

# WCN1-0056WW-A11

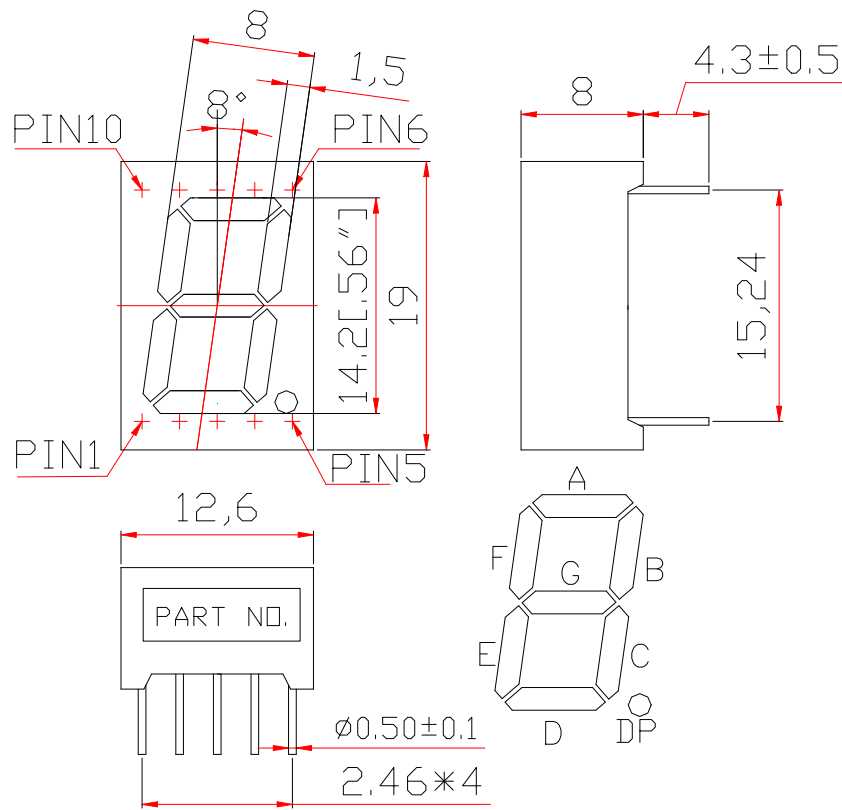
## SPECIFICATION

WCN			CUSTOMER
Prepared by	Checked by	Approved by	Confirmed
Zhang 2023-3-7	Athena	William	



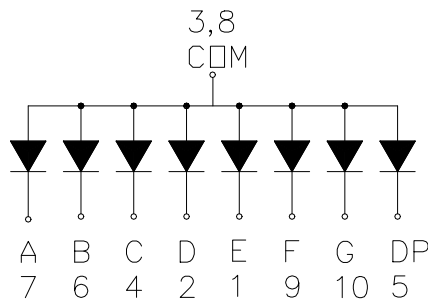
**REVISION: A0**

■ **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	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:14.2mm(0.56" )
- Black Face and Milky Epoxy

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

Parameter	Symbol	Condition	Color	Rating	Unit
Power Dissipation Per Segment	P <sub>d</sub>	—	White	72	mW
Forward Current Per Segment	I <sub>F</sub>	—	White	20	mA
Derating Of If Per Segment	△I <sub>F</sub>	Ta ≥ 25°C	White	0.30	mA/°C
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	Topr	—	—	-35~+85	°C
Storage Temperature Range	Tstg	—	—	-35~+85	°C

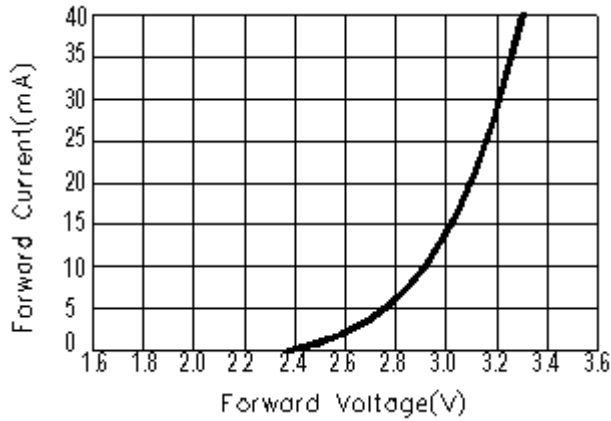
■ **Electrical/Optical Characteristics Rating(Ta=25°C):**

Item	Symbol	Test conditions	Location	Rating			Units
				Min.	Typ.	Max.	
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =20mA	Per LED	—	3.2	3.6	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =7V	Per LED	—	—	100	μA
Luminous Intensity	I <sub>v</sub>	I <sub>F</sub> =20mA	Per LED	600	1000	—	mcd
CIE Coordinate	X	I <sub>F</sub> =20mA	Per LED	—	0.275	—	—
	Y				0.285		
Spectral Line Half Width	△λ	I <sub>F</sub> =20mA	Per LED	—	30	—	nm
Luminous Intensity Matching Ratio (Segment to Segment)	I <sub>v-m</sub>	I <sub>F</sub> =10mA	—	—	—	1.2:1	

