

# WCN1-00B2B7-A11S

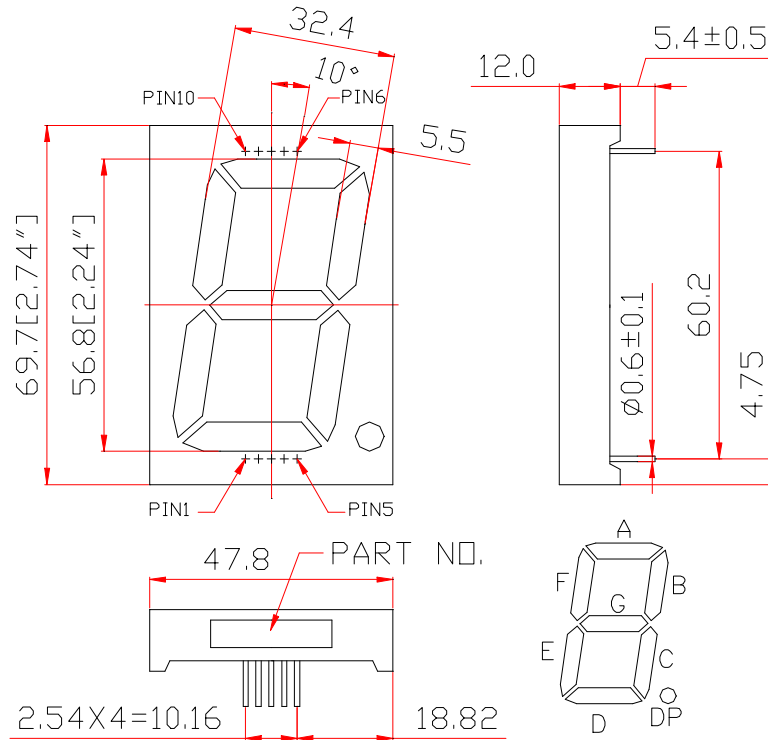
## SPECIFICATION

WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Liu 2023-10-25	Athena		
<b>REVISION RECORD</b> A1:New Version issued(2017-4-6) A2:Renew LOGO.(2023-10-25)			



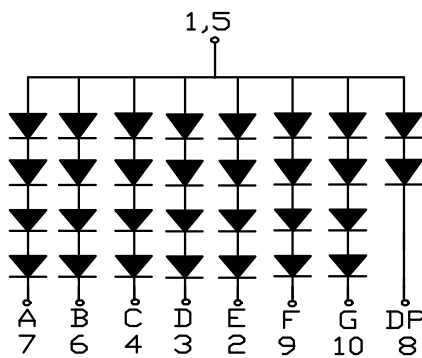
REVISION: A2

■ Outer Dimension:



Notes: Unless otherwise stated, The tolerance is  $\pm 0.25$ mm.

■ Circuit Diagram:



■ Pin Connection:

PIN NO.	CONNECTION	PIN NO.	CONNECTION
1	Common Anode	6	Cathode B
2	Cathode E	7	Cathode A
3	Cathode D	8	Cathode DP
4	Cathode C	9	Cathode F
5	Common Anode	10	Cathode G

■ **Features:**

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

■ **Description:**

- Single Digit LED Display
- Digit Height: 56.80mm(2.24" )
- 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	360/180	mW
Forward Current Per Segment	I <sub>F</sub>	—	Blue	25/25	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	20/10	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	—	12.8	14.4	V
			DP		6.4	7.2	
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =20/10V	Per Segment/DP	—	—	100	μA
Luminous Intensity	I <sub>V</sub>	I <sub>F</sub> =10mA	Per Segment	21.5	34	50	mcd
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	—	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
U	U	I <sub>F</sub> =10mA	21.5	26	mcd
V	V	I <sub>F</sub> =10mA	26	31	mcd
W	W	I <sub>F</sub> =10mA	31	37	mcd
X	X	I <sub>F</sub> =10mA	37	43	mcd
Y	Y	I <sub>F</sub> =10mA	43	50	mcd

■ **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:

