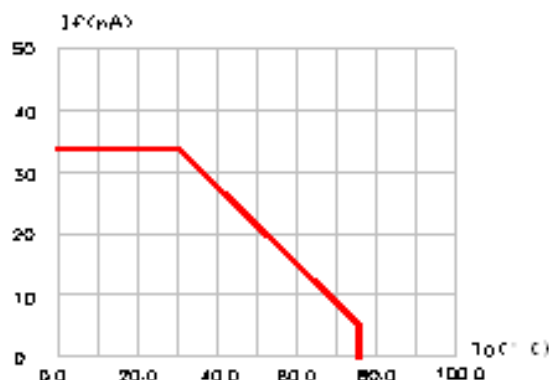
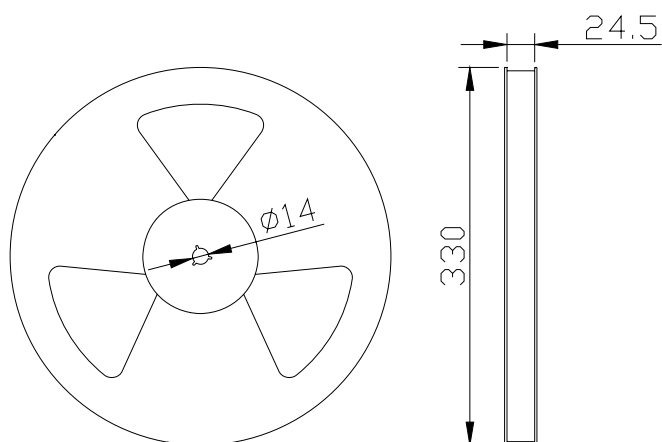


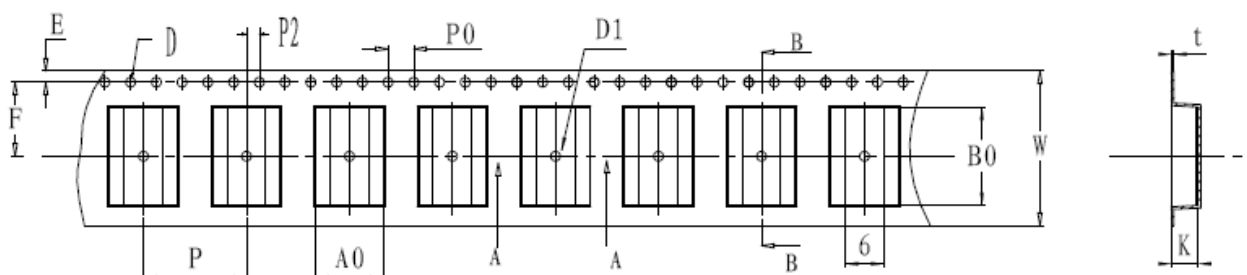
FIG.5 MAXIMUM FORWARD DC CURRENT VS AMBIENT TEMPERATURE ($T_{max}=95^{\circ}$ C)

■ Packing Reel Dimensions(mm):



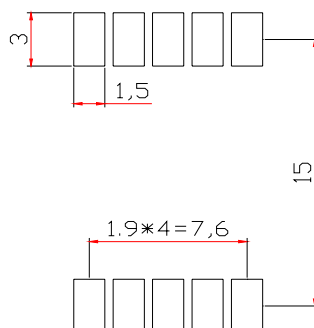
■ Dimensions of Tape (Unit: mm)

ITEM	W	A0	B0	K0	P	F	E	D	D1	P0	P2	t
DIM	24.0	10.5	15.3	4.4	16	11.5	1.75	1.50	1.50	4.00	2.00	0.35



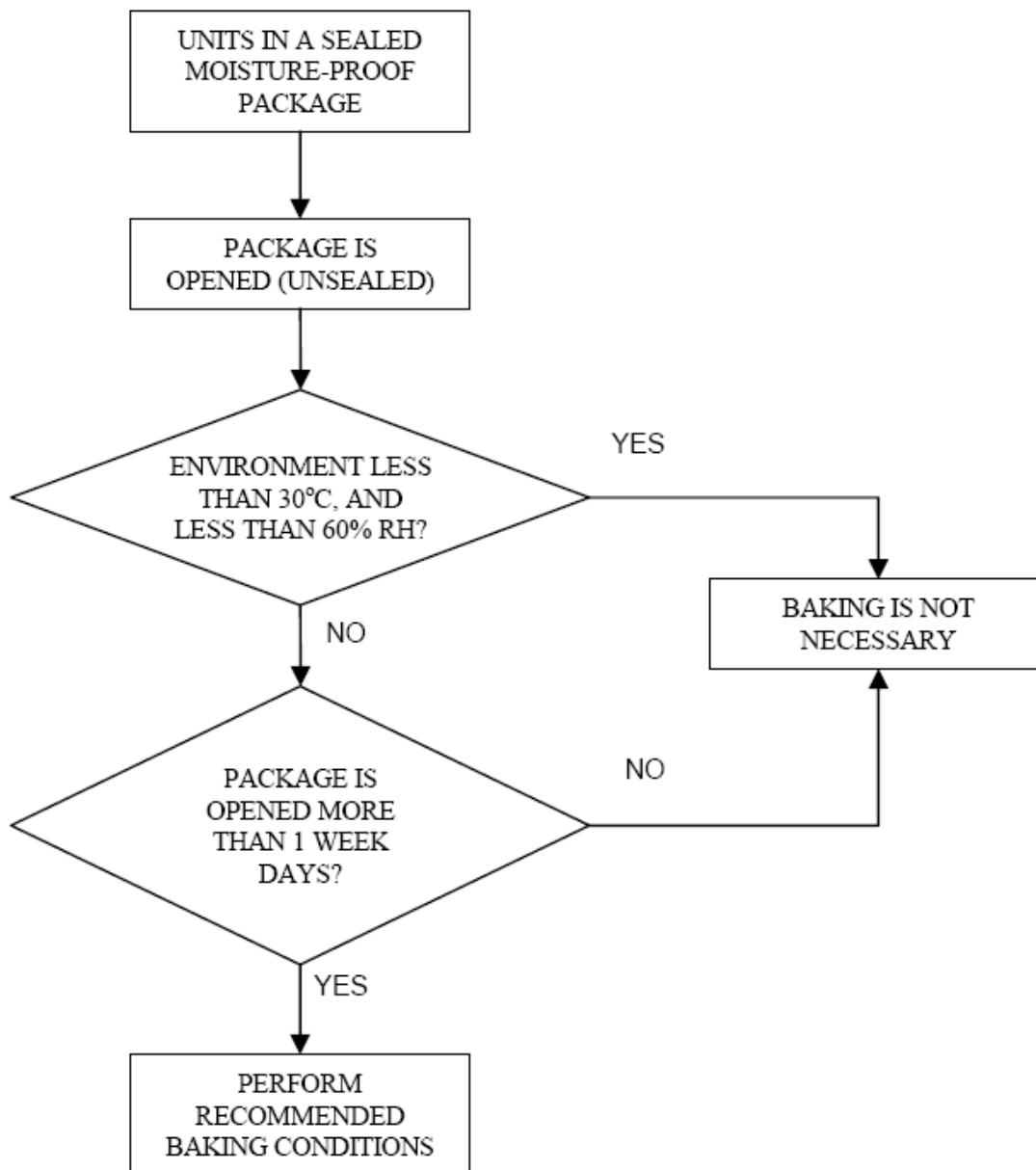
■ One Reel contained 900 PCS products:

■ 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.