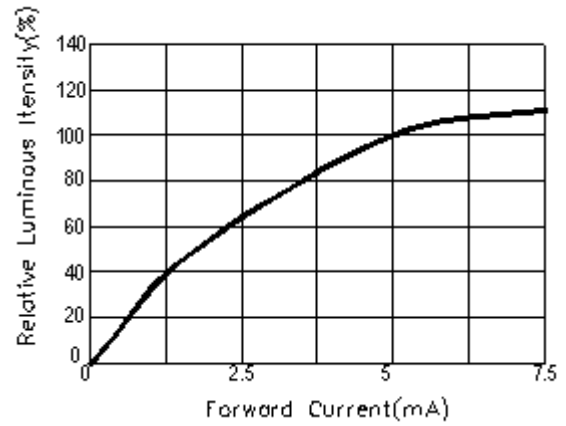
# World Components Network Service Ltd

## ■ Typical Elector-Optical Characteristics Curve of White:

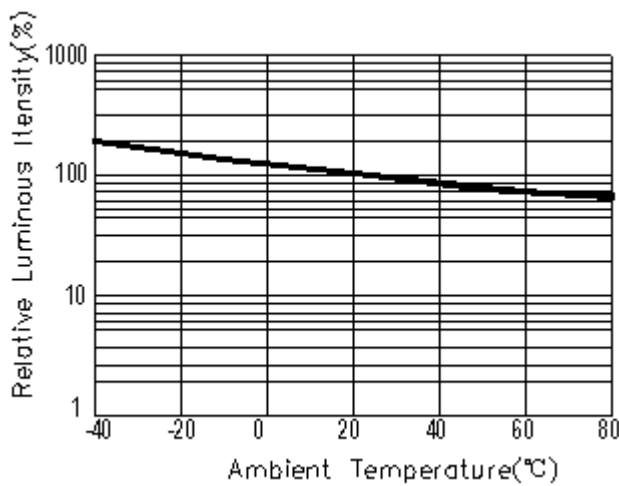
### Forward Current VS Forward Voltage



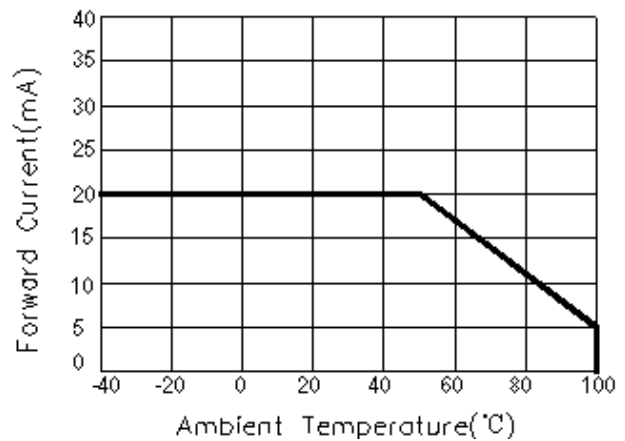
### Relative Flux VS Forward Current



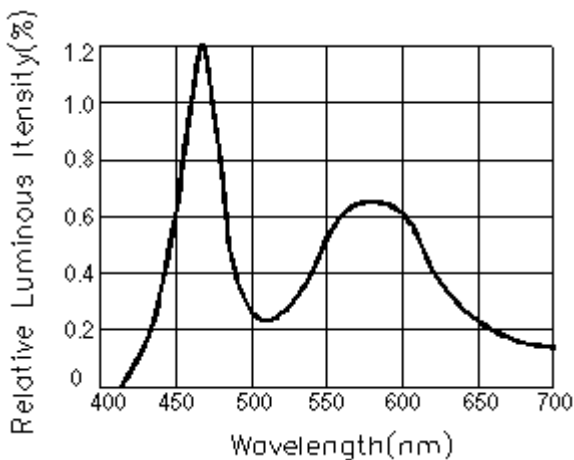
### Relative Flux VS Ambient Temperature



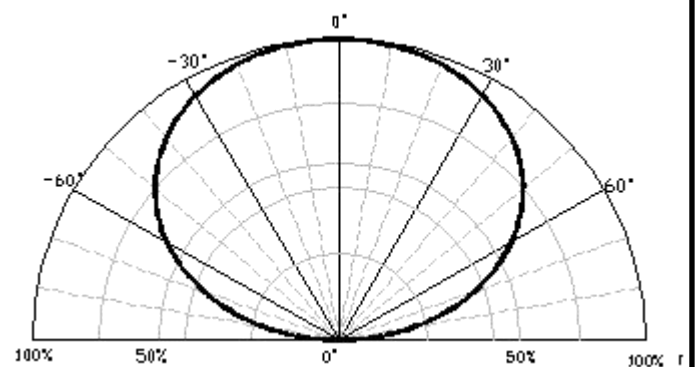
### Forward Current VS Ambient Temperature



### 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 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:

175 pcs / Red Expandable Polyethylene.

1050 pcs / Box(360\*175\*130mm).

6300 pcs / Carton(550\*380\*280mm).

### Packing method B:

40 pcs / IC Tube.

1680 pcs / Box(537\*175\*125mm).

6720 pcs / Carton(550\*380\*280mm).

