# WCN Opto Group Co., Limited

# WCNLB6-B721

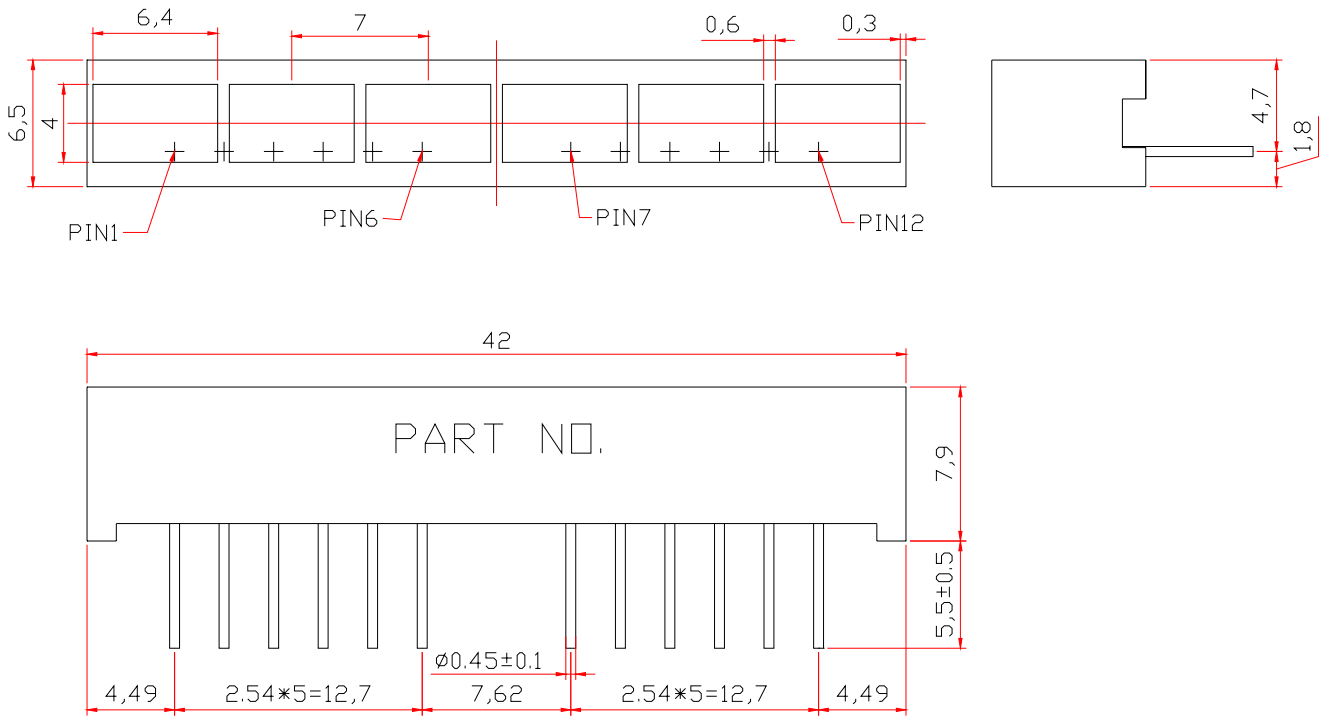
# SPECIFICATION

| WCN | | | CUSTOMER Confirmed |
|---|---|---|---|
| Prepared by | Checked by | Approved by | |
| Fei<br>2016-8-5 | Athena | William | |
| REVISION RECORD | | | |



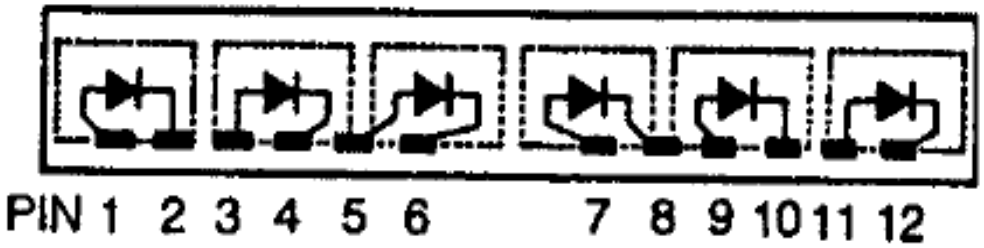
**REVISION: A0**

## ■ Outer Dimension:




**Notes: Unless otherwise stated, The tolerance is ±0.25mm.**

## ■ Circuit Diagram:




## ■ Pin Connection:

| PIN NO. | CONNECTION | PIN NO. | CONNECTION |
|---|---|---|---|
| 1 | Anode | 2 | Cathode |
| 3 | Anode | 4 | Cathode |
| 5 | Anode | 6 | Cathode |
| 7 | Anode | 8 | Cathode |
| 9 | Anode | 10 | Cathode |
| 11 | Anode | 12 | Cathode |

