

# WCN1-00A0WW-A21

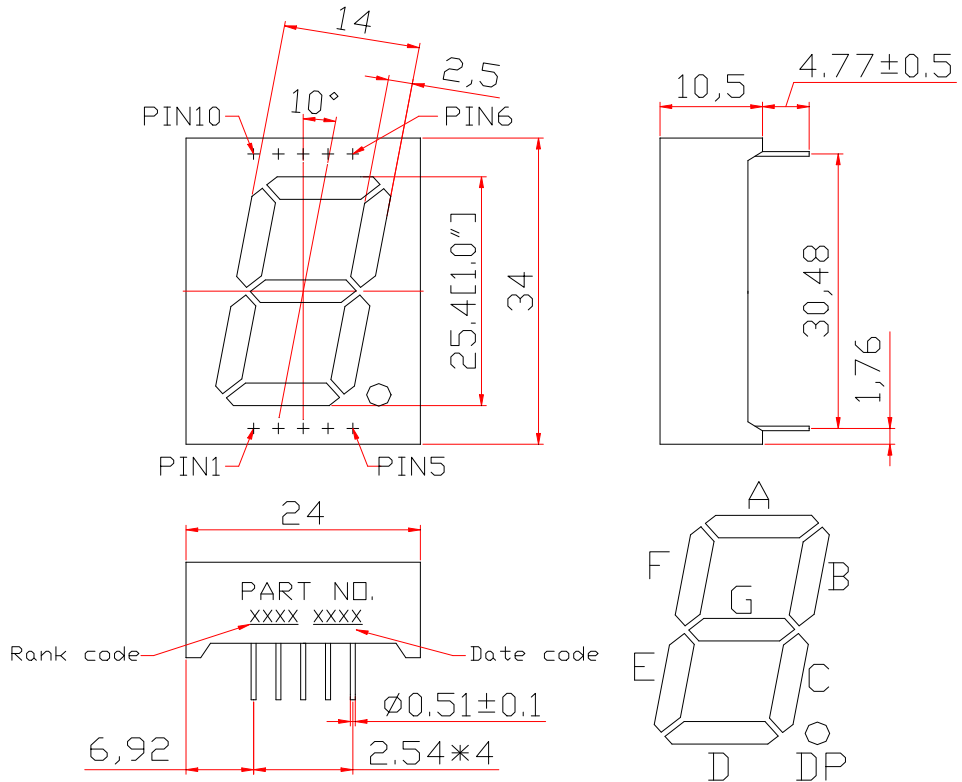
## SPECIFICATION

WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Yang 2022-11-16	Athena	William	
REVISION RECORD			



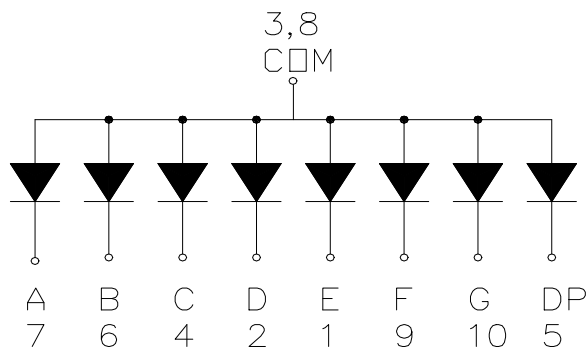
REVISION: A1

■ 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

## ■ Features:

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

## ■ Description:

- Single Digit LED Display
- Digit Height: 25.4mm(1.0" )
- 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>	—	White	90	mW
Forward Current Per Segment	I <sub>F</sub>	—	White	25	mA
Peak Forward Current Per Segment	I <sub>FP</sub>	1/10 Duty 10KHz	White	100	mA
Reverse Voltage Per Segment	V <sub>R</sub>	—	White	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 LED	2.6	3.0	3.60	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	Per LED	—	—	100	μA
Luminous Intensity	I <sub>V</sub>	I <sub>F</sub> =205mA	Per LED	400	—	1100	mcd
CIE Coordinate	X	I <sub>F</sub> =205mA	Per LED	—	0.26	—	nm
	Y				0.25		
Luminous Intensity Matching Ratio (Segment to Segment)	I <sub>v-m</sub>	I <sub>F</sub> =205mA	—	—	—	1.2:1	

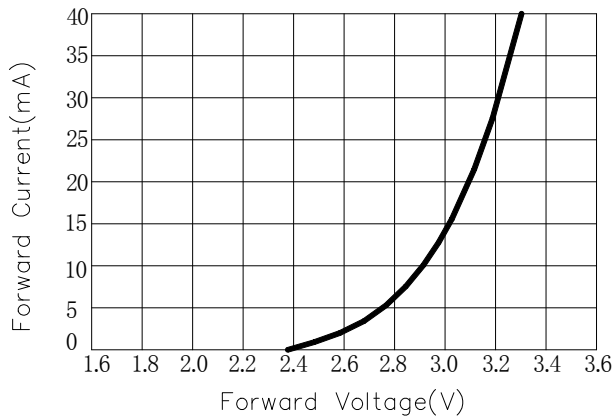
## ■ Luminous Intensity Sorting: (Luminous Intensity Tolerance is +/-10%)

Rank	Symbol	Condition	Min	Max	Unit
J	J	I <sub>F</sub> =20mA	400	500	mcd
K	K	I <sub>F</sub> =20mA	500	600	mcd
L	L	I <sub>F</sub> =20mA	600	800	mcd
M	M	I <sub>F</sub> =20mA	800	1100	mcd

