

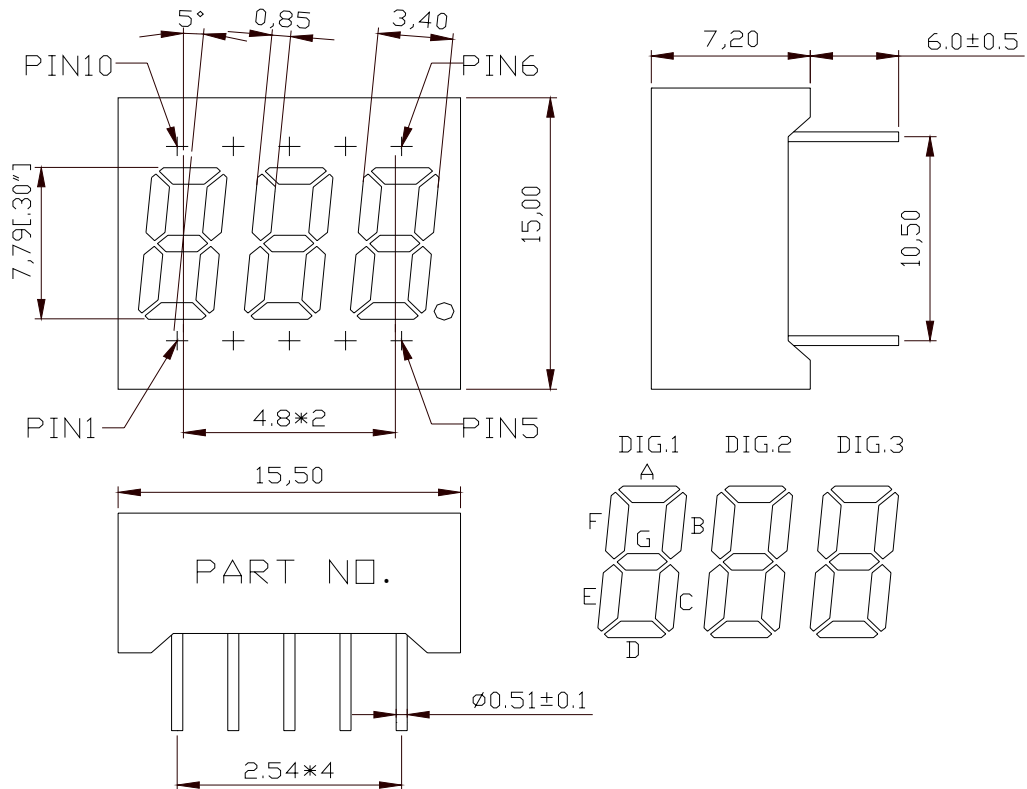
# **WCN3-0030R6-A11**

## **SPECIFICATION**

| <b>WCN</b>                     |                   |                    | <b>CUSTOMER<br/>Confirmed</b> |
|--------------------------------|-------------------|--------------------|-------------------------------|
| <b>Prepared by</b>             | <b>Checked by</b> | <b>Approved by</b> |                               |
| <b>Fei</b><br><b>2016-6-27</b> | <b>Athena</b>     |                    |                               |
| <b>REVISION RECORD</b>         |                   |                    |                               |

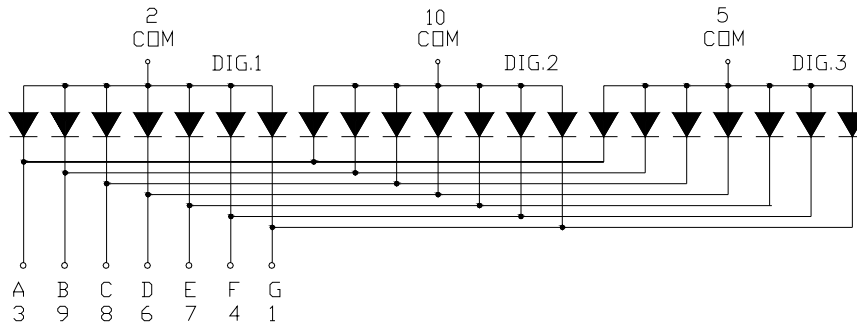
**REVISION: A0**

## Outer Dimension:



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

## Circuit Diagram:



## Pin Connection:

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

■ **Features:**

- High Reliability
- Color: Super Bright Red
- Low Power Requirement
- Easy Assembly