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## ■ Features:

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

## ■ Description:

- . Six Windows Display
- . Digit Height 4.0mm(0.16″ ) and Width 6.4mm(0.25″ )
- . Black Face and Milky Bar

## ■ Absolute Maximum Rating (Ta=25℃):

| Parameter | Symbol | Condition | Color | Rating | Units |
|---|---|---|---|---|---|
| Power Dissipation Per Bar | $P_d$ | — | Blue | 90 | mW |
| Forward Current Per Bar | $I_F$ | — | Blue | 25 | mA |
| Peak Forward Current Per Bar | $I_{FP}$ | 1/10 Duty 10KHz | Blue | 100 | mA |
| Reverse Voltage Per Bar | $V_R$ | — | Blue | 5 | V |
| Operating Temperature Range | Topr | — | — | -35～+85 | ℃ |
| Storage Temperature Range | Tstg | — | — | -35～+85 | ℃ |

## ■Electrical/Optical Characteristics Rating(Ta=25℃)

| Item | Symbol | Test conditions | Location | Rating | | | Units |
|---|---|---|---|---|---|---|---|
| | | | | Min. | Typ. | Max. | |
| Forward Voltage | $V_F$ | $I_F$=20mA | Per Bar | — | 3.2 | 3.60 | V |
| Reverse Current | $I_R$ | $V_R$=5V | Per Bar | — | — | 100 | μA |
| Luminous Intensity | $I_V$ | $I_F$=10mA | Per Bar | 15251 | 23500 | 37000 | μcd |
| Wave Length | $\lambda_P$ | $I_F$=20mA | Per Bar | — | — | — | nm |
| | $\lambda_D$ | | | | 470 | | |
| Spectral Line Half Width | △λ | $I_F$=20mA | Per Bar | — | 30 | — | nm |
| Luminous Intensity Matching Ratio (Bar to Bar) | $I_{v-m}$ | $I_F$=10mA | | | | 1.2:1 | |

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

| Rank | Symbol | Condition | Min | Max | Unit |
|---|---|---|---|---|---|
| S | S | $I_F$ =10mA | 15251 | 18000 | μcd |
| T | T | $I_F$ =10mA | 18001 | 21500 | μcd |
| U | U | $I_F$ =10mA | 21501 | 26000 | μcd |
| V | V | $I_F$ =10mA | 26001 | 31000 | μcd |
| W | W | $I_F$ =10mA | 31001 | 37000 | μcd |

## ■ Soldering Conditions: Soldering Temp. ≦+260℃ Soldering Time. ≦3sec.

(at 2mm Distance from The Case of Reflector Edge).

## ■ Typical Elector-Optical Characteristics Curve:

Fig1. Forward Current vs. Forward Voltage:

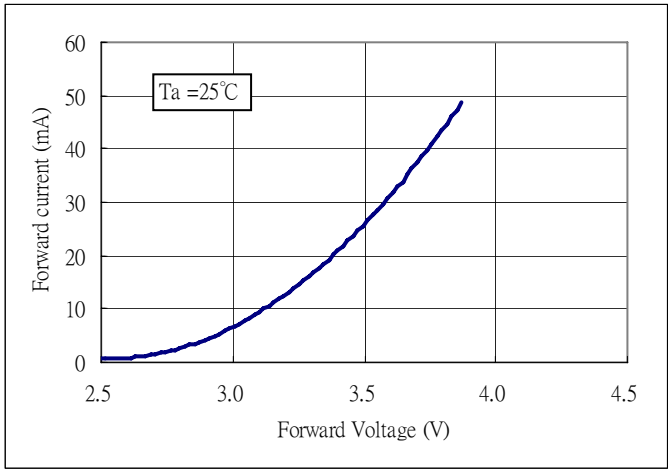



Fig2. Forward Current vs. Relative Intensity:

