

WCN1-0056RG-AA1

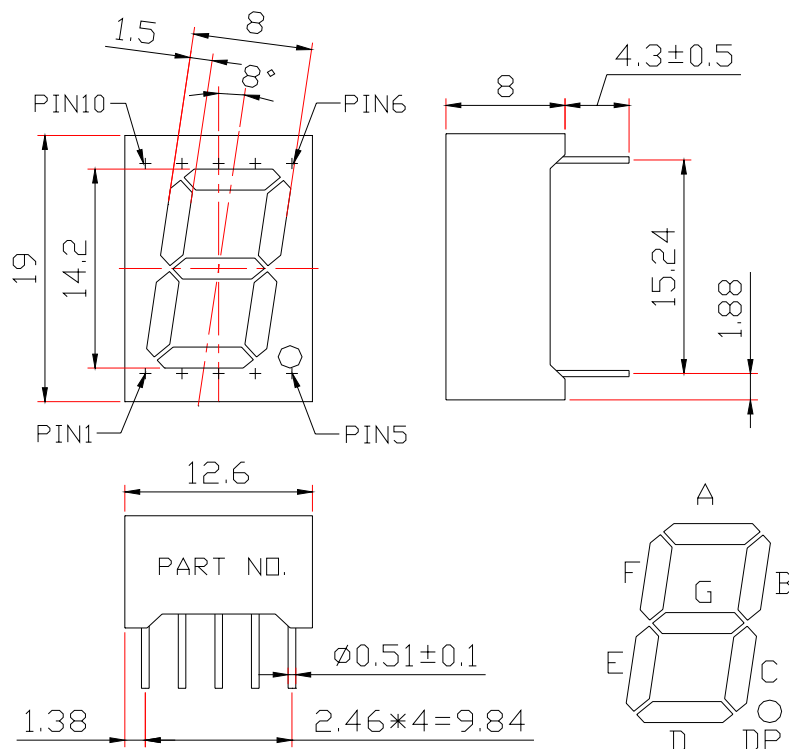
SPECIFICATION

WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Fei 2016-09-23	Athena		
REVISION RECORD			



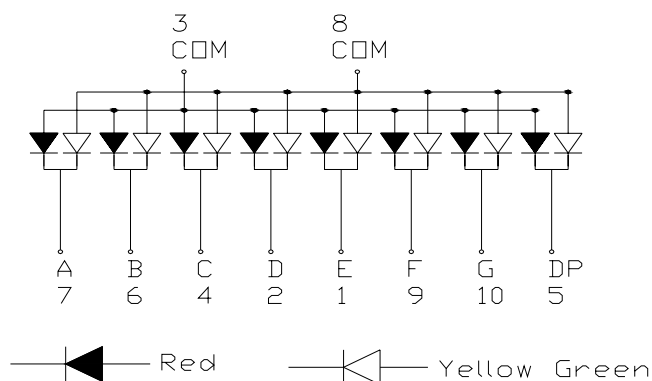
REVISION: A0

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 Red	8	Common Anode Yellow Green
4	Cathode C	9	Cathode F
5	Common DP	10	Cathode G

■ Features:

- High Reliability
- Color: Red and Yellow Green
- Low Power Requirement
- Easy Assembly

■ Description:

- Single Digit LED Display
- Digit Height: 14.2mm(0.56")
- Black Face and Milky Segment

■ Absolute Maximum Rating (Ta=25℃):

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment	P _d	—	Red / Yellow Green	65/65	mW
Forward Current Per Segment	I _F	—	Red / Yellow Green	25/25	mA
Peak Forward Current Per Segment	I _{FP}	1/10 Duty 10KHz	Red / Yellow Green	100	mA
Reverse Voltage Per Segment	V _R	—	Red / Yellow Green	5/5	V
Operating Temperature Range	T _{opr}	—	—	-35~+85	℃
Storage Temperature Range	T _{stg}	—	—	-35~+85	℃