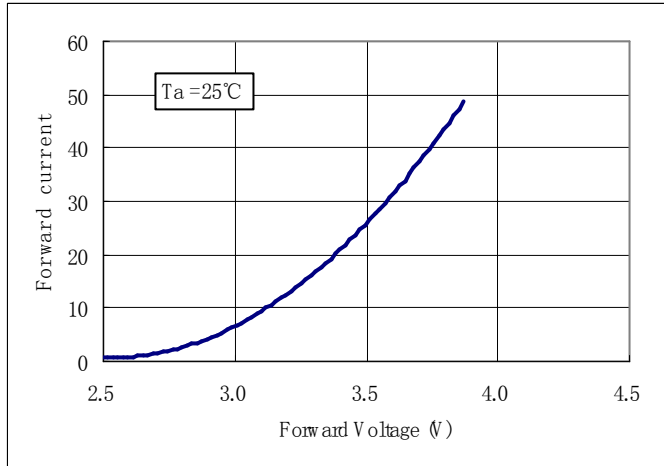


Fig2. Forward Current vs. Relative Intensity:

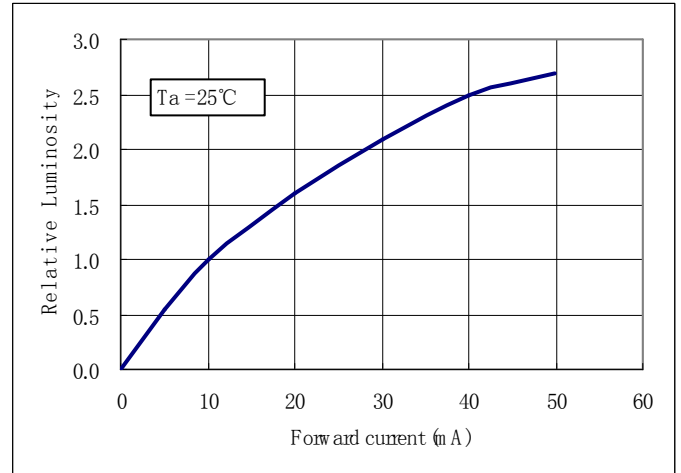


Fig3. Forward Current vs. Relative wavelength:

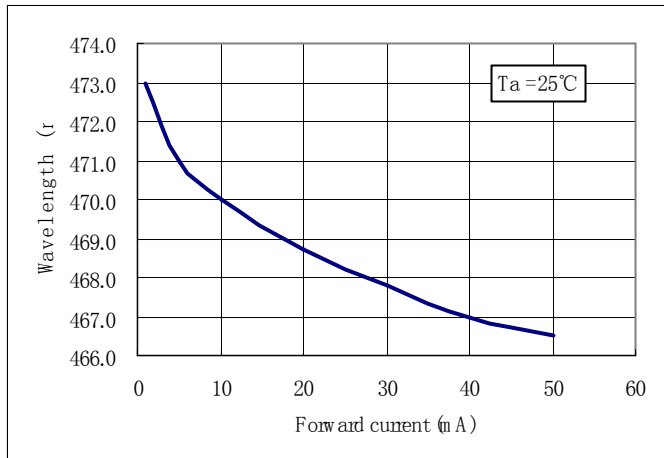
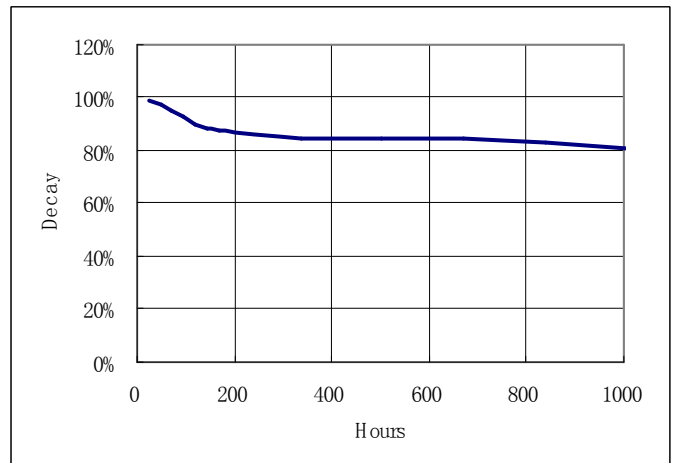


Fig4. Life Test at 20mA R.T. 1000hrs:



## 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 $T_a$ = UNDER ROOM TEMPERATURE $I_f = I_f \text{ max}$ TEST TIME=1000Hrs(-24Hrs, +72Hrs)
	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 :

21 pcs / Red Expandable Polyethylene.

210 pcs / Box(360\*265\*255mm).

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