■ **Description:**

- Three Digit Display
- Digit Height:7.6mm(0.30" )
- 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>   | —                  | Red   | 65      | mW    |
| Forward Current Per Segment      | I <sub>F</sub>   | —                  | Red   | 25      | mA    |
| Peak Forward Current Per Segment | I <sub>FP</sub>  | 1/10 Duty<br>10KHz | Red   | 100     | mA    |
| Reverse Voltage Per Segment      | V <sub>R</sub>   | —                  | Red   | 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 | —      | 2.0  | 2.60  | 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 | 5001   | 7800 | 12800 | μcd   |
| Peak Emission Wave Length                              | λ <sub>P</sub>   | I <sub>F</sub> =20mA | Per Segment | —      | 635  | —     | nm    |
|  | λ <sub>D</sub>   |                      |             | —      | 630  | —     |       |
| Spectral Line Half Width                               | △λ               | 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 |       |

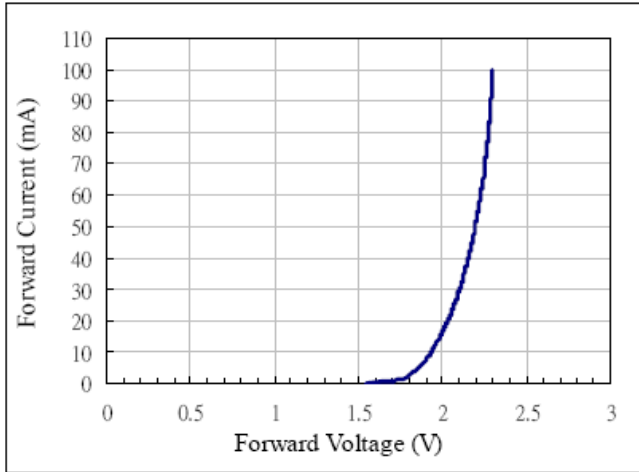
■ **Luminous Intensity Sorting: (Luminous Intensity Tolerance is +/-10%)**

| Rank | Symbol | Condition            | Min   | Max   | Unit |
|------|--------|----------------------|-------|-------|------|
| M    | M      | I <sub>F</sub> =10mA | 5001  | 6100  | μcd  |
| N    | N      | I <sub>F</sub> =10mA | 6101  | 7200  | μcd  |
| O    | O      | I <sub>F</sub> =10mA | 7201  | 8500  | μcd  |
| P    | P      | I <sub>F</sub> =10mA | 8501  | 10500 | μcd  |
| Q    | Q      | I <sub>F</sub> =10mA | 10501 | 12800 | μcd  |

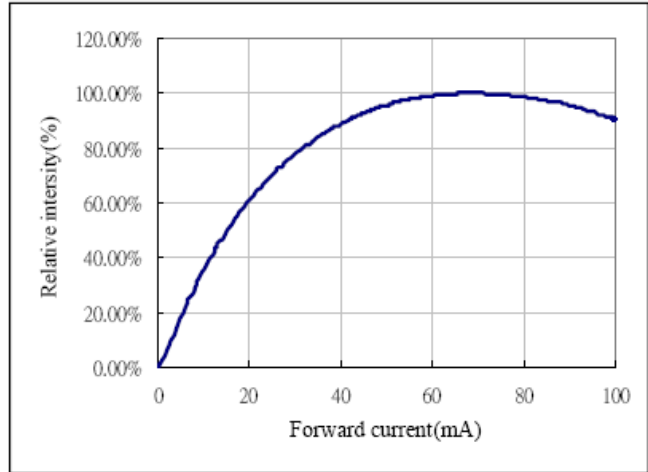
■ **Soldering Conditions: Soldering Temp. ≤ +260°C, Soldering Time. ≤ 3sec.**  
 (at 2mm Distance from The Case of Reflector Edge)