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

Item	Symbol	Test conditions	Location	Color	Rating			Units
					Min.	Typ.	Max.	
Forward Voltage	V _F	I _F =20mA	Per Dice	Red	—	2.00	2.60	V
				Yellow Green	—	2.25	2.60	
Reverse Current	I _R	V _R =5V	Per Dice	Red / Yellow Green	—	—	100	μ A
Luminous Intensity	I _V	I _F =10mA	Per Dice	Red	6101	9500	15250	μcd
				Yellow Green	3051	5500	8500	
Peak Emission Wave Length	λ _P	I _F =20mA	Per Dice	Red	—	650	—	nm
	640							
	λ _D			Yellow Green	—	568	—	
						571		
Spectral Line Half Width	△ λ	I _F =20mA	Per Dice	Red / Yellow Green	—	20	—	nm

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

■ Typical Elector-Optical Characteristics Curve of Red:

Fig 1. Forward Current vs. Forward Voltage

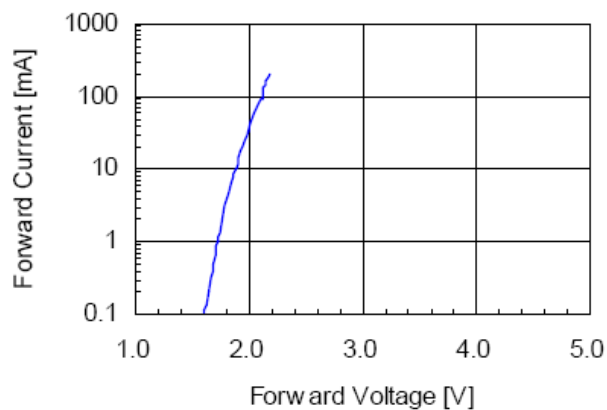


Fig 2. Relative Intensity vs. Forward Current

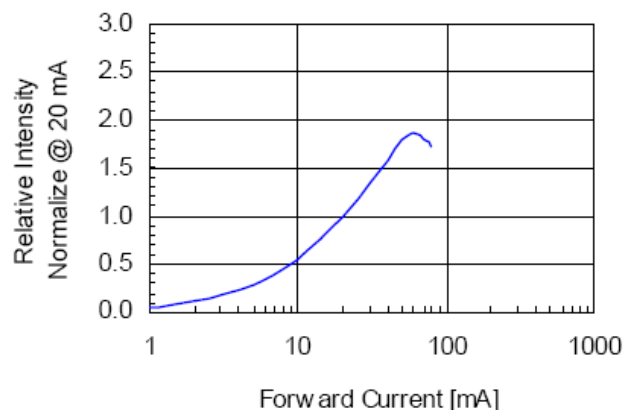


Fig 3. Forward Voltage vs. Temperature

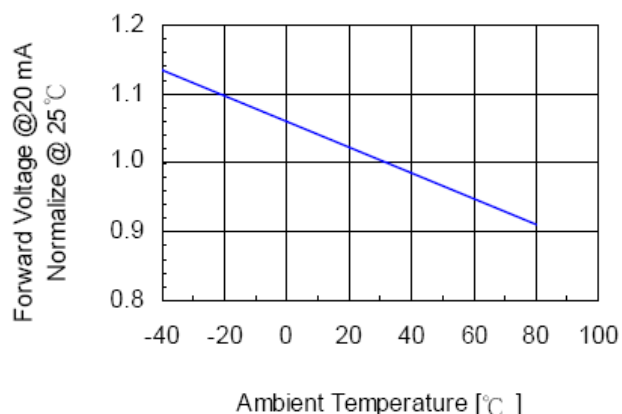


Fig 4. Relative Intensity vs. Temperature

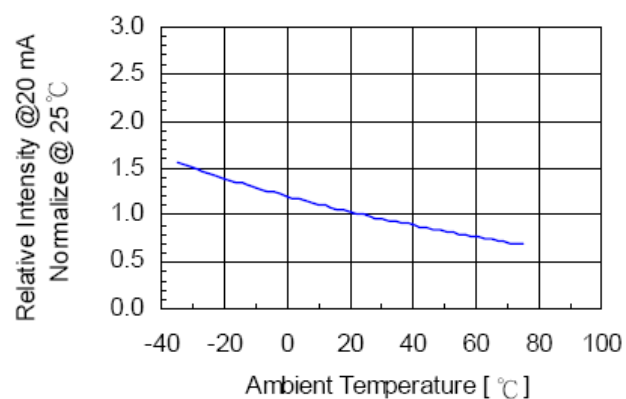
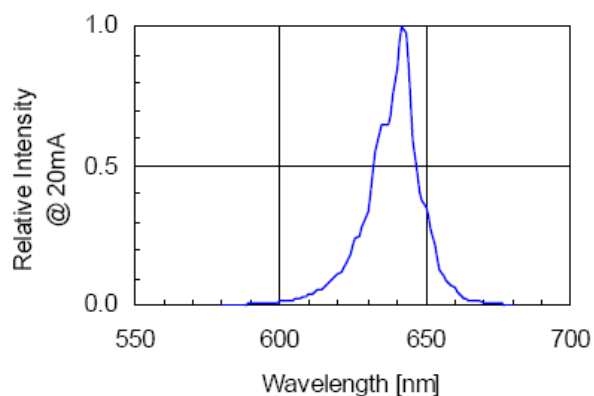


Fig 5. Relative Intensity vs. Wavelength



■ Typical Elector-Optical Characteristics Curve of Yellow Green:

Fig 1. Forward Current vs. Forward Voltage

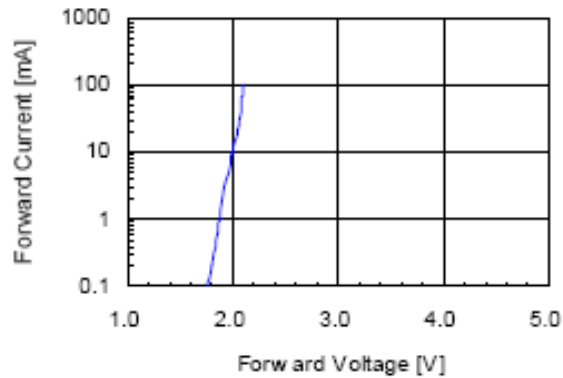


Fig 2. Relative Intensity vs. Forward Current

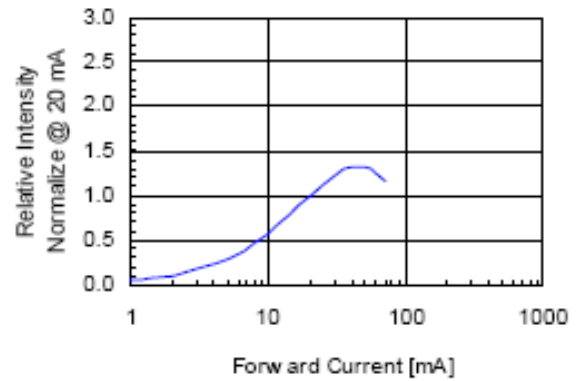


Fig 3. Forward Voltage vs. Temperature

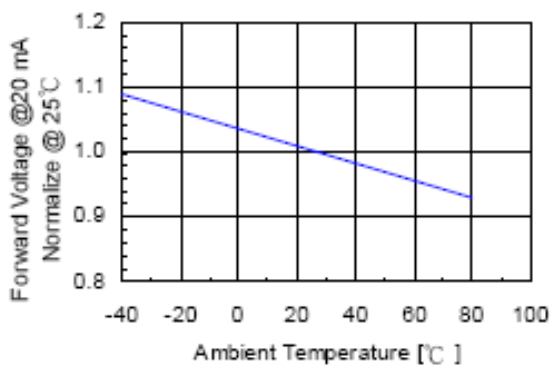


Fig 4. Relative Intensity vs. Temperature

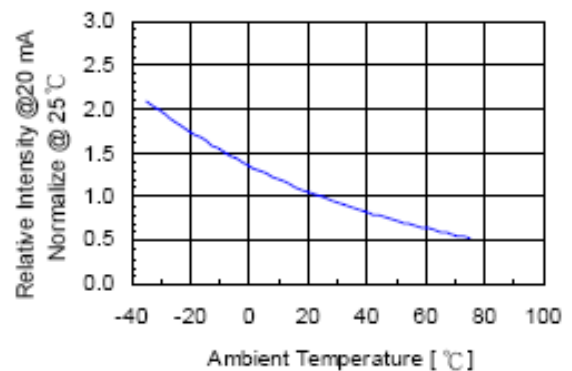
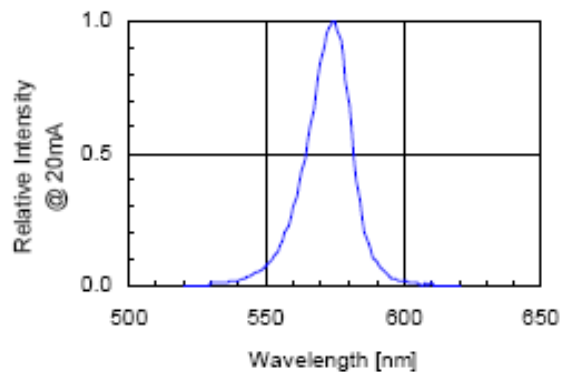


Fig 5. Relative Intensity vs. Wavelength



■ 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

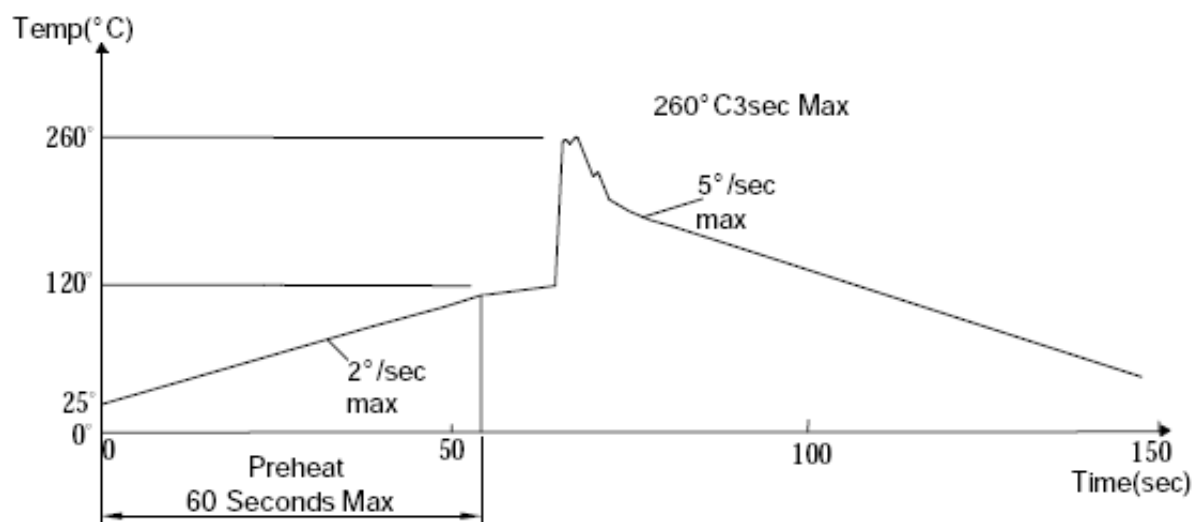
2° C/sec(max)

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 $I_f = I_{f \max}$
	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 $\pm$ 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: $T_{hot} = 65^\circ\text{C}$, $T_{cold} = -25^\circ\text{C}$)
	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: $T_{hot} = 65^\circ\text{C}$, $T_{cold} = -25^\circ\text{C}$)
	SOLDERABILITY	EVALUATES SOLDERABILITY ON LEADS OF DEVICE $T_{\text{SOL}} = 230 \pm 5^\circ\text{C}$ DWELL TIME=5 $\pm$ 1sec.
	SOLDER RESISTANCE	EVALUATES RESISTANCE TO THERMAL STRESS CAUSED BY SOLDERING $T_{\text{SOL}} = 260 \pm 5^\circ\text{C}$ DWELL TIME=10 $\pm$ 1sec.

Packing method :

40 pcs / IC Tube.(520*24*19)

1680 pcs / Box(537*175*125mm).

6720 pcs / Carton(550*380*280mm).

Recommended Soldering Pad :

