

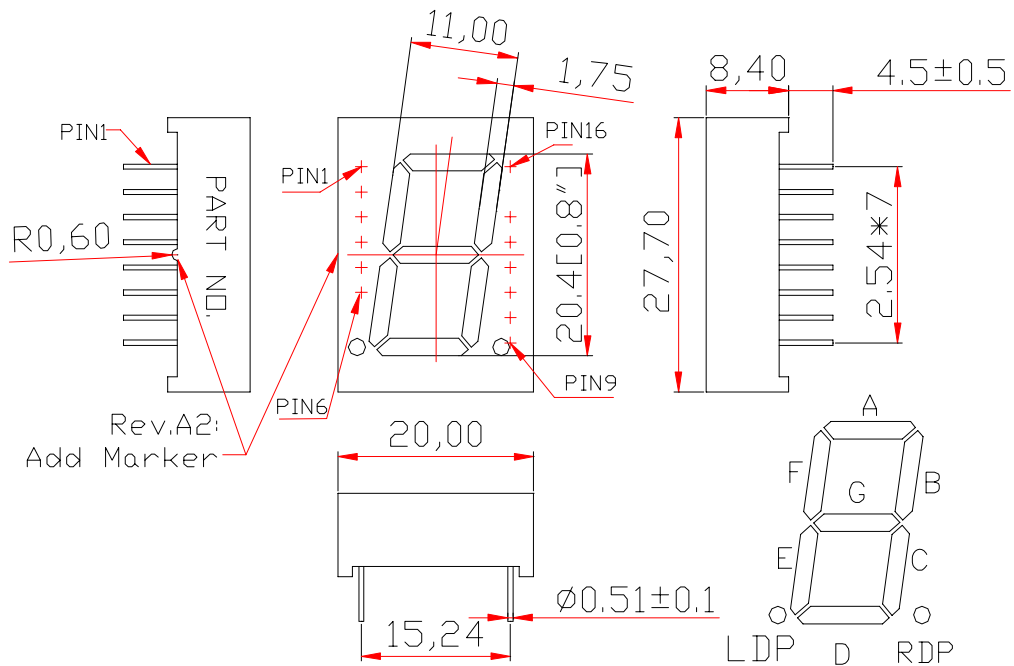
WCN1-1080GU-C31**SPECIFICATION**

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



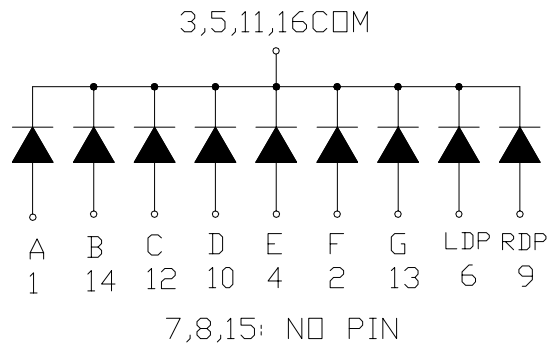
REVISION: A3

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	Anode A	9	Anode RDP
2	Anode F	10	Anode D
3	Common Cathode	11	Common Cathode
4	Anode E	12	Anode C
5	Common Anode	13	Anode G
6	Anode LDP	14	Anode B
7	NP	15	NP
8	NP	16	Common Cathode

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■ Features:

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

■ Description:

- Single Digit LED Display
- Digit Height: 20.4mm (0.80")
- Gray Face and Milky Segment

■ Absolute Maximum Rating (Ta=25°C):

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment	P_d	—	Yellow Green	65	mW
Forward Current Per Segment	I_F	—	Yellow Green	25	mA
Peak Forward Current Per Segment	I_{FP}	1/10 Duty 10KHz	Yellow Green	100	mA
Reverse Voltage Per Segment	V_R	—	Yellow Green	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	—	2.25	2.60	V
Reverse Current	I_R	$V_R=5V$	Per Segment	—	—	100	μA
Luminous Intensity	I_V	$I_F=10mA$	Per Segment	2351	4500	7200	μcd
Peak Emission Wave Length	λ_P	$I_F=20mA$	Per Segment	—	568	—	nm
	λ_D				571		
Spectral Line Half Width	$\Delta \lambda$	$I_F=20mA$	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
J	J	$I_F=10mA$	2351	3050	μcd
K	K	$I_F=10mA$	3051	4000	μcd
L	L	$I_F=10mA$	4001	5000	μcd
M	M	$I_F=10mA$	5001	6100	μcd
N	N	$I_F=10mA$	6101	7200	μcd

■ Hue Grade: $I_F=10mA$ (Hue:+/-1nm)

Rank	Symbol	Hue Range	Units
3	3	569.1~571.0	nm
4	4	571.1~573.0	nm

■ Soldering Conditions: Soldering Temp. $\leq +260^\circ C$, Soldering Time. $\leq 3sec$.

