

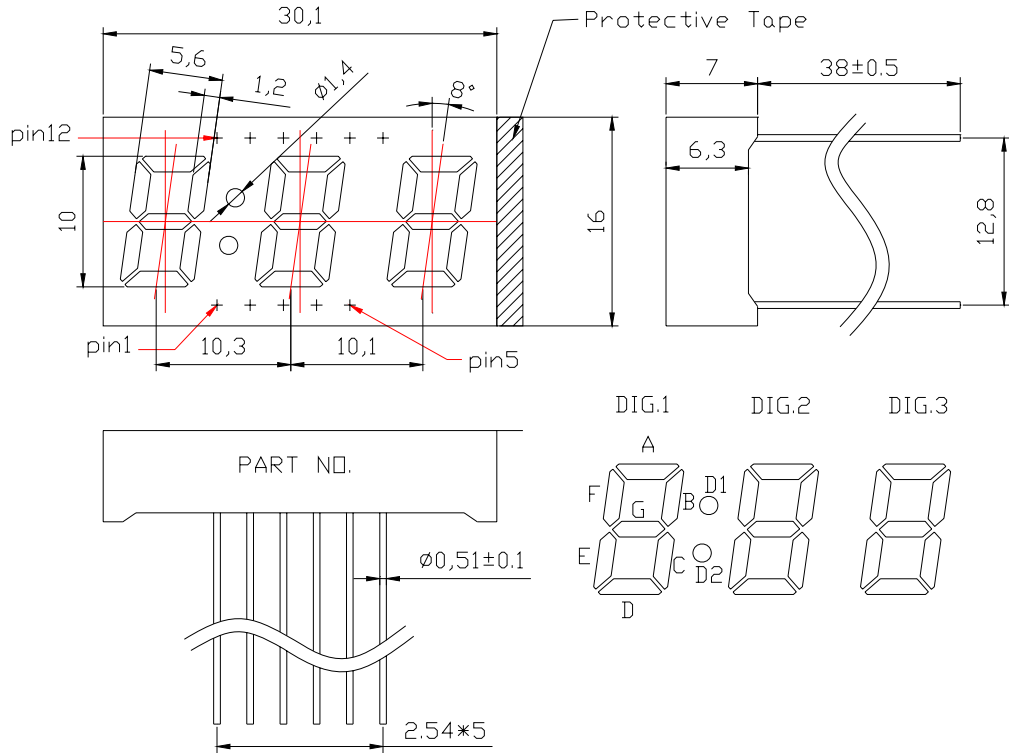
# **WCN3-0039B7-C92-T**

## **SPECIFICATION**

<b>WCN</b>			<b>CUSTOMER Confirmed</b>
<b>Prepared by</b>	<b>Checked by</b>	<b>Approved by</b>	
<b>Fei</b> <b>2016-6-28</b>	<b>Athena</b>	<b>William</b>	
<b>REVISION RECORD</b> A2: New Version issued (2016-6-28)			

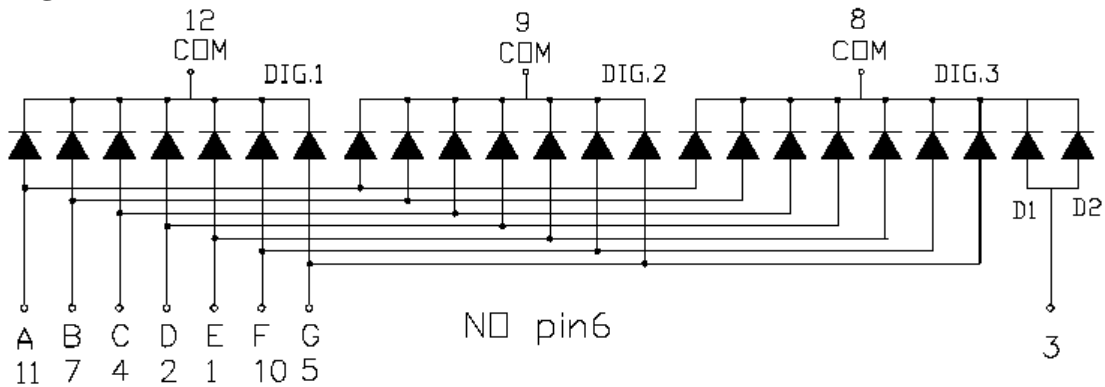
**REVISION: A2**

## 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	7	Anode B
2	Anode D	8	Common Cathode D1, D2
3	Anode D1,D2	9	Common Cathode DIG.2
4	Anode C	10	Anode F
5	Anode G	11	Anode A
6	NP	12	Common Cathode DIG.1