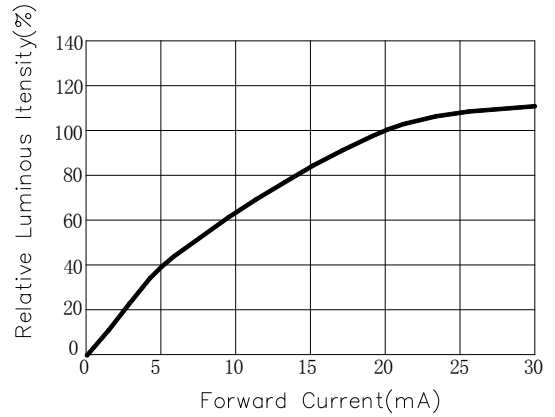
■ Soldering Conditions: Soldering Temp. ≤+260°C, Soldering Time. ≤3sec.  
(at 2mm Distance from The Case of Reflector Edge)

## ■ Typical Optical-Electronic Characteristic Curve :

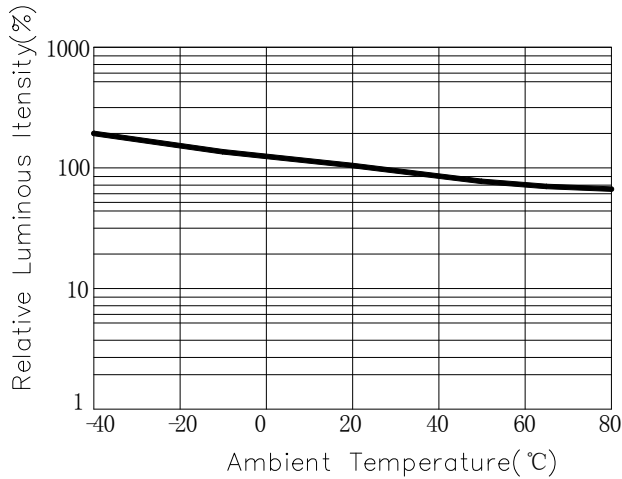
### Forward Current VS Forward Voltage



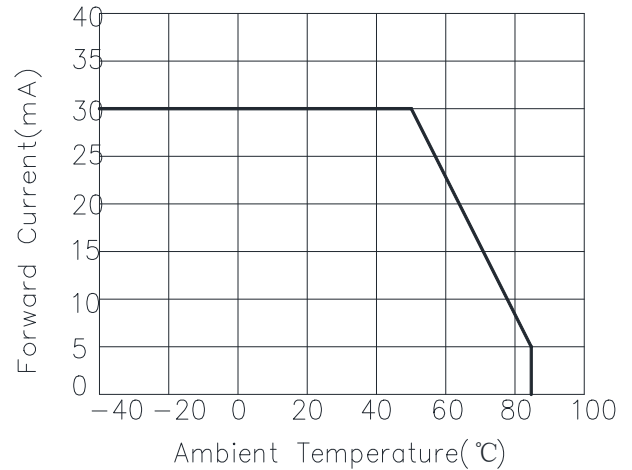
### Relative Flux VS Forward Current



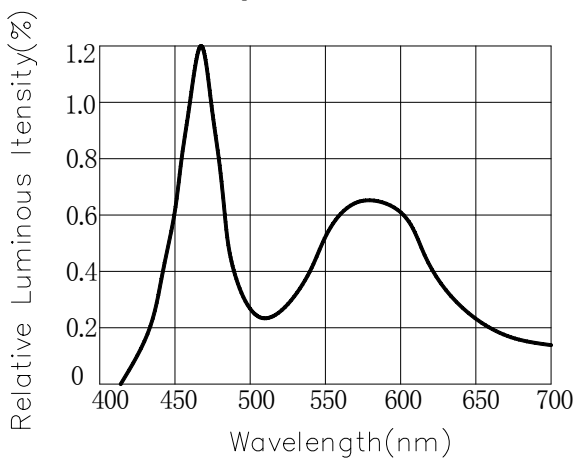
### Relative Flux VS Ambient Temperature



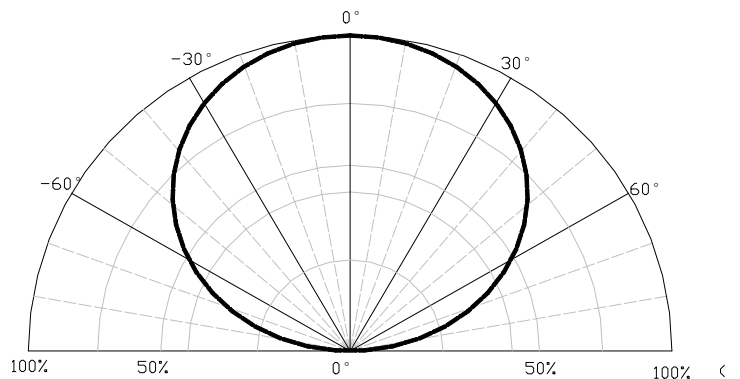
### Forward Current VS Ambient Temperature



### Relative Spectral Distribution



### Typical Spectral Distribution



**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± 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 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±1sec.
	SOLDER RESISTANCE	EVALUATES RESISTANCE TO THERMAL STRESS CAUSED BY SOLDERING $T_{\text{SOL}}=260 \pm 5^\circ\text{C}$ DWELL TIME=10±1sec.

**Packing method A:**

- 54 pcs / Red Expandable Polyethylene.
- 270 pcs / Box(360\*175\*130mm).
- 1620 pcs / Carton(550\*380\*280mm).

**Packing method B:**

- 21 pcs / IC Tube.(520\*37\*21)
- 504 pcs / Box(537\*175\*125mm).
- 2016 pcs / Carton(550\*380\*280mm).