(at 2mm Distance from The Case of Reflector Edge)

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

Fig 1. Forward Current vs. Forward Voltage

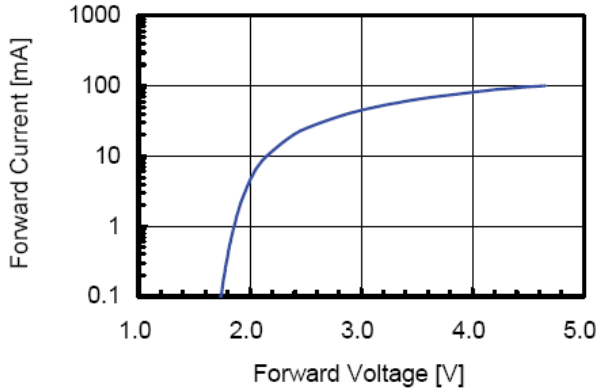


Fig 2. Relative Intensity vs. Forward Current

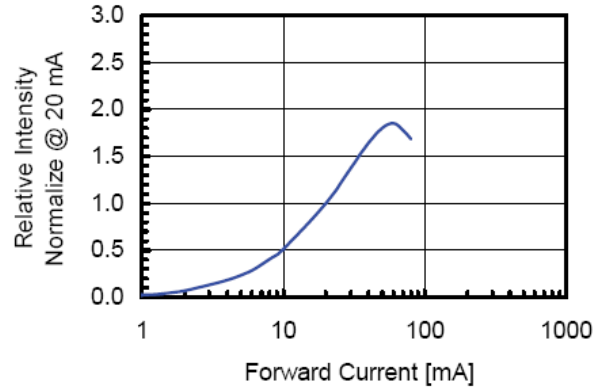


Fig 3. Forward Voltage vs. Temperature

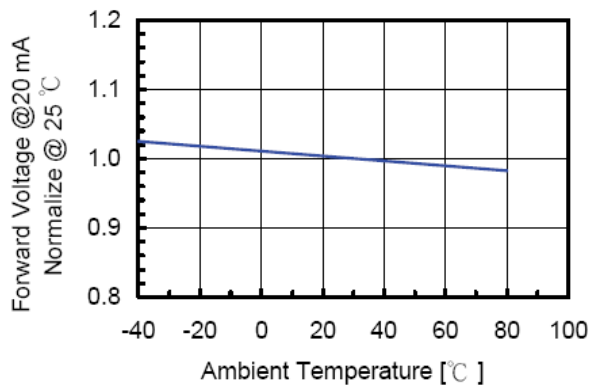


Fig 4. Relative Intensity vs. Temperature

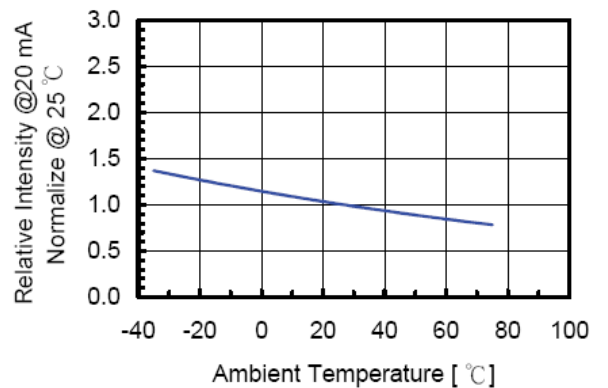
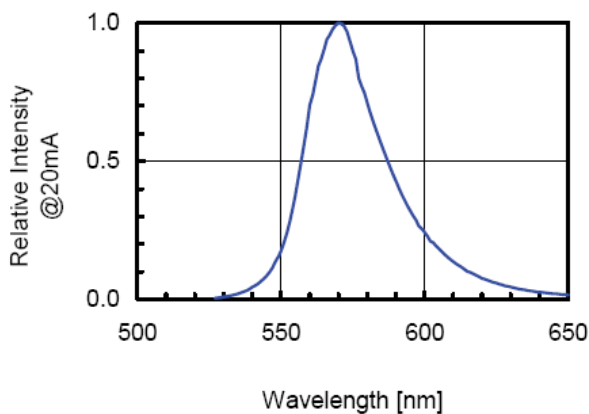


Fig 5. Relative Intensity vs. Wavelength



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■ 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: Thot=65°C, Tcold=-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: Thot=65°C, Tcold=-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:

80 pcs / Red Expandable Polyethylene.

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

2400 pcs / Catton(550*380*280mm).

■ Package method 2:

18 pcs / IC Tube.

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

3024 pcs / Catton(550*380*280mm).