

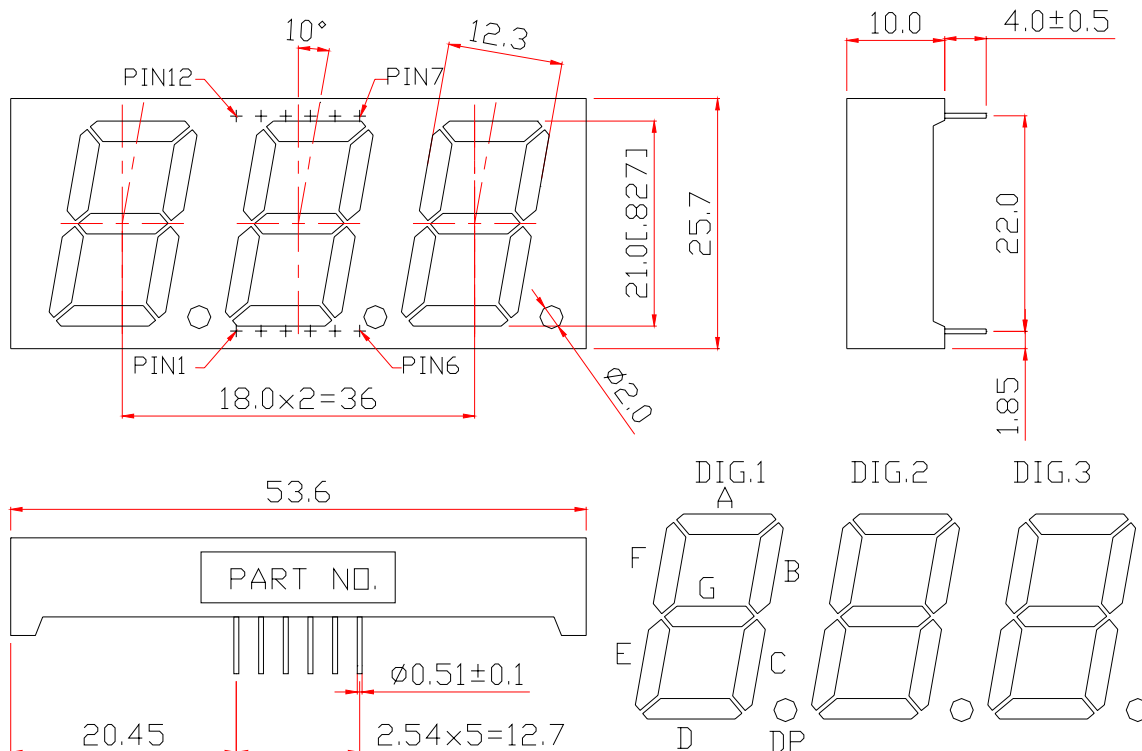
# **WCN3-0080B7-A14**

## **SPECIFICATION**

<b>WCN</b>			<b>CUSTOMER Confirmed</b>
<b>Prepared by</b>	<b>Checked by</b>	<b>Approved by</b>	
<b>Fei</b> <b>2016-7-7</b>	<b>Athena</b>	<b>William</b>	
<b>REVISION RECORD</b>			
<b>A1:New Version issued (2016-7-7)</b>			

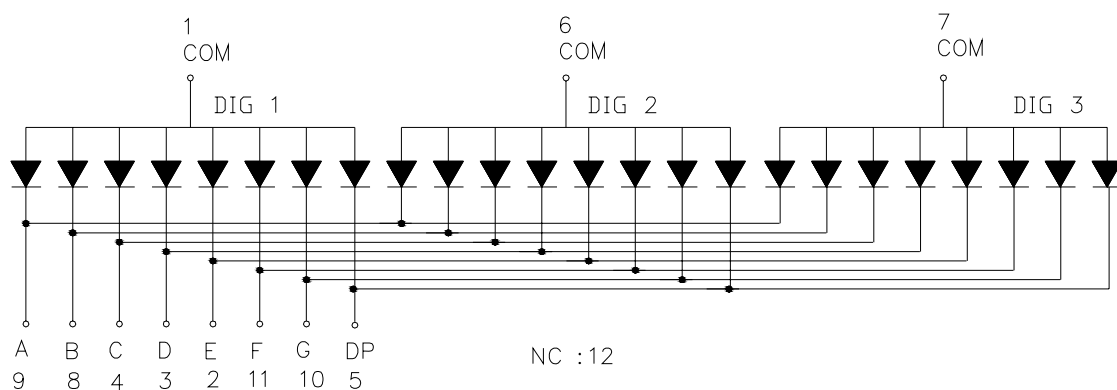
**REVISION: A0**

### 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	Common Anode Dig1	7	Common Anode Dig3
2	Cathode E	8	Cathode B
3	Cathode D	9	Cathode A
4	Cathode C	10	Cathode G
5	Cathode DP	11	Cathode F
6	Common Anode Dig2	12	NC