■ **Features:**

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

■ **Description:**

- Three Digit Display
- Digit Height:10.0mm(0.39" )
- Black Face and Milky Segment

■ **Absolute Maximum Rating (Ta=25°C):**

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	°C
Storage Temperature Range	T <sub>stg</sub>	—	—	-35~+85	°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 Segment	—	3.0	3.60	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	Per Segment	—	—	100	μA
Luminous Intensity	I <sub>V</sub>	I <sub>F</sub> =10mA	Per Segment	5051	10000	20000	μcd
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	Δλ	I <sub>F</sub> =20mA	Per Segment	—	30	—	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	12650	μcd
M	M	I <sub>F</sub> =10mA	12561	20000	μcd

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

**Typical Elector-Optical Characteristics Curve:**

Fig1. Forward Current vs. Forward Voltage:

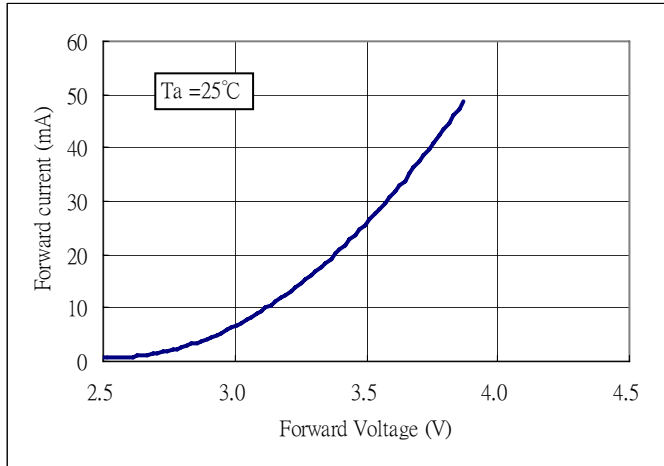


Fig2. Forward Current vs. Relative Intensity:

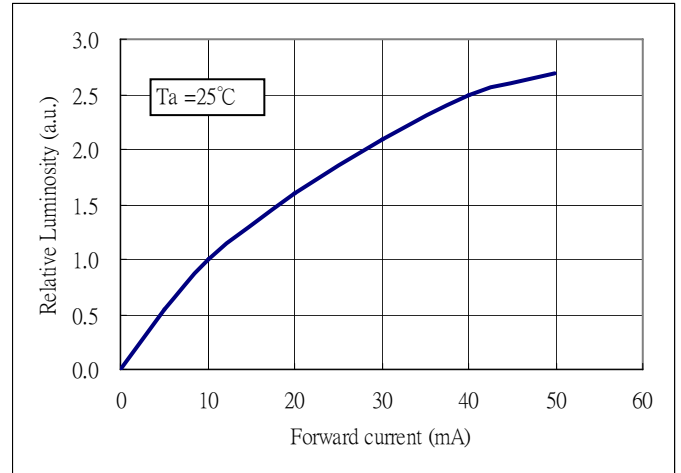


Fig3. Forward Current vs. Relative wavelength:

