

WCN1-00D0R6-A11S

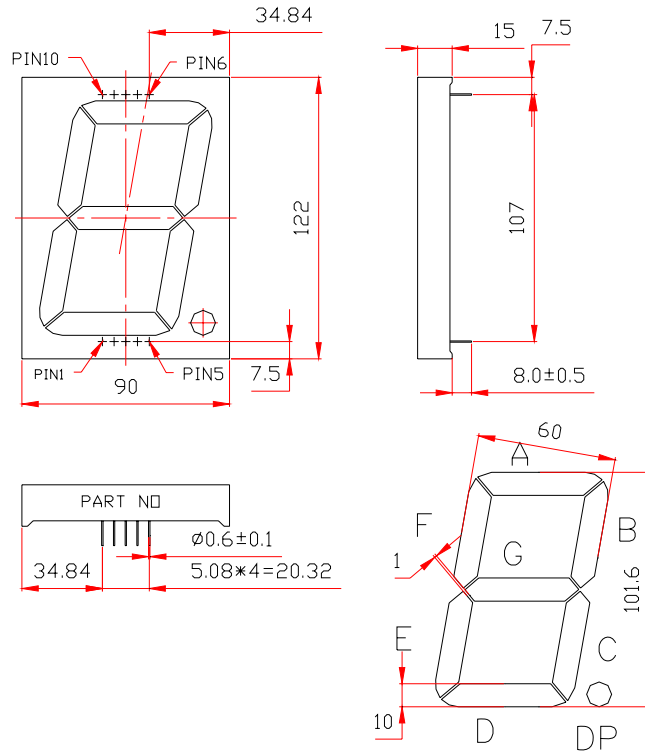
SPECIFICATION

WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Fei 2016-09-01	Athena		
REVISION RECORD			



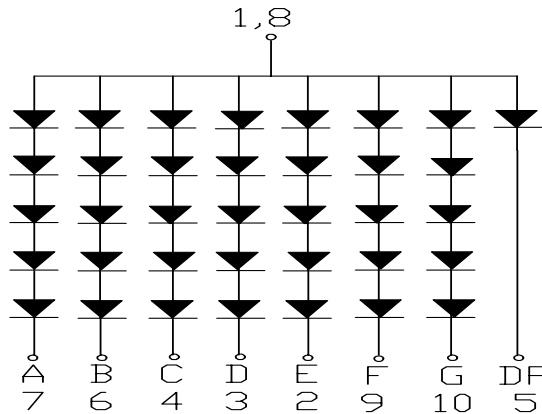
REVISION: A0

Outer Dimension:



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

Circuit Diagram:



Pin Connection:

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

■ **Features:**

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

■ **Description:**

- Single Digit LED Display
- Digit Height: 101.6mm(4.0")
- Black Face and Milky Segment

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

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment/DP	P _d	—	Red	325/65	mW
Forward Current Per Segment/DP	I _F	—	Red	25	mA
Peak Forward Current Per Segment	I _{FP}	1/10 Duty 10KHz	Red	100	mA
Reverse Voltage Per Segment/DP	V _R	—	Red	25/5	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	9	10.0	13	V
			DP	1.8	2.0	2.6	
Reverse Current	I _R	V _R =25V /5V	Per Segment /DP	—	—	100	μA
Luminous Intensity	I _V	I _F =10mA	Per Segment	21.5	34.0	50.0	mcd
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	—	—	—	1.2:1	

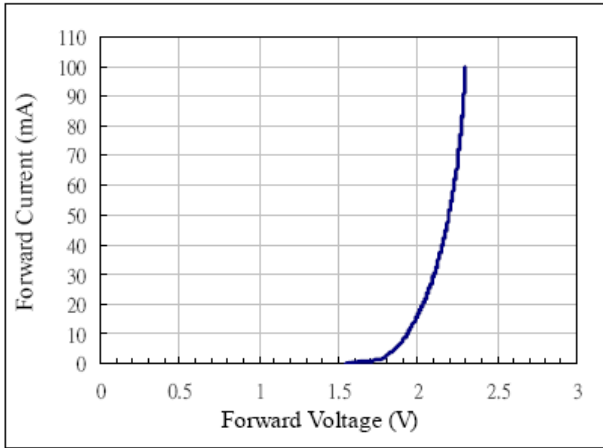
■ **Luminous Intensity Sorting: (Luminous Intensity Tolerance is +/-10%)**