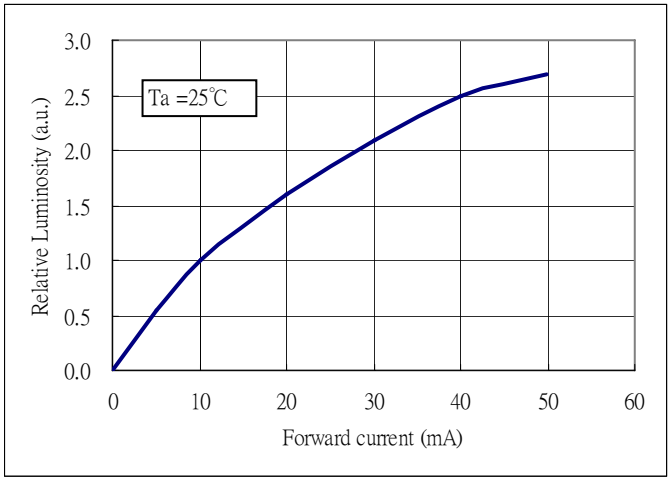



Fig3. Forward Current vs. Relative wavelength:

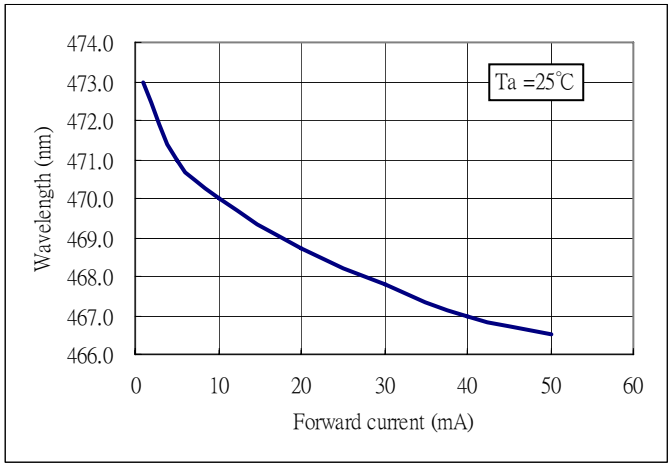
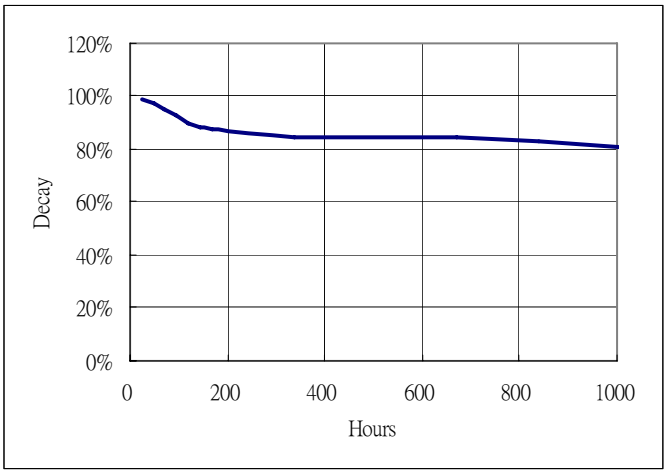



Fig4. Life Test at 20mA R.T. 1000hrs:



## 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<br>$T_a$ = UNDER ROOM TEMPERATURE<br>$I_F = I_F$ max |
| | HIGH TEMPERATURE HIGH HUMIDITY STORAGE | EVALUATES MOISTURE RESISTANCE OF THE DEVICE WHEN STORED FOR A LONG TERM AT HIGH TEMPERATURE AND HUMIDITY<br>$T_a$ =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>$T_a$ =85±5°C(COB: Ta=65±5°C)<br>TEST TIME=1000Hrs(-24Hrs, +72Hrs) |
| | IOW TEMPERATURE STORAGE | EVALUATES DEVICE DURABILITY FOR LONG TERM STORAGE IN LOW TEMPERATURE<br>$T_a$ =-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: Thot=65°C, Tcold=-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: Thot=65°C,Tcold=-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 :

**150pcs / Red Expandable Polyethylene.**

**900 pcs / Box(360*175*130mm).**

**5400 pcs / Catton(550*380*280mm).**