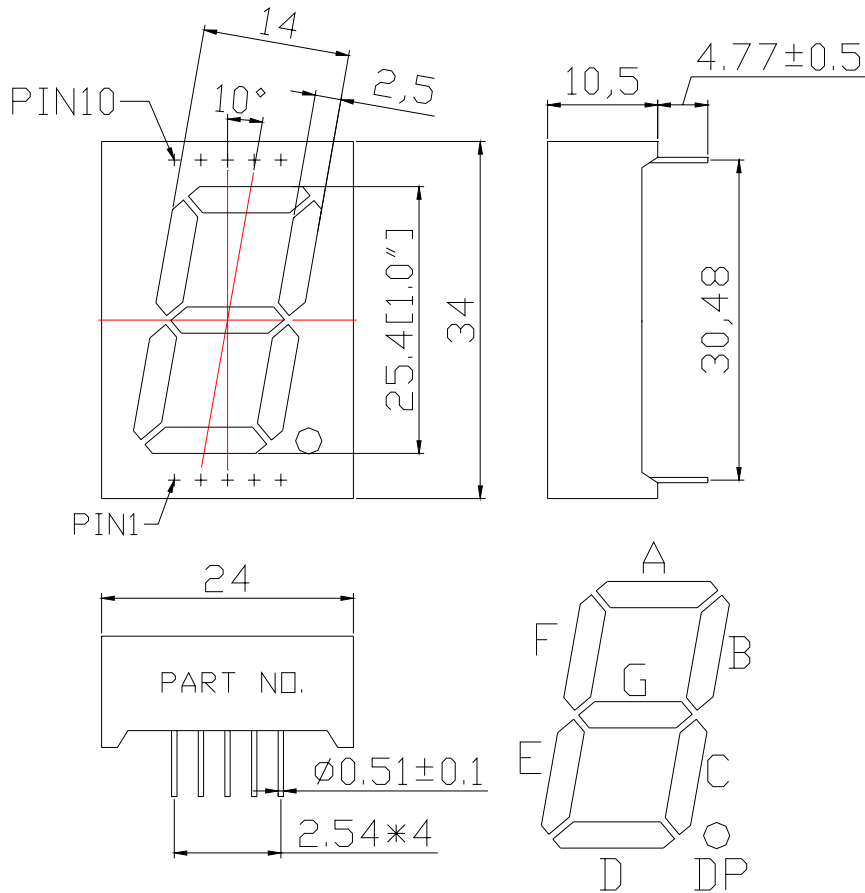


WCN1-00A0B7-A21**SPECIFICATION**

| WCN | | | CUSTOMER Confirmed |
|-----------------|------------|-------------|-----------------------|
| Prepared by | Checked by | Approved by | |
| Fei | Athena | | |
| REVISION RECORD | | | |

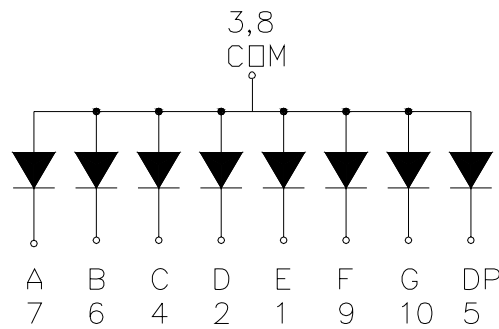
**REVISION: A0**

■ **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 |

WCN Opto Group Co., Limited

■ Features:

- High Reliability
- Color: Blue
- 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 _d | — | Blue | 90 | mW |
| Forward Current Per Segment | I _F | — | Blue | 25 | mA |
| Peak Forward Current Per Segment | I _{FP} | 1/10 Duty 10KHz | Blue | 100 | mA |
| Reverse Voltage Per Segment | V _R | — | Blue | 5 | V |
| Operating Temperature Range | T _{opr} | — | — | -35 +85 | °C |
| Storage Temperature Range | T _{stg} | — | — | -35 +85 | °C |

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

| Item | Symbol | Test conditions | Location | Rating | | | Units |
|--|------------------|----------------------|-------------|--------|-------|-------|-------|
| | | | | Min. | Typ. | Max. | |
| Forward Voltage | V _F | I _F =20mA | Per Segment | — | 3.20 | 3.60 | V |
| Reverse Current | I _R | V _R =5V | Per Segment | — | — | 100 | μA |
| Luminous Intensity | I _v | I _F =10mA | Per Segment | 15251 | 24000 | 37000 | μcd |
| Peak Emission Wave Length | λ _P | I _F =20mA | Per Segment | — | — | — | nm |
| | λ _D | | | 465 | 470 | 475 | |
| Spectral Line Half Width | △λ | I _F =20mA | Per Segment | — | 30 | — | nm |
| Luminous Intensity Matching Ratio (Segment to Segment) | 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 | Mcd |
| V | V | I _F =10mA | 26001 | 31000 | μcd |
| W | W | I _F =10mA | 31001 | 37000 | μcd |

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

■ **Typical Electro-Optical Characteristics Curve:**

Fig1. Forward Current vs. Forward Voltage:

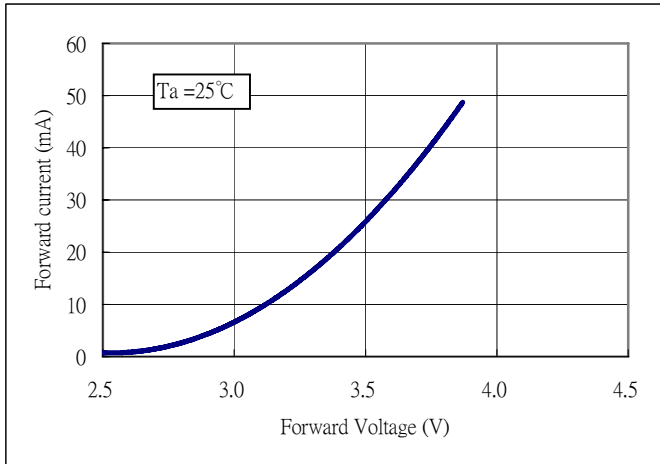


Fig2. Forward Current vs. Relative Intensity:

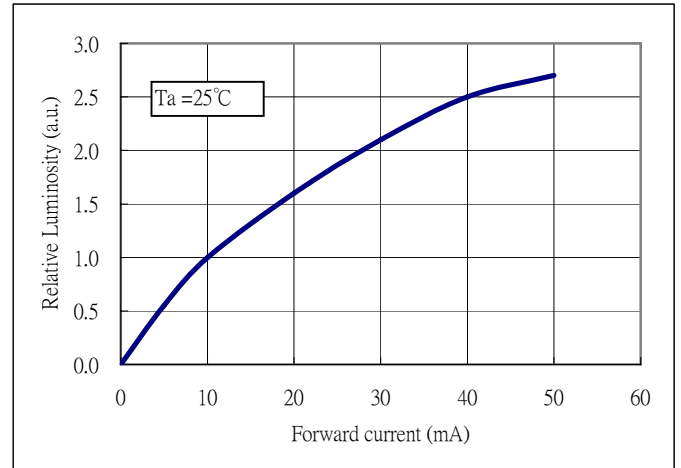


Fig3. Forward Current vs. Relative wavelength:

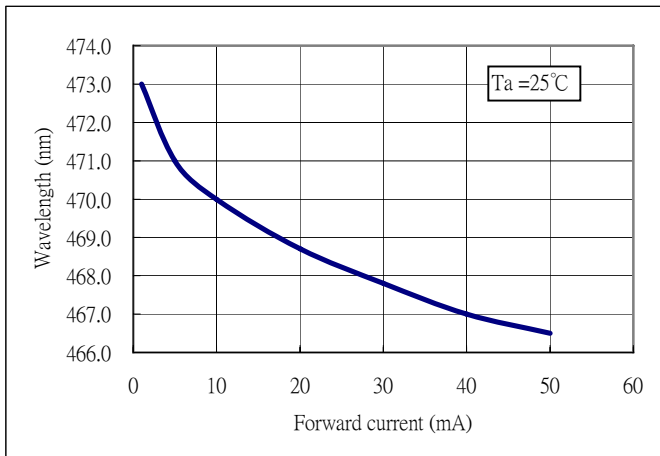
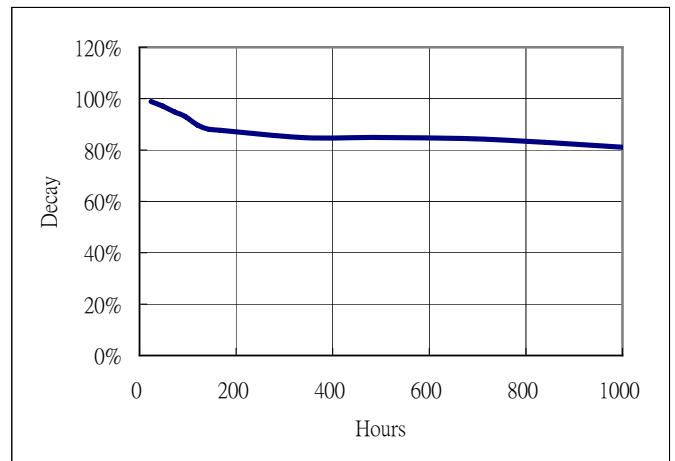


Fig4. Life Test at 20mA R.T. 1000hrs:



WCN Opto Group Co., Limited

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 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±5°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±5°C(COB: T _a =65±5°C) TEST TIME=1000Hrs(-24Hrs, +72Hrs) |
| | LOW TEMPERATURE STORAGE | EVALUATES DEVICE DURABILITY FOR LONG TERM STORAGE IN LOW TEMPERATURE T _a = -35±5°C TEST TIME=1000Hrs(-24Hrs, +72Hrs) |
| ENVIRONMENTAL TEST | TEMPERATURE CYCLING | EVALUATES RESISTANCE OF DEVICE AT THERMAL STRESSES OR EXPANSION AND CONTRACTION 85°C ~ 25°C ~ -35°C ~ 25°C 30min 5min 30min 5min 10 CYCLES(COB: T _{hot} =65°C, T _{cold} =-25°C) |
| | THERMAL SHOCK | EVALUATES DEVICE STRUCTURE AND STRUCTURE AND MECHANICAL RESISTANCE WHEN SUDDENLY EXPOSED AT SERVE CHANGES 85±5°C ~ -35±5°C 10min 10min 10 CYCLES(COB: T _{hot} =65°C, T _{cold} =-25°C) |
| | SOLDERABILITY | EVALUATES SOLDERABILITY ON LEADS OF DEVICE T.SOL=230±5°C DWELL TIME=5±1sec. |
| | SOLDER RESISTANCE | EVALUATES RESISTANCE TO THERMAL STRESS CAUSED BY SOLDERING T.SOL=260±5°C DWELL TIME=10±1sec. |

Package method 1:

54 pcs / Red Expandable Polyethylene.

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

1620 pcs / Catton(550*380*280mm).

Package method 2:

21 pcs / IC Tube.

504 pcs / Box(537*175*125mm).

2016 pcs / Catton(550*380*280mm).