Rank	Symbol	Condition	Min	Max	Unit
U	U	I _F =10mA	21.5	26.0	mcd
V	V	I _F =10mA	26.1	31.0	mcd
W	W	I _F =10mA	31.1	37.0	mcd
X	X	I _F =10mA	37.1	43.0	mcd
Y	Y	I _F =10mA	43.1	50.0	mcd

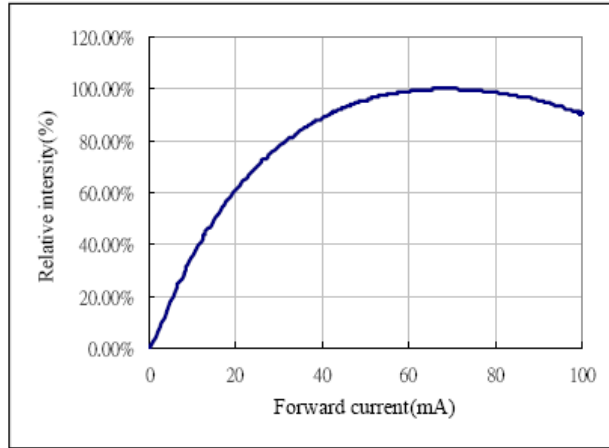
■ **Soldering Conditions: Soldering Temp. ≤+260°C, Soldering Time. ≤3sec.**
(at 2mm Distance from The Case of Reflector Edge)

Typical Elector-Optical Characteristics Curve:

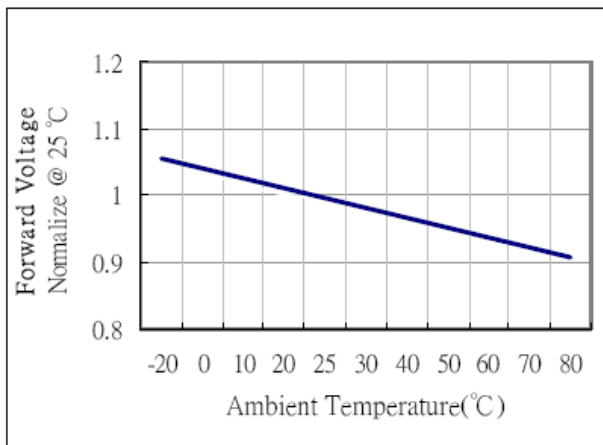
Forward current vs. Forward voltage



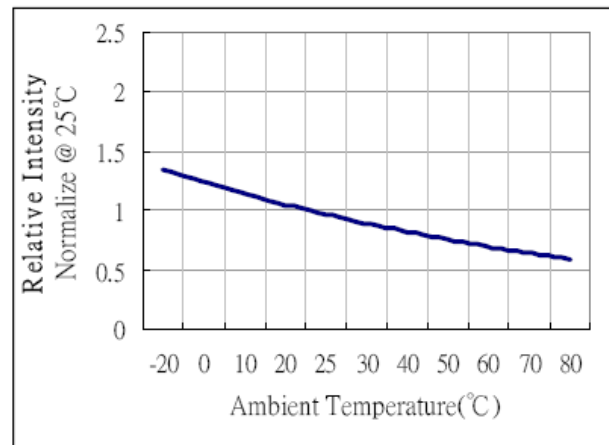
Relative intensity vs. Forward current



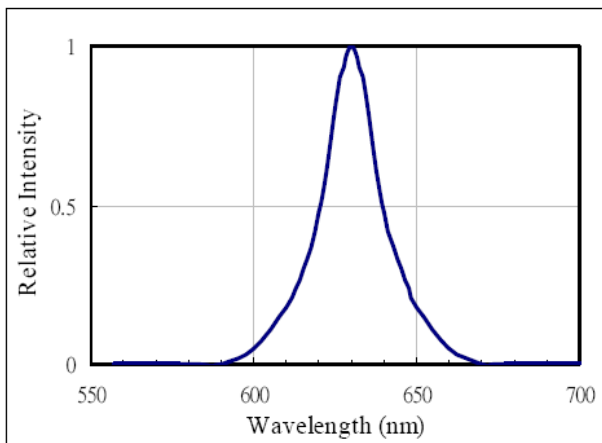
Forward voltage vs. Temperature



Relative intensity vs. Temperature



Relative intensity vs. Wavelength



■ Soldering Condition:**1.Iron:**

Soldering Iron:30W Max

Temperature 350° C Max

Soldering Time:3 Seconds Max(One time only)

Distance:Solder Temperature 1/16 Inch Below Seating
Plane For 3 Seconds At 260° C**2.Wave Soldering Profile**

Dip Soldering

Preheat: 120° C Max

Preheat time: 60seconds Max

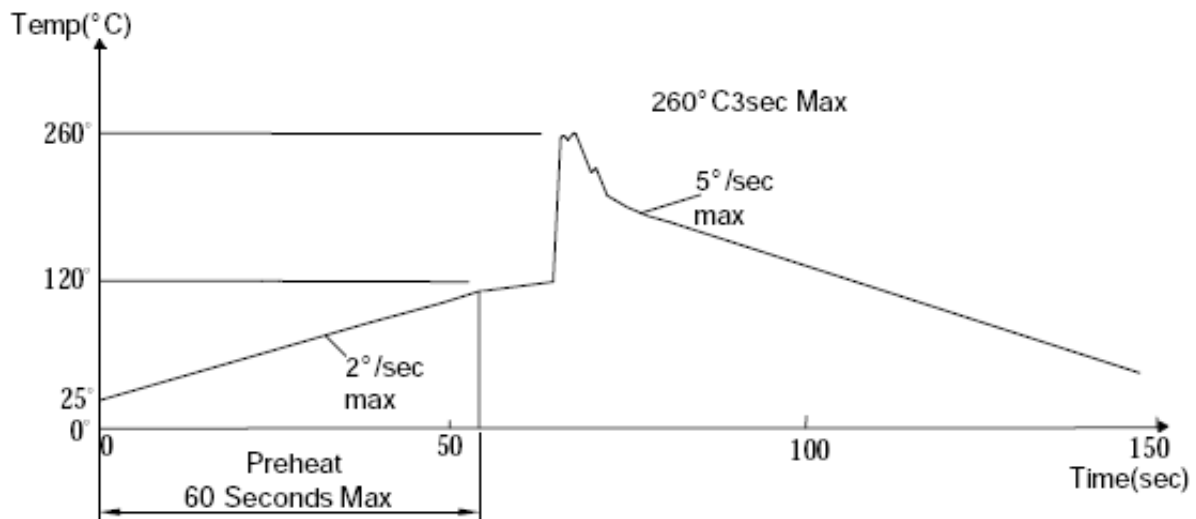
Ramp-up

2° C/sec(max)

Ramp-Down:-5° C/sec(max)

Solder Bath:260° C Max

Dipping Time:3 seconds Max

Distance:Solder Temperature 1/16 Inch Below Seating
Plane For 3 Seconds At 260° C

Note: 1.Wave solder should not be made more than one time.

2.You can just only select one of the soldering conditions as above.

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 :

- 6 pcs / Red Expandable Polyethylene.
- 42 pcs / Box(365*265*255mm).
- 84 pcs / Carton(550*380*280mm).

Recommended Soldering Pad :