## ■ Features:

- High Reliability
- Color:Blue
- Low Power Requirement
- Easy Assembly

## ■ Description:

- Three Digit Display
- Digit Height:21.0mm(0.8" )
- Black Face and Milky Segment

## ■ Absolute Maximum Rating (Ta=25℃):

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment	P <sub>d</sub>	—	Blue	90	mW
Forward Current Per Segment	I <sub>F</sub>	—	Blue	25	mA
Peak Forward Current Per Segment	I <sub>FP</sub>	1/10 Duty 10KHz	Blue	100	mA
Reverse Voltage Per Segment	V <sub>R</sub>	—	Blue	5	V
Operating Temperature Range	T <sub>opr</sub>	—	—	-35~+85	℃
Storage Temperature Range	T <sub>stg</sub>	—	—	-35~+85	℃

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

Item	Symbol	Test conditions	Location	Rating			Units
				Min.	Typ.	Max.	
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =20mA	Per Segment	—	3.20	3.60	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	Per Segment	—	—	100	μ A
Luminous Intensity	I <sub>V</sub>	I <sub>F</sub> =10mA	Per Segment	5051	10500	20000	μ cd
Peak Emission Wave Length	λ <sub>P</sub>	I <sub>F</sub> =20mA	Per Segment	—	—	—	nm
	λ <sub>D</sub>			—	470	—	
Spectral Line Half Width	△ λ	I <sub>F</sub> =20mA	Per Segment	—	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 is +/-10%)

Rank	Symbol	Condition	Min	Max	Unit
K	K	I <sub>F</sub> =10mA	5051	8000	μcd
L	L	I <sub>F</sub> =10mA	8001	12560	μcd
M	M	I <sub>F</sub> =10mA	12561	20000	μcd

■ Soldering Conditions: Soldering Temp. ≤ +260℃, Soldering Time. ≤ 3sec.  
(at 2mm Distance from The Case of Reflector Edge)

## Typical Electro-Optical Characteristics Curve:

Fig1. Forward Current vs. Forward Voltage:

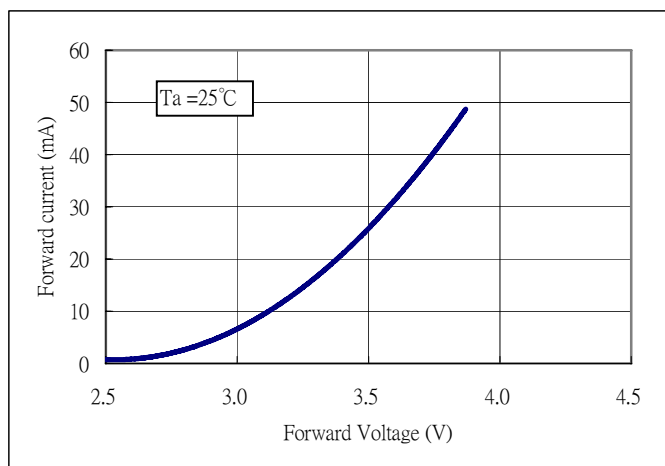


Fig2. Forward Current vs. Relative Intensity:

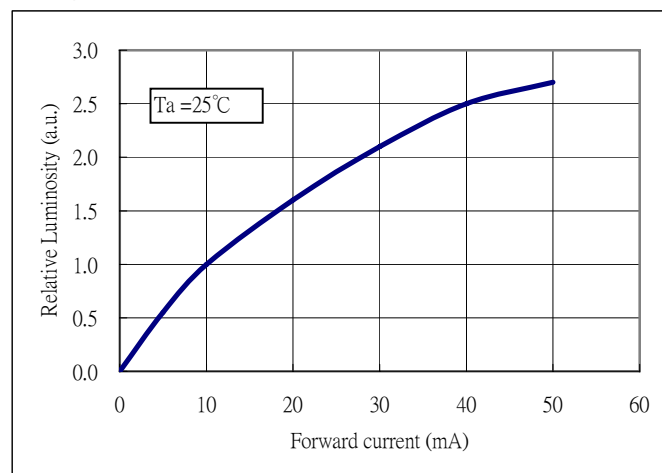


Fig3. Forward Current vs. Relative wavelength:

