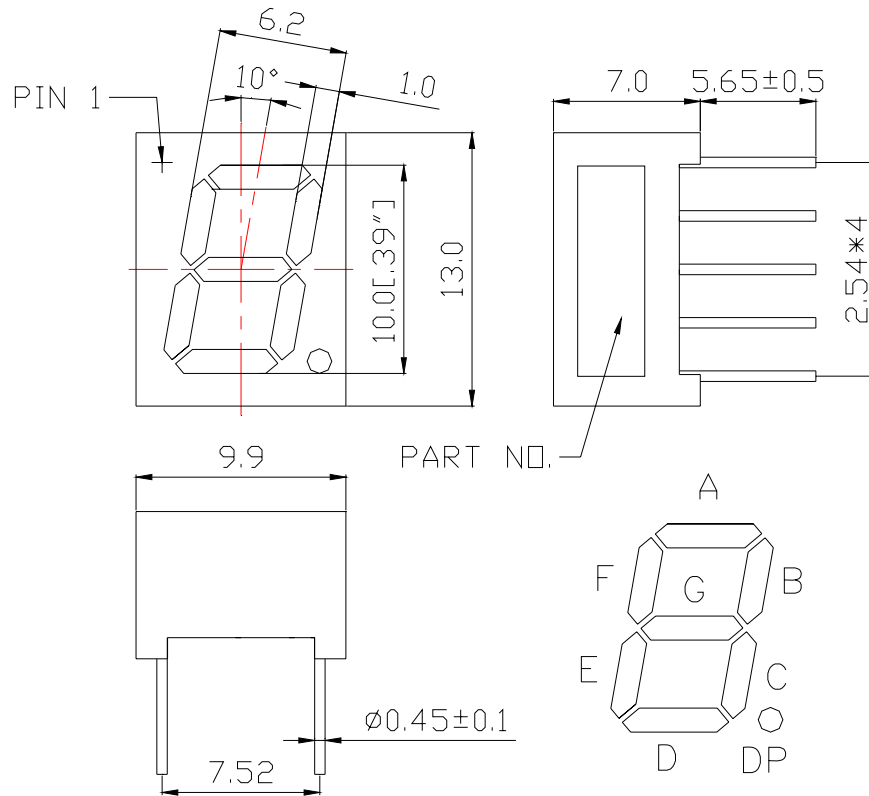


WCN1-0039R6-A21**SPECIFICATION**

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

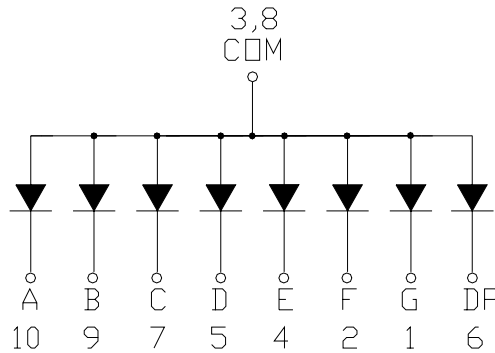
**REVISION: A0**

Outer Dimension:



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

Circuit Diagram:



Pin Connection:

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

■ **Features:**

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

■ **Description:**

- Single Digit LED Display
- Digit Height: 10.0mm(0.39")
- Black Face and Milky Segment

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

| Parameter | Symbol | Condition | Color | Rating | Units |
|----------------------------------|------------------|--------------------|-------|---------|-------|
| Power Dissipation Per Segment | P _d | — | Red | 65 | mW |
| Forward Current Per Segment | I _F | — | Red | 25 | mA |
| Peak Forward Current Per Segment | I _{FP} | 1/10 Duty 10KHz | Red | 100 | mA |
| Reverse Voltage Per Segment | V _R | — | Red | 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 | — | 2.00 | 2.50 | V |
| Reverse Current | I _R | V _R =5V | Per Segment | — | — | 100 | μA |
| Luminous Intensity | I _V | I _F =10mA | Per Segment | 6101 | 9200 | — | μcd |
| Peak Emission Wave Length | λ _P | I _F =20mA | Per Segment | — | 635 | — | nm |
| | λ _D | | | | 630 | | |
| Spectral Line Half Width | △λ | I _F =20mA | Per Segment | — | 20 | — | nm |
| Luminous Intensity Matching Ratio (Segment to Segment) | I _{v-m} | I _F =10mA | — | — | — | 2:1 | |

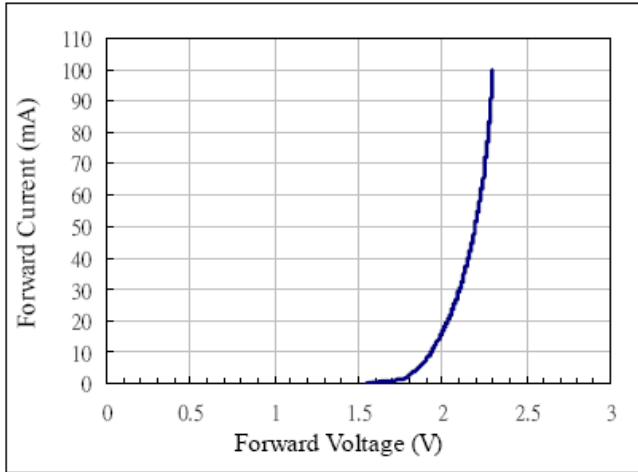
■ **Luminous Intensity Sorting: (Luminous Intensity Tolerance is +/-10%)**

| Rank | Symbol | Condition | Min | Max | Unit |
|------|--------|----------------------|-------|-------|------|
| N | N | I _F =10mA | 6101 | 7200 | μcd |
| O | O | I _F =10mA | 7201 | 8500 | μcd |
| P | P | I _F =10mA | 8501 | 10500 | μcd |
| Q | Q | I _F =10mA | 10501 | 12800 | μcd |
| R | R | I _F =10mA | 12801 | 15250 | μcd |

