

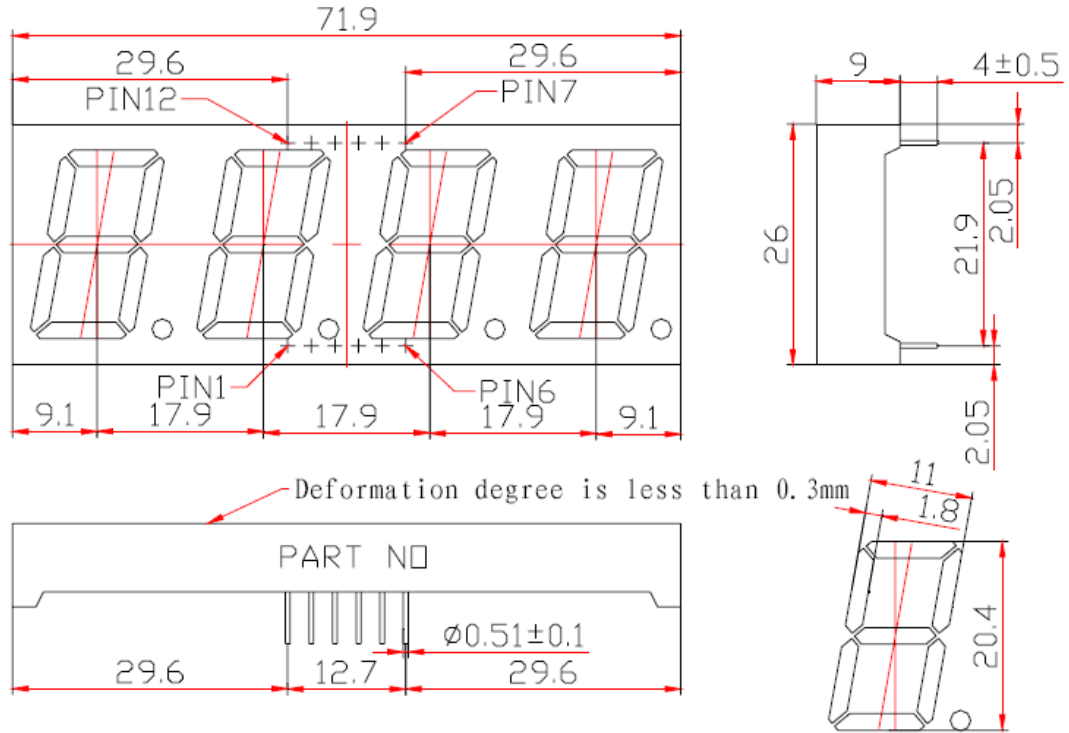
# **WCN4-0080HY-C21**

## **SPECIFICATION**

<b>WCN</b>			<b>CUSTOMER Confirmed</b>
<b>Prepared by</b>	<b>Checked by</b>	<b>Approved by</b>	
<b>Fei</b> <b>2016-5-10</b>	<b>Athena</b>	<b>William</b>	
<b>REVISION RECORD</b>			

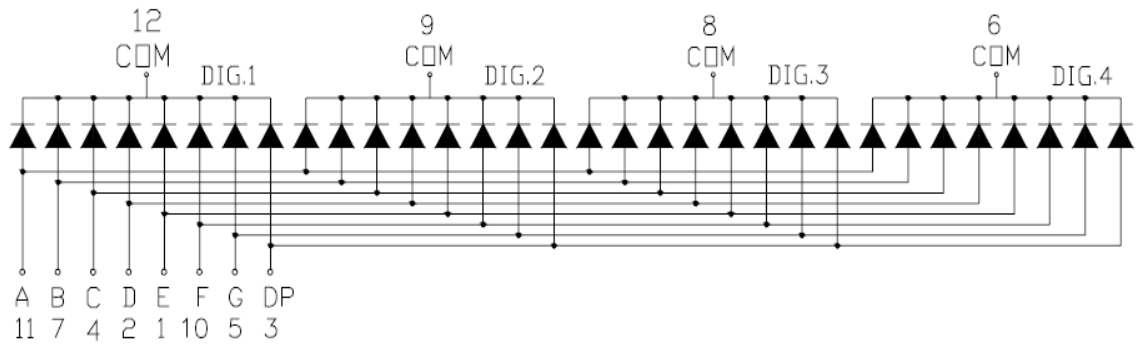
**REVISION: A0**

■ **Outer Dimension:**



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

■ **Circuit Diagram:**



■ **Pin Connection:**

PIN NO.	CONNECTION	PIN NO.	CONNECTION
1	Anode E	7	Anode B
2	Anode D	8	Common Cathode Dig.3
3	Anode Dp	9	Common Cathode Dig.2
4	Anode C	10	Anode F
5	Anode G	11	Anode A
6	Common Cathode Dig.4	12	Common Cathode Dig.1

■ **Features:**

- High Reliability
- Color: Bright Yellow
- Low Power Requirement
- Easy Assembly

■ **Description:**

- Four Digit Display
- Digit Height: 20.4mm(0.8" )
- Black Face and Milky Segment

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

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment	Pd	—	Yellow	65	mW
Forward Current Per Segment	IF	—	Yellow	25	mA
Peak Forward Current Per Segment	IFP	1/10 Duty 10KHz	Yellow	100	mA
Reverse Voltage Per Segment	VR	—	Yellow	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	VF	IF=20mA	Per Segment	—	2.00	2.60	V
Reverse Current	IR	VR=5V	Per Segment	—	—	100	μ A
Luminous Intensity	IV	IF=10mA	Per Segment	8501	13500	21500	μ cd
Peak Emission Wave Length	λP	IF=20mA	Per Segment	—	593	—	nm
	λD			—	588	—	
Spectral Line Half Width	Δλ	IF=20mA	Per Segment	—	20	—	nm
Luminous Intensity Matching Ratio (Segment to Segment)	IV-m	IF=10mA	—	—	—	1.2:1	—