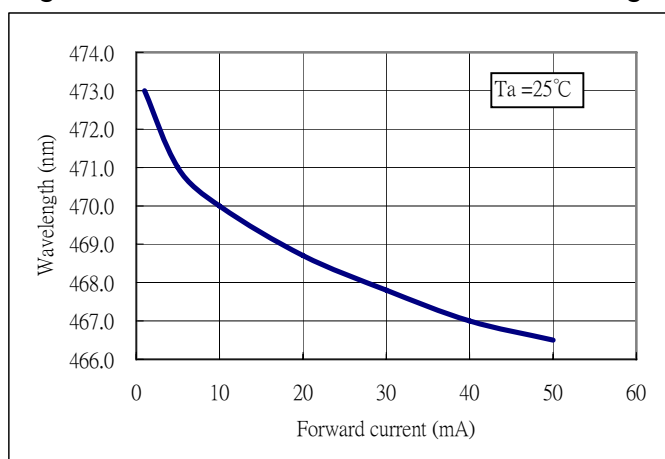
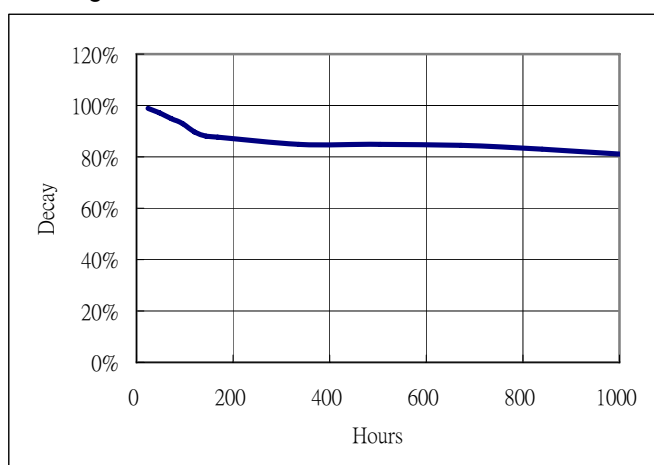


Fig4. Life Test at 20mA R.T. 1000hrs:



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## LED Displays Reliability Test:

CLASSIFICATION	TEST ITEM	DESCRIPTION AND TEST CONDITION
ENDURANCE TEST	OPERATION LIFE	EVALUATES RESISTANCE OF THE DEVICE WHEN OPERATED AT ELECTRICAL STRESS $T_a$ = UNDER ROOM TEMPERATURE $I_F = I_F \text{ max}$
	HIGH TEMPERATURE HIGH HUMIDITY STORAGE	EVALUATES MOISTURE RESISTANCE OF THE DEVICE WHEN STORED FOR A LONG TERM AT HIGH TEMPERATURE AND HUMIDITY $T_a = 65 \pm 5^\circ\text{C}$ RH=90~95%RH TEST TIME=240 $\pm$ 2Hrs
	HIGH TEMPERATURE STORAGE	EVALUATES DEVICE DURABILITY FOR LONG TERM STORAGE IN HIGH TEMPERATURE $T_a = 85 \pm 5^\circ\text{C}$ (COB: $T_a = 65 \pm 5^\circ\text{C}$ ) TEST TIME=1000Hrs(-24Hrs, +72Hrs)
	LOW TEMPERATURE STORAGE	EVALUATES DEVICE DURABILITY FOR LONG TERM STORAGE IN LOW TEMPERATURE $T_a = -35 \pm 5^\circ\text{C}$ TEST TIME=1000Hrs(-24Hrs, +72Hrs)
ENVIRONMENTAL TEST	TEMPERATURE CYCLING	EVALUATES RESISTANCE OF DEVICE AT THERMAL STRESSES OR EXPANSION AND CONTRACTION $85^\circ\text{C} \sim 25^\circ\text{C} \sim -35^\circ\text{C} \sim 25^\circ\text{C}$ 30min 5min 30min 5min 10 CYCLES(COB: $T_{\text{hot}}=65^\circ\text{C}$ , $T_{\text{cold}}=-25^\circ\text{C}$ )
	THERMAL SHOCK	EVALUATES DEVICE STRUCTURE AND STRUCTURE AND MECHANICAL RESISTANCE WHEN SUDDENLY EXPOSED AT SERVE CHANGES $85 \pm 5^\circ\text{C} \sim -35 \pm 5^\circ\text{C}$ 10min 10min 10 CYCLES(COB: $T_{\text{hot}}=65^\circ\text{C}$ , $T_{\text{cold}}=-25^\circ\text{C}$ )
	SOLDERABILITY	EVALUATES SOLDERABILITY ON LEADS OF DEVICE $T_{\text{SOL}}=230 \pm 5^\circ\text{C}$ DWELL TIME=5 $\pm$ 1sec.
	SOLDER RESISTANCE	EVALUATES RESISTANCE TO THERMAL STRESS CAUSED BY SOLDERING $T_{\text{SOL}}=260 \pm 5^\circ\text{C}$ DWELL TIME=10 $\pm$ 1sec.

## Packing method A:

30 pcs / Red Expandable Polyethylene.

180 pcs / Box(360\*175\*130mm).

1080 pcs / Carton(550\*380\*280mm).

## Packing method B:

9 pcs / IC Tube.(520\*27.6\*21)

270 pcs / Box(537\*175\*125mm).

1080 pcs / Carton(550\*380\*280mm).