

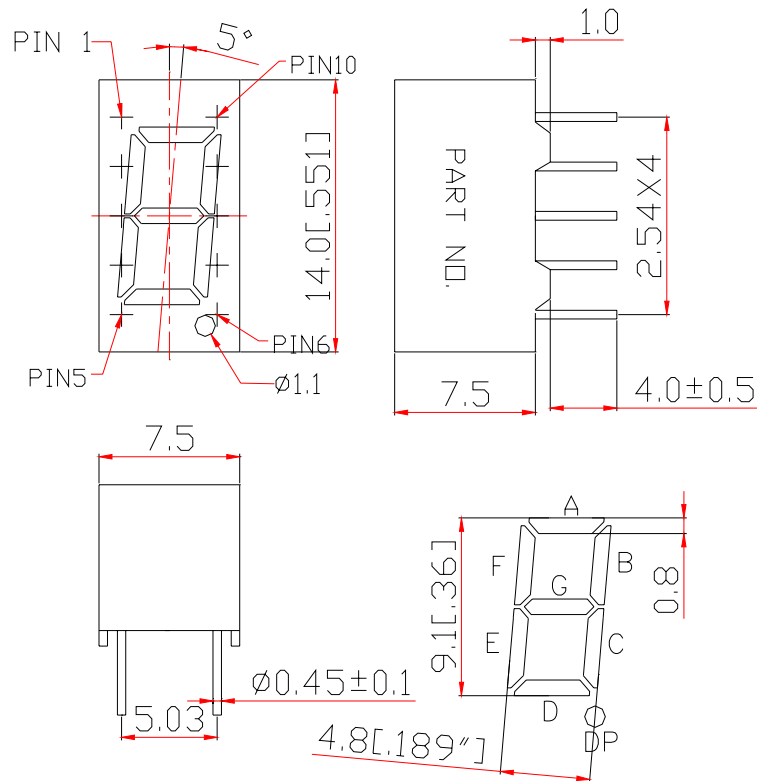
WCN1-1036R7-A19U**SPECIFICATION**

WCN			CUSTOMER
Prepared by	Checked by	Approved by	Confirmed
LIU 2015-9-4	Athena		



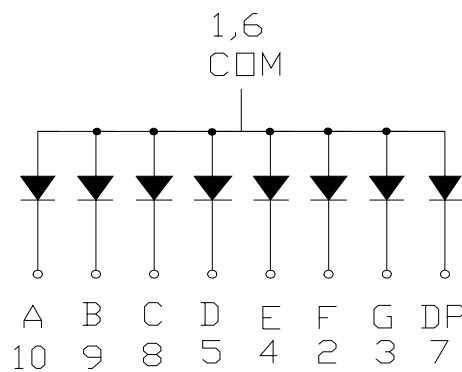
REVISION: A0

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	Common Anode
2	Cathode F	7	Cathode DP
3	Cathode G	8	Cathode C
4	Cathode E	9	Cathode B
5	Cathode D	10	Cathode A

WCN Opto Group Co., Limited

■ **Features:**

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

■ **Description:**

- Single Digit LED Display
- Digit Height: 9.10mm(0.36")
- Gray 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	Topr	—	—	-35~+85	°C
Storage Temperature Range	Tstg	—	—	-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 Dice	—	1.9	2.60	V
Reverse Current	I _R	V _R =5V	Per Dice	—	—	100	μA
Luminous Intensity	I _V	I _F =10mA	Per Dice	12801	17500	—	μcd
Wave Length	λ _P	I _F =20mA	Per Dice	—	630	—	nm
	λ _D				625		
Spectral Line Half Width	△λ	I _F =20mA	Per Dice	—	20	—	nm
Luminous Intensity Matching Ratio (Segment to Segment)	I _{v-m}	I _F =10mA				2:1	

■ **Luminous Intensity Sorting: (Luminous intensity tolerance :+/-10%)**

Rank	Symbol	Condition	Min	Max	Unit
R	R	I _F =10mA	12801	15250	μcd
S	S	I _F =10mA	15251	18000	μcd
T	T	I _F =10mA	18001	21500	μcd
U	U	I _F =10mA	21501	26000	μcd

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

■ Typical Electro-Optical Characteristics Curve:

Fig 1. Forward Current vs. Forward Voltage

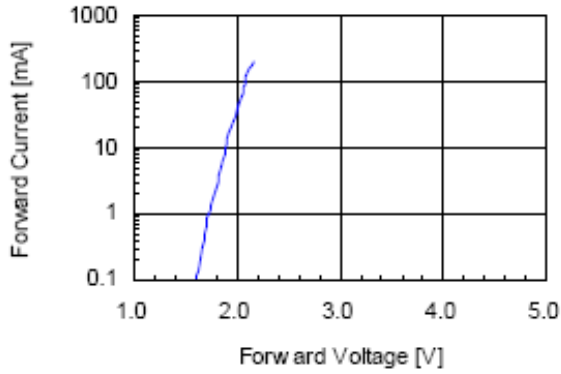


Fig 2. Relative Intensity vs. Forward Current

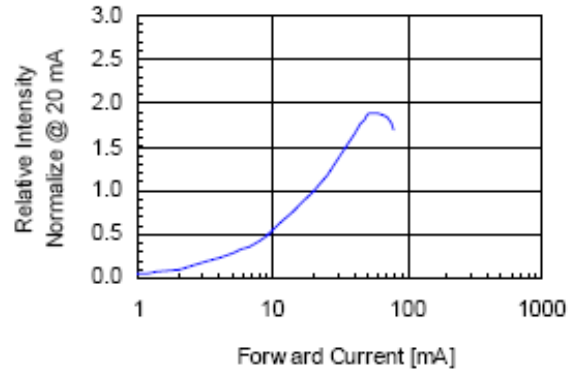


Fig 3. Forward Voltage vs. Temperature

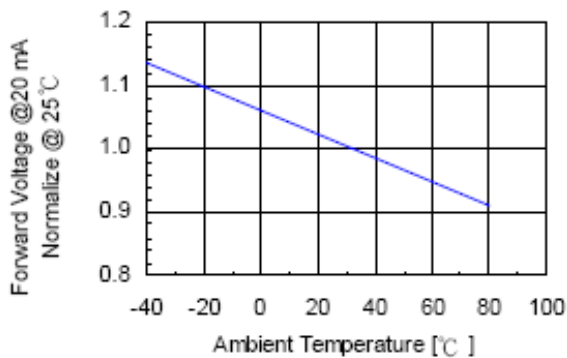


Fig 4. Relative Intensity vs. Temperature

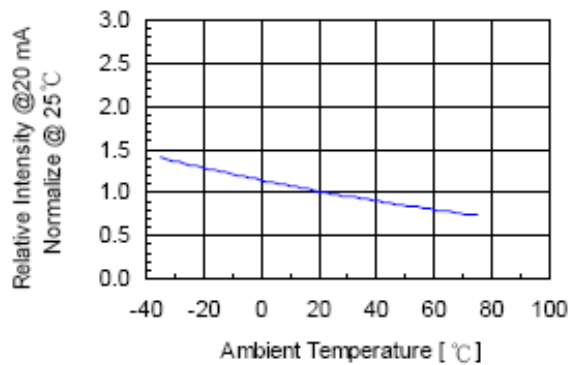
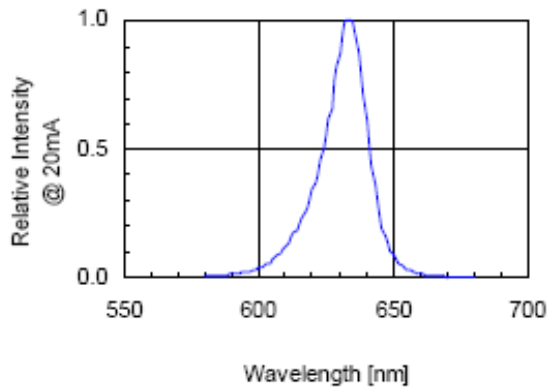


Fig 5. Relative Intensity vs. Wavelength



■ 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 $I_c = I_{c\max}$
	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 A:

96 pcs / Red Expandable Polyethylene.

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

3420 pcs / Carton(550*380*280mm).

■ Packing method B:

12 pcs / IC Tube.

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

3696 pcs / Carton(550*380*280mm)