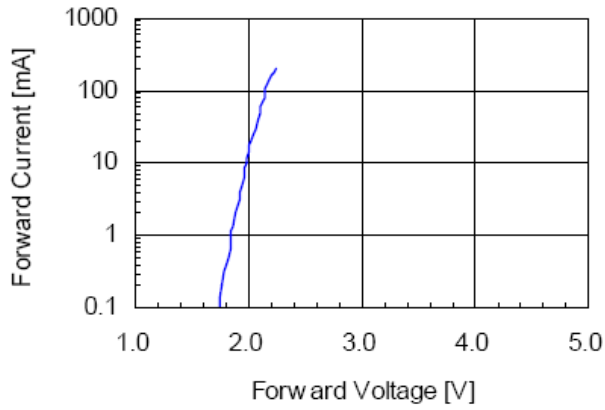
■ **Luminous Intensity Sorting: (Luminous Intensity Tolerance is +/-10%)**

Rank	Symbol	Condition	Min	Max	Unit
P	P	IF=10mA	8501	10500	μcd
Q	Q	IF=10mA	10501	12800	μcd
R	R	IF=10mA	12801	15250	μcd
S	S	IF=10mA	15251	18000	μcd
T	T	IF=10mA	18001	21500	μcd

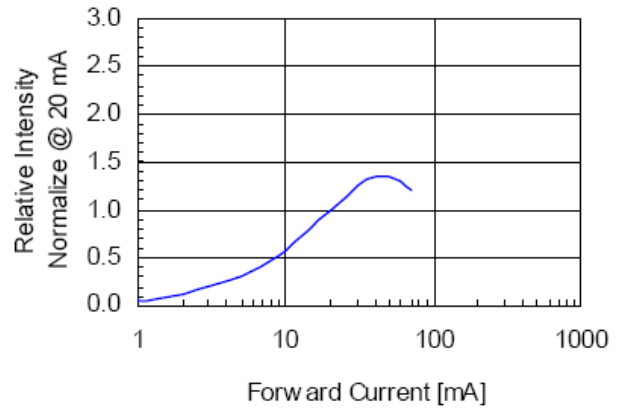
■ **Soldering Conditions: Soldering Temp. ≤+260°C, Soldering Time. ≤3sec.**  
 (at 2mm Distance from The Case of Reflector Edge)

**Typical Elector-Optical Characteristics Curve:**

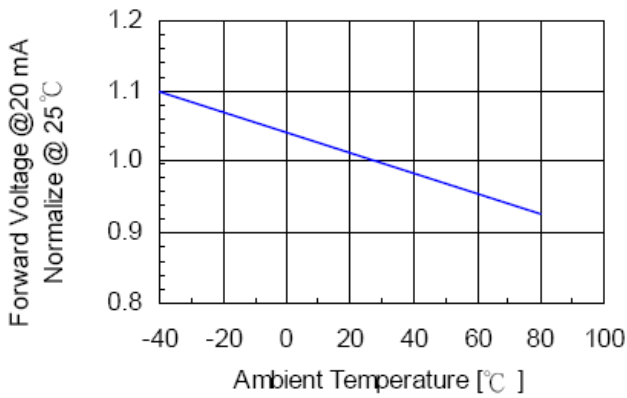
**Fig 1. Forward Current vs. Forward Voltage**



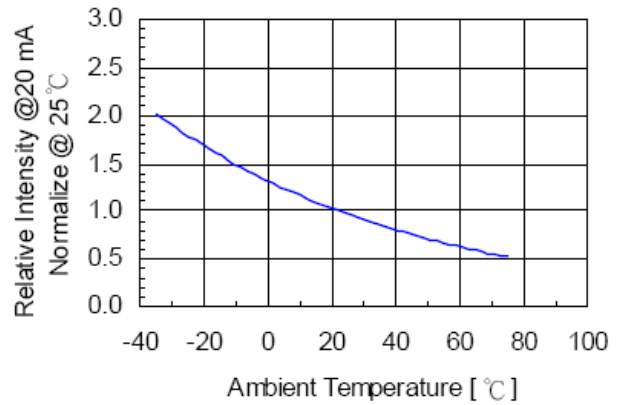
**Fig 2. Relative Intensity vs. Forward Current**



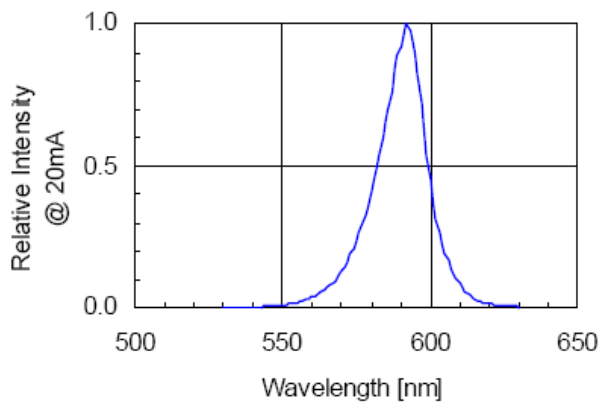
**Fig 3. Forward Voltage vs. Temperature**



**Fig 4. Relative Intensity vs. Temperature**



**Fig 5. Relative Intensity vs. Wavelength**



## ■ 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± 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:

24 pcs / Red Expandable Polyethylene.

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

864 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)