■ Typical Elector-Optical Characteristics Curve:

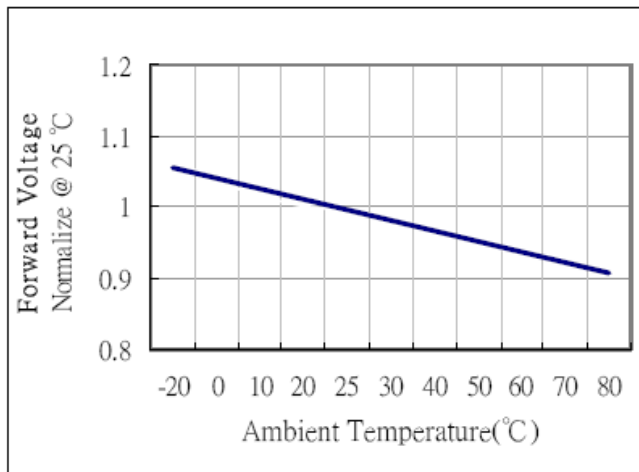
Forward current vs. Forward voltage



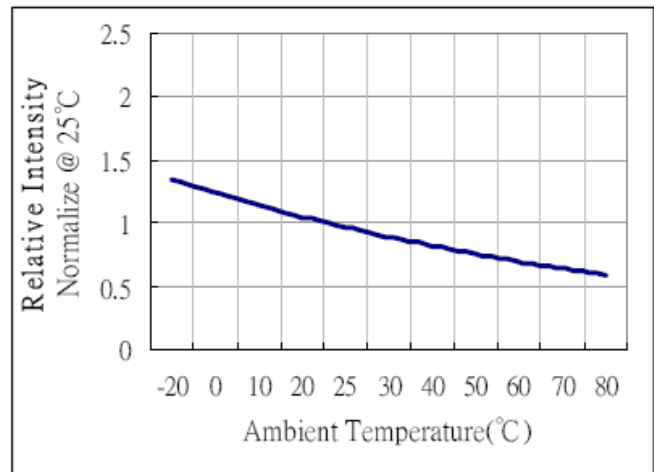
Relative intensity vs. Forward current



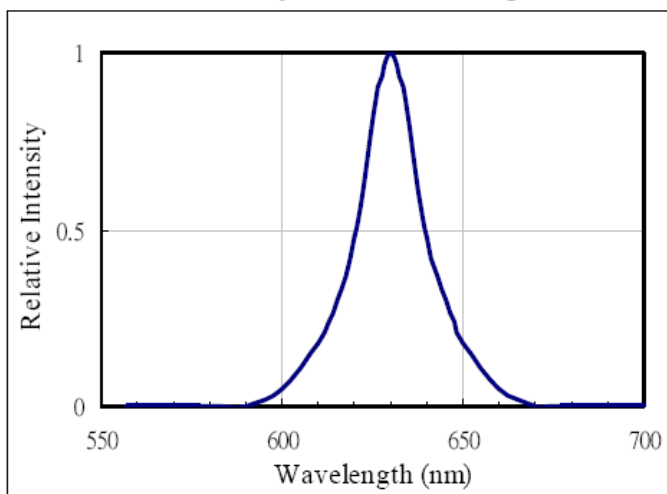
Forward voltage vs. Temperature



Relative intensity vs. Temperature



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

### Packing method A:

200 pcs / Red Expandable Polyethylene.

1200 pcs / Box(360\*175\*130mm).

7200 pcs / Catton(550\*380\*280mm).

### Packing method B:

33 pcs / IC Tube.

2310 pcs / Box(537\*175\*125mm).

9240 pcs / Catton(550\*380\*280mm).