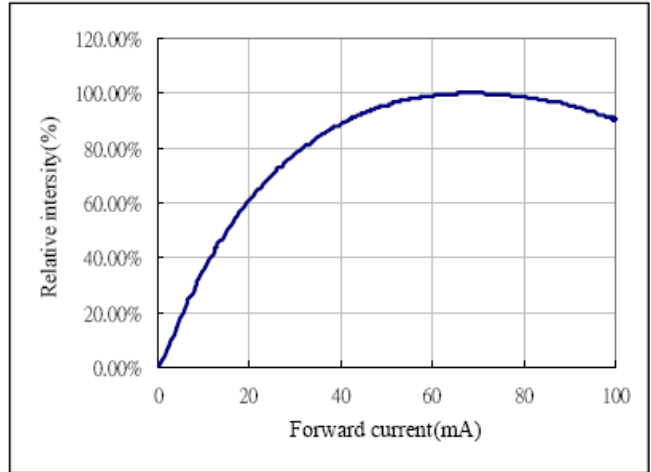
■ **Soldering Conditions:** Soldering Temp. ≤+260°C, Soldering Time. ≤3sec.
(at 2mm Distance from The Case of Reflector Edge)

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

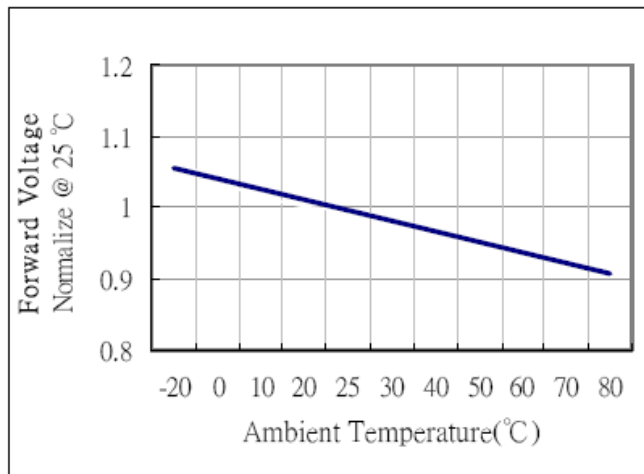
Forward current vs. Forward voltage



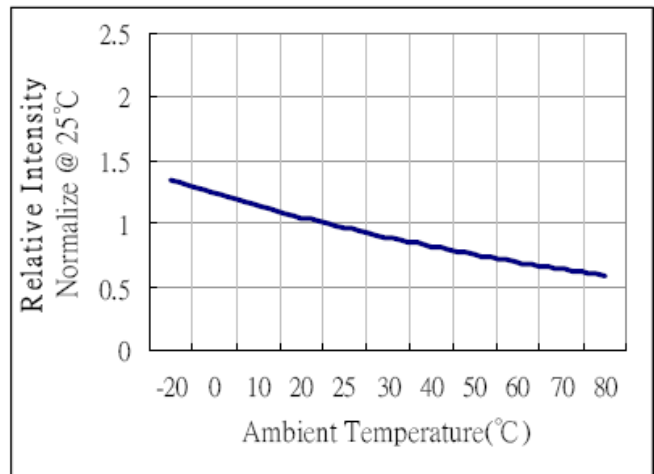
Relative intensity vs. Forward current



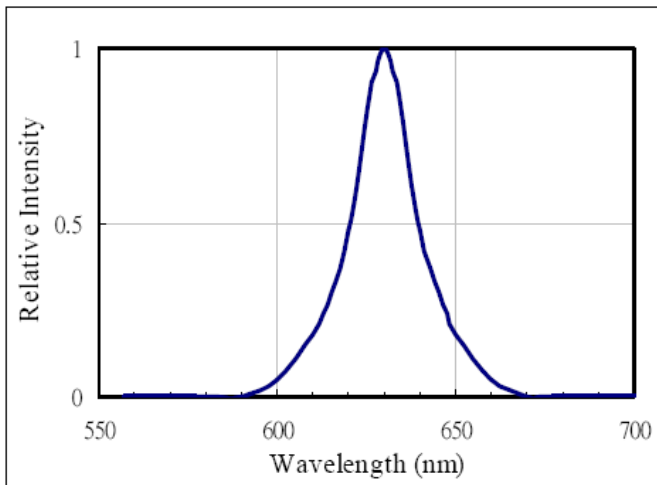
Forward voltage vs. Temperature



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 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 Pattern 1:

350pcs / Red Expandable Polyethylene.

2100pcs / Box(360*175*130mm).

12600pcs / Carton(550*380*280mm).

■ Package Pattern 2:

39pcs / IC Tube.

3003pcs / Box(537*175*125mm).

12012pcs / Carton(550*380*280mm).