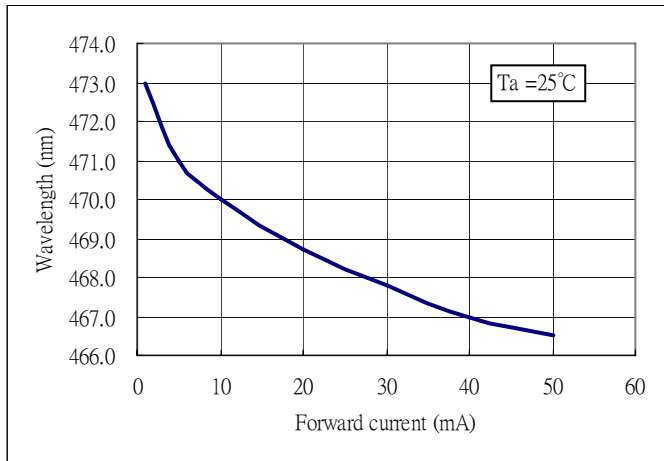
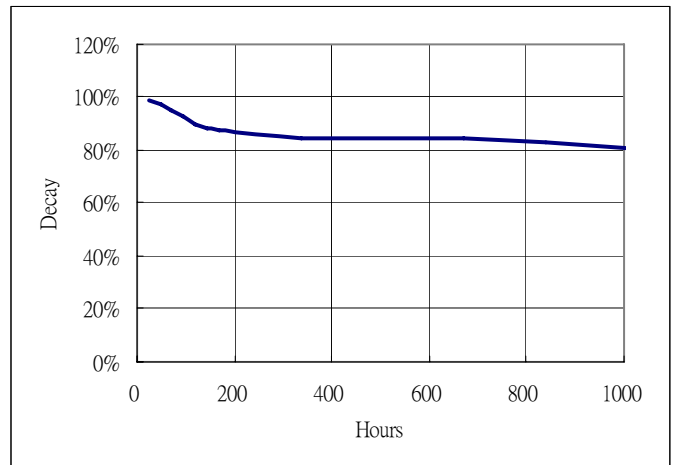


Fig4. Life Test at 20mA R.T. 1000hrs:



**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 <sub>a</sub> = UNDER ROOM TEMPERATURE I <sub>F</sub> = I <sub>F</sub> max
	HIGH TEMPERATURE HIGH HUMIDITY STORAGE	EVALUATES MOISTURE RESISTANCE OF THE DEVICE WHEN STORED FOR A LONG TERM AT HIGH TEMPERATURE AND HUMIDITY T <sub>a</sub> = 65±5°C RH=90~95%RH TEST TIME=240± 2Hrs
	HIGH TEMPERATURE STORAGE	EVALUATES DEVICE DURABILITY FOR LONG TERM STORAGE IN HIGH TEMPERATURE T <sub>a</sub> = 85±5°C(COB: T <sub>a</sub> =65±5°C) TEST TIME=1000Hrs(-24Hrs, +72Hrs)
	LOW TEMPERATURE STORAGE	EVALUATES DEVICE DURABILITY FOR LONG TERM STORAGE IN LOW TEMPERATURE T <sub>a</sub> = -35±5°C TEST TIME=1000Hrs(-24Hrs, +72Hrs)
ENVIRONMENTAL TEST	TEMPERATURE CYCLING	EVALUATES RESISTANCE OF DEVICE AT THERMAL STRESSES OR EXPANSION AND CONTRACTION 85°C ~ 25°C ~ -35°C ~ 25°C 30min 5min 30min 5min 10 CYCLES(COB: T <sub>hot</sub> =65°C, T <sub>cold</sub> =-25°C)
	THERMAL SHOCK	EVALUATES DEVICE STRUCTURE AND STRUCTURE AND MECHANICAL RESISTANCE WHEN SUDDENLY EXPOSED AT SERVE CHANGES 85±5°C ~ -35±5°C 10min 10min 10 CYCLES(COB: T <sub>hot</sub> =65°C, T <sub>cold</sub> =-25°C)
	SOLDERABILITY	EVALUATES SOLDERABILITY ON LEADS OF DEVICE T.SOL=230±5°C DWELL TIME=5±1sec.
	SOLDER RESISTANCE	EVALUATES RESISTANCE TO THERMAL STRESS CAUSED BY SOLDERING T.SOL=260±5°C DWELL TIME=10±1sec.

**Packing method A:**

**84 pcs / OneTray contained**

**1092 pcs / Box(365\*265\*255mm).**

**2184pcs / Carton(550\*380\*280mm).**